



OFFICE OF THE  
CHAIRMAN

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

July 29, 1982

The Honorable Scott M. Matheson  
Governor of Utah  
Salt Lake City, Utah 84114

Dear Governor Matheson:

This is in response to your letter of June 29, 1982 inquiring about discussions between the Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) staff on requirements for site characterization of potential high-level waste (HLW) repositories.

The NRC has not engaged in negotiations with the DOE to relax the requirements of 10 CFR Part 60 which apply to disposal of high-level waste. In several discussions over the last few months, the DOE has consulted with the NRC staff to obtain clarification of our HLW licensing procedures contained in 10 CFR Part 60. During these discussions, the DOE indicated that they were considering characterizing bedded-salt sites from surface investigations rather than an exploratory shaft. Also, that they were considering requesting interim authorization to begin limited construction prior to completion of licensing procedures.

On the issue of site characterization, the Commission's stated policy is that it "believes that in situ testing at depth is an essential technique for DOE to obtain sufficient data to determine whether and to what extent the surrounding geologic medium is suitable for hosting a geologic repository." I have attached the pertinent portion of the Statement of Considerations on Part 60 that discusses this subject. The factors that underlie this policy are applicable to bedded-salt sites just as they would be to sites in other geologic media. Any change from this policy would require a written request from DOE on a site specific basis. We have received no such request. If such a submittal were received we would inform and consult with the State.

With regard to a limited work authorization, the NRC staff advised the DOE that there are no provisions in the procedural rule for a limited work authorization and that the Commission is not contemplating any such changes to the procedural rule.

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From the outset, in developing procedures for licensing of HLW facilities, the Commission has been sensitive to the need for providing States a special role in the licensing process. Subpart C of 10 CFR Part 60, Participation by State Governments and Indian Tribes, was developed to provide a formal, direct role for States to assure close and early participation in NRC reviews throughout the entire HLW licensing process. This is in addition to the opportunity to take part, in accordance with our Rules of Practice, in formal adjudicatory proceedings.

We would be pleased to meet with your staff to discuss the procedural rule and to establish an ongoing communication with the State of Utah.

Sincerely,

Original signed by  
Nunzio J. Palladino  
Nunzio J. Palladino  
Chairman

Enclosure:  
10 CFR Part 60 (pp. 13972-13973)

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Ref.-CR-82-89

Originating Office: EDO/NMSS : Pendleton

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SURNAME ▶	TCombs	McBert	Stoe	NJPalladino			
DATE ▶	7/28/82	7/28/82	7/29/82	7/29/82			

*Nancy: This is for your info.*

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WMHT: 409.53.3

MEMORANDUM FOR: Commissioner John F. Ahearne

THRU: William J. Dircks  
Executive Director for Operations

FROM: John G. Davis, Director  
Office of Nuclear Materials Safety  
and Safeguards

SUBJECT: LETTER FROM UTAH GOVERNOR SCOTT MATHESON, DATED  
JUNE 29, 1982

Your note of July 7, 1982, requests the facts behind the letter from Governor Matheson to Chairman Palladino. The attached proposed response letter to Governor Matheson summarizes our informal conversations with DOE.

John G. Davis  
Office of Nuclear Materials Safety  
and Safeguards

Enclosure:  
Letter to Governor Matheson

cc: Chairman Palladino  
Commissioner Gilinsky  
Commissioner Roberts  
Commissioner Asselstine

*memo not necessary  
since Matheson letter  
is now before the  
Comm.  
Per Tom Rehm*

NMSS TICKET NO. 820686

OFC	: WMHT	: WMHT	: WM	: NMSS	: NMSS	: EDO	:
NAME	: MPendleton:dm	: HJMiller	: JBMartin	: JGDavis	: DMAusshardt	: WJDircks	:
DATE	: 7/15/82	: 7/15/82	: 7/16/82	: 7/15/82	: 7/15/82	: 7/15/82	:

*see previous concurrences* (written above the table)

*JGD*  
*28*

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WMHT: 409.53.3

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Commissioner Gilinsky  
Commissioner Roberts  
Commissioner Asselstine

OFC	: WMHT	: WMHT	: WM	: EDO	: NMSS	: NMSS	:
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DATE	: 82/07/15	: 7/15/82	: 7/15/82	: 7/ /82	: 7/ /82	: 7/ /82	:

FROM: <b>Scott M. Matheson</b> Governor of Utah		ACTION CONTROLLER		COMPL DEADLINE		ACKNOWLEDGMENT		INTERIM REPLY		PREPARE FOR SIGNATURE OF:	
TO: <b>Chairman Palladino</b>		FINAL REPLY		FILE LOCATION		<input checked="" type="checkbox"/> CHAIRMAN		<input type="checkbox"/> EXECUTIVE DIRECTOR		OTHER:	
DESCRIPTION <input checked="" type="checkbox"/> LETTER <input type="checkbox"/> MEMO <input type="checkbox"/> REPORT <input type="checkbox"/> OTHER		SPECIAL INSTRUCTIONS OR REMARKS									
Request verification of NRC/DOE negotiations concerning siting and licensing of a nuclear waste repository in the State of Utah		PRIORITY									
CLASSIFIED DATA											
DOCUMENT/COPY NO.		CLASSIFICATION		SECY 0694							
NUMBER OF PAGES		CATEGORY		EST 7/16/82							
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NRC FORM 232  
(11-75)

EXECUTIVE DIRECTOR FOR OPERATIONS

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PRINCIPAL CORRESPONDENCE CONTROL



OFFICE OF THE COMMISSIONER

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
July 7, 1982

Ref: *M. Amoshardt* EDO-12077  
Action - Davis  
Cys: Dircks  
Cornell  
Rehm  
ELD  
SP  
RES  
Susp: 7/19  
*CC - WM*

NOTE FOR: Executive Director for Operations ✓  
FROM: John Ahearne *J. Ahearne*  
SUBJECT: LETTER FROM UTAH GOVERNOR DATED  
JUNE 29, 1982

The attached letter states DOE has informally requested relaxation of Part 60. Is this true? If so, please describe the DOE request and any NRC response.

Attachment

cc: Chairman Palladino  
OCA  
OPA

Rec'd Off. EDO  
Date... *7-8-82*  
Time... *2:00 p.*

No. SECY-82-0694

Logging Date 7/2/82

**NRC SECRETARIAT**

- TO:  Commissioner \_\_\_\_\_ Date \_\_\_\_\_
- Exec. Dir./Oper.  Gen. Counsel
- Cong. Liaison  Solicitor
- Public Affairs  Secretary
- \_\_\_\_\_  Inspector & Auditor
- Policy Evaluation

Incoming: Governor Scott M. Matheson

From: State of Utah

To: Palladino Date 6/29/82

Subject: reg verification of NRC/DOE negotiations  
concerning the siting and lic of a repository in Salt  
Lake City

Prepare reply for signature of:

- Chairman and Comm Review
- Commissioner \_\_\_\_\_
- EDO, GC, CL, SOL, PA, SECY, IA, PE
- Signature block omitted Date due Comm: July 19
- \_\_\_\_\_
- Return original of incoming with response

*EDO will acknowledge*

- For direct reply\*
- For appropriate action
- For information

(Note: if response will be delayed for more than 10 working days, please ~~ack~~ ack in writing or by phone)

Rec'd Off. EDO  
 Date... 7-6-82  
 Time... 8:15 A

Remarks: RF

For the Commission: bac

\*Send three (3) copies of reply to Secy Correspondence and Records Branch

Some of the commenters raised issues that will be covered in the technical criteria; those will be dealt with in connection with the ongoing rulemaking for those criteria.

a. *Site Characterization.* Comments on site characterization straddled the Commission position set forth in the proposed rule. Some commenters agreed with the requirement for multiple site characterization as presented in the proposed rule. Some commenters expressed the opinion that multiple site characterization was not required for the Commission to fulfill its NEPA obligation to consider alternatives. The Commission has carefully reviewed arguments presented by the commenters who stated that multiple site characterization is not necessary. The Commission continues to believe that required multiple site characterization provides the only effective means by which it can make a comparative evaluation as a basis for arriving at a reasoned decision under NEPA. Other commenters believed that the requirements for multiple site characterization were not stringent enough, and suggested that the rule specify the number of geologic media and sites to be characterized by the DOE. The Commission continues to believe that characterization of several sites will prevent a premature commitment by DOE to a particular site, and will assure that DOE's preferred site will be chosen from a slate of candidate sites that are among the best that can reasonably be found. The Commission considers three sites in two geologic media, at least one of which is not salt, to be the minimum number needed to satisfy NEPA. That is, the Commission can foresee no circumstance that would permit it to conclude, on the basis of a more limited investigation, that alternatives have been considered in accordance with the "rule of reason." Further it is the present judgment of the Commission that for purposes of making a reasoned choice there is not sufficient difference between bedded salt and domed salt for them to be considered two distinct alternative media. However, because the "rule of reason" is intrinsically flexible, the Commission does not believe that it would be appropriate for these regulations to specify more than the minimum number or type of geologic media and sites that DOE must characterize during multiple site characterization. What is important is that there be sufficient information for NRC to be able to evaluate real alternatives, in a timely manner, in accordance with NEPA.

Information on plans for considering alternative sites is to be included in the Site Characterization Report. This provision was questioned by some commenters. This information is needed so that any deficiency may be the subject of "specific recommendations" by the Director of the NRC's Office of Nuclear Material Safety and Safeguards, (Director) as provided in § 60.11(e), with respect to additional information that might be needed by the Commission in reviewing a license application in accordance with NEPA.

Another commenter raised the issue that in addition to the need to consider alternatives under the provisions of NEPA, the need for characterizing several sites in a variety of media is also justified by NRC's obligation under the Atomic Energy Act to protect public health and safety. The Commission recognizes that, under the provisions of the Atomic Energy Act, a consideration of alternatives might indeed be appropriate, where necessary or desirable to protect health. (Section 161g.) The Commission cannot say at this point that an examination of alternatives would be essential for this purpose. The Commission anticipates that its fundamental licensing inquiry in the context of evaluating radiological safety issues will be directed to determining whether the activities proposed by the DOE can be carried out in a manner consistent with generally applicable environmental standards established by the Environmental Protection Agency.

The Commission also continues to believe that waste form research is an appropriate topic for treatment in the Site Characterization Report, as the discussion may lead to specific recommendations by the Director, and, as well, contribute to early examination and broader understanding of possible waste form/host rock interactions. Further, wording of § 60.11(a) has been changed from "waste form" to "waste form and packaging" to convey better the concept that the NRC will seek information relating to the interaction of the waste as emplaced (hence including packaging) with the host rock.

In response to one commenter's suggestion that the Site Characterization Report be made to NRC on a site by site basis, § 60.11(a) has been revised to require DOE to submit a separate Site Characterization Report for each site to be characterized.

There were also suggestions that the distinction between site characterization and screening activities be drawn more sharply. However, because the activities needed prior to characterization may depend on a

variety of factors peculiar to the site and geologic medium, the Commission has concluded that greater precision might be unduly restrictive.

The DOE requested clarification of the term "site". Definitions of both the terms "site" and "medium" will be set forth when the technical criteria are published.

b. *In Situ Testing at Depth.* Several commenters supported the Commission view on in situ testing at depth. Some commenters, noting the importance of in situ testing at depth, suggested that the rule require the DOE to include in situ testing at depth in its site characterization program. The U.S. Geological Survey (USGS) supported required in situ testing at depth at a number of sites prior to NRC adjudicatory hearings, so that such hearings could proceed on the basis of critical, site-specific data on the candidate host rocks and environs rather than on inferences derived from a limited number of drill holes supplemented by geophysical techniques. The USGS expressed the opinion that direct observation and in situ testing of host media will be the only way to characterize sites with confidence. Several other commenters objected to the Commission suggestion that in situ testing at depth may be necessary. The possibility of in situ testing at depth after a preferred repository site has been selected was also suggested.

The Commission, like the USGS, believes that in situ testing at depth<sup>3</sup> is an essential technique for DOE to obtain sufficient data to determine whether and to what extent the surrounding geologic medium is suitable for hosting a geologic repository. This belief is supported by the ever-present possibility of lateral changes in the properties of the host rock and the possible presence of inhomogeneities of too small a scale to be detected by remote or borehole techniques. Moreover, in order for NRC to be able to conclude that the alternatives to DOE's preferred site are in fact reasonable alternatives for the intended purpose, in situ testing at depth is essential to characterizing alternative sites as well. The NRC will then be able to determine, after considering all relevant environmental factors as contemplated by NEPA, whether a construction authorization at DOE's

<sup>3</sup> The Commission interprets the phrase "in situ testing at depth" to mean the conduct of those geophysical, geochemical, hydrologic, and/or rock mechanics tests performed from a test area at the base of a shaft excavated to the proposed depth of a potential repository in order to determine the suitability of a particular site for a geologic repository.



proposed site should be issued. Thus, the Commission requires in situ testing at depth in the rule. It is conceivable, however, that techniques may be developed to obtain the necessary data at a particular site without in situ testing at depth. In such a case, DOE may request an exemption from the in situ testing at depth requirement. DOE, like any applicant for an NRC license, has the burden of establishing that NRC requirements have been met; and the regulations require DOE to undertake any testing needed to determine the suitability of the site for a geologic repository. Thus, if exploration and in situ testing at depth were not undertaken, DOE would still have the same burden of obtaining and supplying to the Commission information needed to establish the suitability of the site.

c. *Cost Estimates for Site Characterization.* Cost estimates for site characterization cited in the Supplementary Information accompanying the proposed rule were regarded by some commenters as being too low. Much of the data for the cost estimate of \$20 million per site was derived from the Teknekron Inc. report, "A Cost Optimization Study for Geologic Isolation of Radioactive Wastes," May 1979, prepared under contract with Battelle Pacific Northwest Laboratories. The NRC staff has reexamined its previous estimate and still believes that figure of \$20 million was a realistic estimate for the "at depth" portion of the site characterization program considered at that time. Independent support of this figure has been obtained from the cost summary of \$18 million for a program during 1978-1979 analogous to site characterization conducted by the Bureau of Mines at its Environmental Research Facility in Colorado.

The DOE has developed a preliminary design for an underground test facility in New Mexico at which many site characterization activities could be conducted. The estimated cost of the facility was \$27 million (1980 dollars). This figure has been confirmed by American Mine Services under contract to NRC. The scope of the DOE preliminary design surpasses the extent of activities suggested for the "at depth" portion of site characterization in the proposed rule. For example, the DOE Site Preliminary Verification Project Plan includes extensive underground mining development. The Commission has come to believe, however, that a facility consisting of two shafts and up to 1,000 feet of tunnels is a more practical arrangement for conducting tests and experiments at depth for site

characterization. Therefore, the Commission believes a \$25-30 million figure represents the upper limit for the "at depth" portion of site characterization in soft rock. Cost estimates for site characterization including in situ testing at depth in hard rock may range up to 30% more than cost figures for soft rock.

d. *The "Best" Site.* Some commenters suggested that the final rule should require that the site selected by the DOE be the "best". Yet other commenters thought that the Commission was setting an unattainable goal of perfection for the selection of the site for a geologic repository. It remains the Commission's view that the process of multiple site characterization provides a workable mechanism by which the DOE will be able to develop a slate of candidate sites that are among the best that can reasonably be found and from which DOE will select its preferred site.

It generally has been NRC practice to consider only whether a license application meets prescribed criteria. The Commission perceives no reason to adopt a different philosophy here.

e. *Environmental Impact Statement.* Some commenters believed that the NRC should require that the DOE submit an Environmental Impact Statement (EIS) at the site characterization stage. Other commenters believed that DOE need only submit an Environmental Report or an Environmental Assessment for site characterization. In its comment letter on the proposed rule, the DOE stated that a decision to bank or withdraw a site or to conduct a site characterization by more extensive methods such as sinking a shaft will require the preparation of an EIS. In any event, since NRC is undertaking no "major Federal action" in connection with site characterization, it has no statutory basis for prescribing what steps DOE must take in order to be in compliance with NEPA.

The rule requires submission of an Environmental Report along with the Safety Analysis Report at the time of application for a license. If DOE has prepared an EIS that document can be used so long as it contains the information called for by the regulation. However, NRC cannot be bound to accept judgments arrived at by DOE in its EIS.

One commenter suggested that the NRC should prepare an EIS for the rulemaking action. The Commission determined that this was not necessary as part of its review and approval of publication of the proposed rule. Instead, an Environmental Impact Appraisal was prepared for those requirements which might have

environmental impacts. Those impacts were found not to be significant. This Environmental Impact Appraisal has recently been updated and no new impact was found to be significant. A copy of the updated appraisal is available for inspection and copying at the Commission's Public Document Room.

f. *State, Local, and Public Participation.* The proposed rule included detailed provisions to ensure extensive opportunities for participation by State and local governments and the general public in the review of the DOE's programs for site selection and site characterization. The consultation role of the States in reviewing applicable NRC regulations and licensing procedures, as well as participation in the licensing process, was treated explicitly in the proposed rule. However, a more formal role of "consultation and concurrence" for States was requested by some commenters. Suggestions were also made that the Commission require the DOE to solicit input from State, Indian tribal and local governments as well as from the general public prior to and during site characterization.

The Commission's views on this subject were set out at length in a report submitted to the Congress on "Means for Improving State Participation in the Siting, Licensing and Development of Federal Nuclear Facilities," NUREG-0539, March 1979, cited in the Supplementary Information accompanying the proposed rule. The concerns of the commenters on broad policy issues such as "consultation and concurrence" would require actions by parties other than the Commission. Within the context of NRC's existing authority, appropriate opportunities for meaningful State and public participation have been developed. No serious deficiencies in these opportunities have been pointed out to the NRC. In addition, the provisions of the NRC's open meeting policy set forth at 43 FR 28058 (June 28, 1978) will also be applied to the licensing of a geologic repository to the extent practicable. Under this policy, generally, all meetings conducted by the NRC technical staff as part of its review of a particular domestic license or permit application will be open to attendance by all parties or petitioners for leave to intervene in the case. The Commission strongly encourages the Director to conduct open meetings prior to a license application to the extent reasonable for matters such as periodic status reports and similar proceedings.