

DEC 18 1992

Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U. S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

Dear Mr. Roberts:

SUBJECT: ADVISORY COMMITTEE ON NUCLEAR WASTE LETTER OF AUGUST 4, 1992

Enclosed for your consideration is an August 4, 1992, letter to Robert M. Bernero, Director, U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, from the Advisory Committee on Nuclear Waste (ACNW) expressing concerns about the progress of the U.S. Department of Energy (DOE) in the preparation of site characterization documentation, site investigations, and resolution of the NRC staff's concerns, and the timeliness of NRC staff reviews of study plans and other site characterization documents. Also enclosed for your information is the staff's August 28, 1992, response to the ACNW's concerns. The ACNW letter was also previously highlighted in a November 18, 1992, letter from Robert M. Bernero, NRC, to John W. Bartlett, DOE.

In its response to the ACNW, the NRC staff explained actions taken related to the ACNW concerns, and acknowledged the need to proceed more aggressively in its review and response process. Recently, we believe that the timeliness of the staff's reviews of study plans has improved. In my May 26, 1992, letter to you, the staff provided the status of our review of study plans, as well as NRC staff comments and concerns regarding the completeness and timeliness of study plans and other site characterization reports such as the semi-annual progress reports. In addition, the May 26, 1992, letter as well as letters of July 31, 1989 (Bernero to Rousso), and June 25, 1990 (Bernero to Bartlett), noted the need to address progress toward closure of NRC staff concerns. Although we recognize that substantial progress has been made in resolving a number of NRC staff concerns, now that DOE has obtained the necessary permits to conduct site characterization activities at the Yucca Mountain site for the proposed high-level waste repository, we agree with the ACNW that the need exists for DOE to address NRC staff concerns prior to the initiation of work on relevant studies. At the same time, the NRC staff will endeavor to meet the 90-day review schedule as discussed in a recent meeting on revisions to the Level of Detail Agreement for Study Plans.

In addition, we believe that the ACNW letter makes valid points about sequencing and integration of studies and tests. Although we agree with these points, they extend somewhat beyond our regulatory responsibilities and therefore, we are forwarding the ACNW letter to you for your consideration of those points in your planning and management of site characterization activities.

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Mr. John P. Roberts

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We are prepared to work with the DOE staff towards early resolution of these concerns. Please contact me at (301) 504-3387 or Ms. Charlotte Abrams, of my staff, at (301) 504-3403, if you have any questions regarding these matters.

Sincerely,

/s/

Joseph J. Holonich, Director
Repository Licensing and Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosures: As stated

- cc: R. Loux, State of Nevada
- T. J. Hickey, Nevada Legislative Committee
- C. Gertz, DOE/NV
- M. Murphy, Nye County, NV
- M. Baughman, Lincoln County, NV
- D. Bechtel, Clark County, NV
- D. Weigel, GAO
- P. Niedzielski-Eichner, Nye County, NV
- B. Mettam, Inyo County, CA
- V. Poe, Mineral County, NV
- F. Sperry, White Pine County, NV
- R. Williams, Lander County, NV
- P. Goicoechea, Eureka County, NV
- L. Vaughan II, Esmeralda County, NV
- C. Shank, Churchill County, NV
- E. Holstein, Nye County, NV

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
 ADVISORY COMMITTEE ON NUCLEAR WASTE
 WASHINGTON - C 20555

ACNWR-0078

PDR

August 4, 1992

Mr. Robert M. Bernero
 Director
 Office of Nuclear Material Safety and Safeguards
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

Dear Mr. Bernero:

SUBJECT: PROGRESS IN SITE CHARACTERIZATION ACTIVITIES

Since its inception, the Advisory Committee on Nuclear Waste (ACNW) has devoted considerable attention to the Site Characterization Plan (SCP) that has been developed by the U.S. Department of Energy (DOE) for the proposed high-level waste (HLW) repository at Yucca Mountain, Nevada. Shortly after release of the original document in December 1988, we met with DOE officials several times to review various details in the SCP and with scientific and engineering personnel from your staff who were preparing an official response to the SCP for the Commission's consideration. We provided extensive comments on the preliminary versions of the resulting Commission document, the Site Characterization Analysis (SCA) (NUREG-1347; August 1989), in our letters to the Commission (July 3 and August 21, 1989). Since that time, we have continued to monitor and review the SCP updates, the study plans, and DOE's efforts to resolve the issues raised in the SCA.

The purpose of this letter is to convey to you our concerns about the slow progress in resolving issues enumerated in the SCA. This situation, coupled with delays in receiving, reviewing, and commenting on the DOE study plans needed to implement the SCP, jeopardizes the orderly, coordinated, scientific progress for the characterization of the Yucca Mountain site. For this reason, we recommend that the NRC staff significantly increase its efforts to urge DOE toward a more timely and coordinated approach to site characterization. Although the staff has made considerable improvement in the pace of study plan reviews, we believe it should implement a more rapid review of the various documents submitted to it by DOE.

The SCA includes 2 objections, 133 comments, and 63 questions. One objection has been resolved but the other still remains three years after issuance of the SCA. Although we understand that some of the

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accompanying challenges are formidable, less than one-half of the comments and questions enumerated in the SCA have been resolved. Despite this situation, the work of characterization continues and new study plans are being prepared and existing study plans are being revised. If these plans are to be properly integrated into the SCP, the comments and questions enumerated in the SCA must be resolved. Otherwise, many of the potential benefits of these preliminary exchanges will not be realized.

In addition, the NRC staff should alert DOE to the need to address and satisfy the deficiencies noted in the SCA, so as to ensure that the study plans represent a valid approach to site characterization. One example is Comment 32, which deals with the limited discussion in the SCP on the integration of geophysical investigations. Geophysical investigations of the earth's subsurface provide critical input to the tectonic model of the Yucca Mountain region, which will be used in predicting future tectonism at the proposed HLW site. Accordingly, such investigations must be appropriately integrated with geologic/tectonic studies so that the resulting data will be available in a timely manner and useful to tectonic analyses. This is only one example of a fundamental concern that must be considered in every stage of the geologic investigation in the site characterization process. Nonetheless, this concern, which was clearly identified and addressed as item (3) in your letter of July 31, 1989, introducing NUREG-1347, is yet to be resolved.

The study plans are essential to the implementation of the SCP in that they define the testing procedures that are to be used. To date, the DOE has submitted less than half of the proposed study plans to the NRC. The NRC staff, in turn, has reviewed and commented on about three-quarters of the total number of proposed (draft) plans received. Implementation of several of the study plans, which we have reviewed, is strongly dependent on guidance that is to be provided in other plans, which have not yet been made available by DOE. This situation is impairing the review process and, even more seriously, may limit the effectiveness of the actual exploratory studies. This is a matter that should be addressed by the NRC staff through direct interaction with DOE.

In summary, we believe the lack of timely progress in resolving the objections, comments, and questions enumerated in the SCA and in developing and approving the study plans to implement the SCP could impair the orderly, scientific progress of effectively characterizing Yucca Mountain. This will also have an adverse impact on meeting the licensing schedules. We recommend that you encourage your staff to work with DOE to accelerate the review process. Particular attention should be focused on those aspects of the SCA in need of resolution to ensure that study plans are developed that will yield valid scientific data for site characterization.

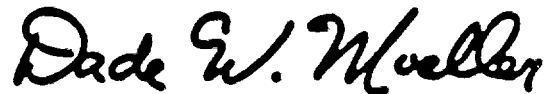
Mr. Robert M. Bernero

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August 3, 1992

Finally, we urge that your staff take specific steps to point out where the lack of responses by DOE to the SCA and the absence of associated study plans could place at risk the scientific quality and applicability of the investigations now being planned or executed.

Sincerely,

A handwritten signature in black ink that reads "Dade W. Moeller". The signature is written in a cursive style with a large, prominent "D" at the beginning.

Dade W. Moeller
Chairman

August 28, 1992

MEMORANDUM FOR: Dade W. Moeller, Chairman
Advisory Committee on Nuclear Waste

FROM: Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: RESPONSE TO THE ADVISORY COMMITTEE ON NUCLEAR WASTE LETTER
OF AUGUST 4, 1992

This memorandum is in response to your letter dated August 4, 1992, to me. In that letter, the Advisory Committee on Nuclear Waste (ACNW) expressed concerns with the progress of the U.S. Department of Energy (DOE) in the preparation of site characterization study plans, ongoing site investigations, and resolution of U.S. Nuclear Regulatory Commission staff's concerns, as well as the timeliness of NRC review of study plans and other site characterization documents. In the past, the staff has benefitted from ACNW comments on NRC staff reviews of DOE's Site Characterization Plan (SCP) and study plans, and acknowledges a need to proceed more aggressively in its review and response to DOE's pre-licensing submittals. In recent months the staff has considerably improved the timeliness of its reviews of study plans. In addition, the staff agrees now that DOE has the necessary permits and has expanded its activities at the Yucca Mountain site, that there is a greater need to address the staff's concerns in a timely manner.

To date, the staff has taken a number of actions related to the Committee's concerns. First, by letter dated May 26, 1992 (enclosed), the staff restated its position that DOE address progress toward closure of NRC Site Characterization Analysis (SCA) and study plan concerns in the semi-annual progress reports in accordance with 10 CFR 60.18(g). The staff also requested that DOE provide a schedule with dates for when it expects to submit study plans and other documents related to site characterization for NRC review in fiscal year 1993 and to ensure that those study plans are complete and up-to-date when transmitted for the NRC staff's review. This information will allow NRC to better plan its reviews and respond in a more timely fashion to DOE's requests.

In addition, the staff continues to work with DOE to resolve concerns identified in the SCA. In its review of the SCP, the staff identified 198 concerns in the form of 2 objections, 133 comments, and 63 questions, which were published in the SCA. Since issuance of the SCA, the staff has concluded, based on information provided by DOE, that 60 of those concerns, including 1 objection, are resolved. Also, on March 3, 1992, DOE, in response to an NRC request of September 4, 1991 (letter from Linehan to Shelor), provided information relative to closure of SCA objection 1, 10 comments, and 1 question. The NRC staff has reviewed the information provided and plans to

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notify DOE of the results of that review in the immediate future. Also, on July 23, 1992, DOE provided its bases for closure of two additional SCA concerns and the staff will evaluate that information to determine whether or not those concerns are resolved. In addition, the NRC is reviewing responses provided by DOE to comments resulting from the staff's Detailed Technical Reviews of three study plans.

Although DOE committed to resolve objection level concerns prior to proceeding with site characterization work related to those objections, in the case of areas of activities where the NRC staff's concerns are in the form of comments and questions, DOE made no such commitment. DOE may defer resolution of concerns while proceeding with related activities at its own risk. In its response to the SCA, DOE deferred resolution of some concerns to a future document or issuance of one or more study plans. In addition, the lack of site access and the associated delay in site investigations have contributed to the deferral of the resolution of some concerns. Although the staff believes that DOE may have valid reasons for delays in addressing some of the SCA concerns, now that activities at the site have increased and work has begun on new studies, the staff shares the ACNW's concerns with regard to the need for resolution of SCA comments and questions. The staff considers those deferred concerns to be unresolved, and informed DOE in the July 31, 1989, letter (Bernero to Rousso) transmitting the SCA that DOE should consider all SCA concerns "serious and encourages DOE to give full attention to each in an attempt to resolve them early during site characterization." In addition, in letters dated June 25, 1990 (Bernero to Bartlett), and May 26, 1992 (Holonich to Roberts), we noted the need to address progress toward closure of NRC concerns.

In the case of DOE's sequencing, integration and scheduling of planned activities, the NRC staff agrees that the example (geophysical investigations) provided in the ACNW letter includes activities that could provide valuable input into tectonic investigations. In the SCA, the staff commented on its concerns related to the need for geophysical testing and the integration of those tests with other site characterization studies (SCA Comments 32, 51, 52, and 53). Although the staff agrees that tectonic investigations may benefit from geophysical tests in the early stages of the investigations, this is not an issue that will result in impacts to the site's ability to isolate waste or the ability to gather data in the future which are key criteria for generating objections or management level concerns in the staff's review of DOE activities. Although the sequencing and lack of integration of study plans does, to an extent, complicate the staff's review, as in the case of geophysical investigations, we do not feel that these concerns meet the above criteria. The staff does not believe that it is appropriate for it to provide comments on how DOE manages its program, unless the site or ability to collect future data are being impacted. This is consistent with one of the planning assumptions contained in the Five Year Plan for Fiscal Years 1992-1996 which states that NRC actions with regard to the high-level waste licensing program element, required under applicable legislation "will be interpreted narrowly and will not encompass broad oversight of the entire NWPA implementation (e.g. review of DOE site selection, cost, and schedule considerations)." The staff

believes the ACNW letter makes valid points related to the sequencing and integration of studies or tests, and the staff plans to transmit the ACNW letter, with a copy of the staff's reply, to DOE for its consideration.

Staff activities related to the review of DOE's characterization program, such as reviews of study plans, semi-annual progress reports, topical reports, the annotated outline for the repository license application, and the Early Site Suitability Evaluation, and observations of quality assurance audits are considered the staff's highest priority activities. However, due to limited staff resources, there are often scheduling conflicts for these reviews. Although some reviews have not been as timely as desired, to our knowledge we have not impacted DOE's program. In addition, a less readily apparent area requiring staff resources needed to support the staff review of DOE's site characterization activities is the development of guidance such as staff positions (e.g., guidance on seismic investigations and thermal loads) and analysis methods. To help the staff better follow the status of issues with DOE, the staff has developed a computerized system for open item tracking, and loading of those open items is in progress. The staff believes that when fully implemented, the system will facilitate the staff tracking and response to DOE requests for closure of open items generated as a result of the staff's review of the SCP, study plans, progress reports, and other DOE documents.

In summary, although the staff generally agrees with ACNW's concerns and has already recognized a number of them in its reviews of DOE activities, some of the concerns are better directed to DOE since they relate to how DOE manages its program. As indicated above, we will forward the Committee's letter to DOE for its consideration.

Original signed by
Guy A. Arlotto

 Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

cc: The Chairman
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
Commissioner de Planque
SECY
OGC
EDO