



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
 WASHINGTON, D. C. 20555

WM-10(2)  
 WM-11(2)  
 WM-16(2)

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May 14, 1987

WM Record File  
103

WM Project 10, 11, 16  
 Docket No. \_\_\_\_\_  
 PDR   
 LPDR

Dr. Mihailo D. Trifunac  
 855 Arcadia Avenue, Unit E  
 Arcadia, California 91006

Distribution:  
 X JSL  
 X REB MFB  
 (Return to WM, 623-SS)  
 X STABLEIN  
 X HILDENBRAND  
 X JOHNSON  
 cc: Coplan

Dear Dr. Trifunac:

As a follow-up to our previous correspondence, we are enclosing for your review the NRC Waste Management Staff's comments on the U. S. Department of Energy's Environmental Assessment of the High-Level Radioactive Waste Repository proposed for construction at the Yucca Mountain Site in Nevada (Document #6). Several other documents are also provided for background and current information on that site (see attached list of documents). Taking the Yucca Mountain Site as an example of an underground geologic repository, Dr. Moeller has requested that you provide us with responses to the following questions regarding the seismo-tectonic aspects of the site:

1. Do the questions that have been asked by the NRC Staff cover the right topics and is the scope of coverage adequate? If not, what are your recommendations for improvement in this area?
2. Do you believe that the NRC Staff is taking the proper approach in its line of questions? If not, what are your recommendations for improvement in this area?
3. Since one of the key topics of concern relative to the proposed Nevada site is the possibility of volcano action at some subsequent time, what would you recommend be the NRC approach in this regard? If you are not able to provide specific guidance on this topic, could you suggest the names of some volcanologists who might be available to provide such guidance on this matter?

Although, as you know, the U. S. Department of Energy is currently considering three sites -- Hanford (BWIP), Washington; Deaf Smith Co., Texas; and Yucca Mountain, Nevada -- for location of the initial repository, we have provided you with information for comment only on the Nevada site, since we believe that your comments on this site will be equally helpful relative to the type of reviews by the NRC Staff of the Environmental Assessments for the other two sites, even though their geologies are different. It also lightens your assignment considerably to look at 1 site at this time rather than 3.

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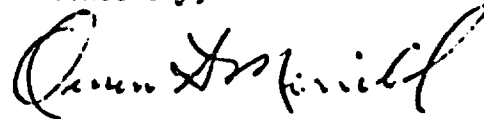
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In the preparation and submission of your comments, we would suggest the following approach: (a) that you prepare preliminary comments initially in draft form and submit them to me by mid to late June; (b) that you meet with the NRC Staff here in Washington sometime in the same time period (after you have reviewed the enclosed material and formulated your thoughts concerning it) to give you an opportunity to discuss your preliminary findings and recommendations with them, and for them to provide you with additional information resulting from their current efforts; and (c) that you submit your final report on your review to us by July 15, 1987.

In addition, the NRC Staff has informed us that they are holding a meeting in Las Vegas, Nevada sometime in the July-September 1987 time period to conduct a detailed review with the DOE Staff of the preclosure seismic-tectonic questions related to the proposed Nevada site. They would welcome your attendance at that meeting, and we would be pleased to have you attend in your role as an ACRS consultant. We would also request that you provide us with a written report of that meeting, and a revised final report if the results of that meeting warrant its being revised.

We look forward to your review of and comments on the enclosed materials and your responses to our several requests. Should questions develop or if we can be of further assistance, do not hesitate to contact me on telephone number (202) 634-1413.

Sincerely,



Owen S. Merrill  
Senior Staff Engineer

**Attachments:**

As stated in List of Enclosed Documents

**cc: With All Attachments:**

D. Moeller, Chairman, ACRS Waste Management Subcommittee  
ACRS Waste Management Subcommittee Members:  
W. Kerr  
C. Mark  
G. Reed  
F. Remick  
P. Shewmon  
S. J. S. Parry, ACRS Senior Fellow

With List of Enclosed Documents only:

Other ACRS Members

ACRS Technical Staff:

R. F. Fraley  
M. W. Libarkin  
T. G. McCreless  
N. S. Lockard  
J. C. McKinley  
G. R. Quittschreiber

NRC Staff

J. Linehan, HLWM  
S. Coplan, HLWM

**LIST OF ENCLOSED DOCUMENTS  
FOR REVIEW OF  
SEISMO-TECTONIC ISSUES**

**Explanation of Documents:**

This List of Documents is divided into four parts as follows:

- I. Documents 1 through 3 deal with the ACRS Subcommittee Meeting on Waste Management, July 21-23, 1986. They are provided as background information.
- II. Documents 4 and 5 are DOE documents on the Final Environmental Assessment of the Yucca Mountain Site in Nevada. The Overview (DOE/RW-0079) is reproduced in its entirety. The Environmental Assessment (DOE/RW-0073, a 3-volume set) contains those pages pertaining primarily to seismo-tectonic issues at the Yucca Mountain Site.
- III. Document 6 contains the NRC Staff's comments on DOE's Final Environmental Assessments on the five assessed sites. The material on the seismo-tectonics aspects of the Yucca Mountain Site appears on pages 34-37, as part of the entire Yucca Mountain Site discussion (pages 33-54).
- IV. Documents 7 through 11 are trip and topical reports by NMSS personnel pertaining to the Yucca Mountain Site, with Document 11 giving greater detail on the trip reported in Document 10.

**Documents List:**

1. Excerpts from Certified Minutes of the July 21-23, 1986 Meeting of the ACRS Subcommittee on Waste Management, issued October 6, 1986.
  2. Briefing on Yucca Mountain Site, K. Stablein and C. Abrams, NRC/NMSS, (given during the July 21-23, 1986 subcommittee meeting cited above), dated July 22, 1986.
  3. Briefing on NRC's Review of DOE's Final Environmental Assessments, R. L. Johnson (given during the July 21-23, 1986 subcommittee meeting cited above), dated July 22, 1986.
  4. DOE/RW-0079, Environmental Assessment Overview, Yucca Mountain Site, Nevada Research and Development Area, Nevada, U. S. Department of Energy, dated May 1986.
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List of Documents  
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5. Excerpts from DOE/RW-0073 (3 Volumes), Environmental Assessment, Yucca Mountain Site, Nevada Research and Development Area, Nevada, U. S. Department of Energy, dated May 1986.
6. SECY-86-357 for the Commissioners from V. Stello, Jr., EDO, Subject: NRC Staff Review and Proposed Follow-Up Actions Related to the DOE Final Environmental Assessments for the First High-Level Radioactive Waste Repository, dated November 28, 1986.
7. Memorandum to K. Stablein from C. Abrams and K. McConnell, Subject: Trip Report: Appendix 7 Visit to NNWSI and Surrounding Area, February 3-7, 1986, dated March 3, 1986.
8. Memorandum for P. Justus from J. Trapp, Subject: Trench 14 Calcite-Silica Vein Deposits, Observations and Implications, dated June 4, 1986.
9. Memorandum for R. Ballard from K. McConnell, Subject: Report Describing Activities Associated with the March 23 through March 26, 1987 Visit to the Death Valley and Bare Mountain Areas, dated April 27, 1987.
10. Memorandum for R. Ballard from C. Abrams, Subject NNWSI Field Trip, February 1987, dated May 5, 1987.
11. Tectonics and Vein Deposit Field Trip, February 22-28, 1987 (Author and date not given, but appears to be a detailed account of the NNWSI Field Trip reported in (10) preceding).