

NUCLEAR WASTE CONSULTANTS INC.

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March 21, 1986

009/PM/1.3.001  
RS-NMS-85-009  
Communication No. 40

U.S. Nuclear Regulatory Commission  
Division of Waste Management  
Geotechnical Branch  
MS 623-SS  
Washington, DC 20555

Attention: Mr. Jeff Pohle, Project Officer  
Technical Assistance in Hydrogeology - Project B (RS-NMS-85-009)

Re: Subtask 1.3 - Topics for NNWSI Hydrogeology Meetings

Dear Mr. Pohle:

Please find attached a letter from Water, Waste and Land (WWL) to Nuclear Waste Consultants, Inc. (NWC), addressing the questions that you raised in your letter of February 4, 1986, concerning potential topics for NNWSI Hydrogeology/Geochemistry meetings. As indicated by Mr. Davis, WWL considers that reviews of the testing planned and underway in the unsaturated zone and planned for the ES are of substantially higher priority than is a meeting addressing the saturated zone. In any event, WWL considers that the meetings should address both conceptual models and proposed testing; without the framework of the conceptual models it will be difficult, if not impossible, to assess the proposed testing. NWC concurs with both of these recommendations, based on our review of the NNWSI program and of the NRC's evaluations to date.

If you have any questions about this matter, please contact me immediately.

Respectfully submitted,  
NUCLEAR WASTE CONSULTANTS, INC.

*Mark J. Logsdon*

Mark J. Logsdon, Project Manager

Att: Letter of March 20, 1986 - L. Davis(WWL) to M. Logsdon (NWC)

bc: L. Davis, WWL

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WM Record File  
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WM Project 10, 11, 16  
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**Water, Waste & Land, Inc.**  
CONSULTING ENGINEERS & SCIENTISTS

March 20, 1986

Mr. Mark Logsdon  
Nuclear Waste Consultants, Inc.  
8341 South Sangre de Cristo Road  
Suite 6  
Littleton, CO 80127

Dear Mark:

The purpose of this letter is to give you our ideas regarding the Hydrology/Geochemistry proposed for the NNWSI project. As Jeff Pohle points out, three meetings prior to receipt of the SCP would be useful:

1. **Unsaturated Zone:** A discussion of their conceptualization followed by a review of surface based testing.
2. **Exploratory Shaft:** Review of Unsaturated Zone testing done in the ES.
3. **Saturated Zone:** A discussion of their conceptualization followed by review of any surface based testing.

As the above infers, both conceptual models and testing plans would be discussed at the meetings. We support this approach since the testing plan should be focused around the conceptual models which have been defined.

As to the timing of the meetings, it seems appropriate to schedule the meetings at the earliest convenient time. Based on our review of published information, there is nothing available which fully outlines the overall plan for testing of either the unsaturated or saturated zones. Our current understanding is that the NRC and its contractors has little ability to review testing programs and schedules prior to actual implementation of the program. We, therefore, end up reviewing the results of testing activities and commenting on what should have been done or what should be done in the future. Since it appears that there is little possibility that we will be provided with a schedule of testing activities, perhaps these meetings will be helpful in providing us with this information. Review of the monthly reports prepared by the DOE/NV indicates that a substantial amount of testing in the saturated and unsaturated zones is currently underway or planned. Therefore, it seems prudent to try to schedule these meetings as soon as possible. In general, we believe that the details of the unsaturated zone testing and the ES testing are of higher priority than the testing related to the saturated zone.

Also enclosed are copies of our formal written reviews for the following documents:

USGS WRI 84-4345, "Conceptual Hydrologic Model of Flow in the Unsaturated Zone, Yucca Mountain, Nevada" by P. Montazer and W. E. Wilson.

SAND 84-7202, "Hydrologic Mechanisms Governing Fluid Flow in Partially Saturated, Fractured, Porous Tuff at Yucca Mountain" by J.S.Y. Wang and T.N. Narasimhan.

This should take care of all Jeff's requests in his letter to NWC dated February 4, 1986. Again I must apologize for overlooking those requests during the month of February. Please do not hesitate to contact me if you have questions or comments.

Sincerely,

WATER, WASTE AND LAND, INC.

A handwritten signature in cursive script that reads "Lyle A. Davis".

Lyle A. Davis, P.E.  
Project Manager

Enclosures as stated