

September 14, 1994

MEMORANDUM TO: William Ott, Acting Chief  
Waste Management Branch  
Division of Regulatory Applications, RES

FROM: Margaret Federline, Chief  
Performance Assessment & Hydrology Branch  
Division of Waste Management, NMSS

SUBJECT: REVIEW OF SUBREGIONAL HYDROGEOLOGIC PROJECT PLAN  
(JOB CODE W6270)

This memo responds to your request (dated August 19, 1994) to review the subject project plan. Neil Coleman has worked closely with Tom Nicholson of your staff who, as Project Manager, is preparing the overall response to the CNWRA. As a result, we are in agreement with the attached review comments that were jointly prepared by Neil and Tom.

If you have any questions about this review, please contact Neil Coleman at extension 415-6615.

cc: M. Bell, ENGB  
T. Nicholson, RES  
S. Fortuna, PMDA

Attachment: As Stated

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**Comments on Project Plan for  
Subregional Hydrogeologic Flow & Transport Processes**

**General Comments:**

It is very important that this project be coordinated on a timely basis with the other CNWRA research and technical assistance studies. In particular the coordination with the "Regional Hydrogeologic Processes" (W6072) and "Near-Field Phenomena" (W6411) should be monthly. As presented by Dr. Bagtzoglou in his briefing on the draft study plan, a figure showing the relationship of this project to the others should be included in the project plan.

**Specific Comments:**

Page 2-5, Section 2.3: Please revise first objective to read as follows: "Assemble existing hydrogeologic, structural, and geochemical data for Yucca Mountain from related ongoing CNWRA projects, and where necessary obtain DOE data," since the other CNWRA projects should be the primary sources for this information, reducing the need to conduct independent searches. The geochemical data should include information on anthropogenic contaminants in groundwater (i.e., tritium, Cl-36, CFC's, etc.) to support work under Task 5.

Page 3-15, last para.: Change first line to read as follows: "Finally, environmental tracers such as stable isotopes and anthropogenic contaminants (such as tritium, Cl-36, CFC's, etc.) can be used..."

Page 3-16, last full para.: Please revise 4th sentence to read as follows "It is also very strongly coupled with the modeling work conducted under the Regional Hydrologic Processes Project. For future scenarios of time-dependent changes in the water table (due to climate change, etc.), lateral boundary conditions for the subregional saturated zone must be based on regional simulations. The lateral boundary conditions for the present-day saturated zone can be defined using water table elevations and projections from DOE and USGS maps and reports." In addition, please indicate the approach for defining the lower boundary condition for the saturated zone. This approach

should be reached in consultation with the NRC staff and the results should be presented in the Semi-Annual Progress Report, due in August, 1995.

Page 3-20, Section 3.4: Please add three new items, as follows:

(vi) The CNWRA under JOB CODE B6667 on thermohydrologics (R. Green and R. Manteufel)

(vii) The CNWRA under JOB CODE B6773 on sorption mechanisms for modeling (R. Pabalan and D. Turner)

(viii) The CNWRA under JOB CODE W6411 on near-field phenomena (W. Murphy).

Page 3-20, line 17:

Suggest adding text and figure which shows the relationship of this project to the other CNWRA research and technical assistance projects, particularly the sources of information, maps, cross-sections and data.