



Department of Energy
Washington, DC 20585

OCT 14 1992

Mr. Joseph J. Holonich, Director
Repository Licensing & Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Holonich:

In the U.S. Nuclear Regulatory Commission's (NRC) Phase I review letter (enclosure) of the U.S. Department of Energy's Study Plan 8.3.1.5.1.3, "Climatic Changes of Terrestrial Paleocology," the NRC requested two cited references that they considered to be not readily available. The references requested are by S.M. Colman and K.L. Pierce, and T.W. Edwards and P. Fritz.

The Colman and Pierce reference was listed in the study plan as "in press." Subsequently, the issue of Decade of North American Geology, Volume K-2, was published in 1991 by the Geological Society of America and includes the Colman and Pierce reference on pages 45-46.

The Edwards and Fritz reference, listed as "in preparation," has not been completed. This reference was mentioned in the study plan with other references as an example. It will be deleted from the study plan in a subsequent revision. Updated information for Colman and Pierce will also be included.

If you have any questions, please contact Mr. Chris Einberg of my office at 202-586-8869.

Sincerely,

John P. Roberts
Acting Associate Director for
Systems and Compliance
Office of Civilian Radioactive
Waste Management

190162

9210200494 921014
PDR WASTE PDR
WM-11

102.8
WM-11
NH03

Enclosure:

Ltr, 8/27/92, Holonich to Roberts

cc: w\enclosure

Alice Cortinas, CNWRA, San Antonio, TX

cc: w\enclosure

C. Gertz, YMPO

R. Loux, State of Nevada

T. Hickey, Nevada Legislative Commission

M. Baughman, Lincoln County, NV

J. Bingham, Clark County, NV

B. Raper, Nye County, NV

P. Niedzielski-Eichner, Nye County, NV

G. Derby, Lander County, NV

P. Goicoechea, Eureka, NV

C. Schank, Churchill County, NV

F. Mariani, White Pine County, NV

V. Poe, Mineral County, NV

E. Wright, Lincoln County, NV

J. Pitts, Lincoln County, NV

R. Williams, Lander County, NV

J. Hayes, Esmeralda County, NV

M. Hayes, Esmeralda County, NV

B. Mettam, Inyo County, CA

C. Abrams, NRC



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555

SEP 3 2 30 PM '00

AUG 27 1992

Cyber
Berrett / Barth
Procum. 2022 / Blankard
Crawley / Cooper / Sil
Jones S. / Senck / Fritz
Wegels / W...
Teas
Leard

Mr. John P. Roberts, Acting Associate Director
for Systems and Compliance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy, RW 30
Washington, DC 20585

Dear Mr. Roberts:

SUBJECT: PHASE I REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) STUDY
PLAN FOR CLIMATIC INTERPRETATIONS OF TERRESTRIAL
PALEOECOLOGY

9-3-92

I-331452

On June 22, 1992, DOE transmitted the study plan, "Climatic Interpretations of Terrestrial Paleoeology" (Study Plan 8.3.1.5.1.3) to the U.S. Nuclear Regulatory Commission for review and comment. NRC has completed its Phase I Review of this document using the Review Plan for NRC Staff Review of DOE Study Plans, Revision 1 (December 6, 1990). Based on its review, the NRC staff determined that the material submitted in the study plan was considered to be consistent, to the extent possible at this time, with the NRC-DOE agreement on content of study plans made at the May 7-8, 1986, meeting on Level of Detail for Site Characterization Plans and Study Plans.

Of the references listed for this study plan, all but two are readily obtainable or have been provided to NRC. Those two references are Coleman and Pierce (in press) and Edwards and Fritz (in preparation). The staff requests that DOE provide the NRC with those two references when they are published or, alternatively, provide the complete reference for the Edwards and Fritz paper, if published in a readily obtainable publication.

A major purpose of the Phase I Review is to identify concerns with studies, tests, or analyses that, if started, could cause significant and irreparable adverse effects on the site, the site characterization program, or the eventual usability of the data for licensing. Such concerns would constitute objections, as that term has been used in earlier NRC staff reviews of DOE's documents related to site characterization (Consultation Draft Site Characterization Plan and the Site Characterization Plan for the Yucca Mountain site). It does not appear that the field sampling and data collection activities described in this study plan will interfere with other Yucca Mountain site characterization activities or have any adverse effects on the repository performance. Phase I Review of this study plan identified no objections with any of the activities proposed.

9209110042 2pp

ENCLOSURE

After completion of the Phase I Review, selected study plans are to receive a second level of review, called a Detailed Technical Review, based on the relationship of a given study plan to key site-specific issues or NRC open items, or its reliance on unique, state-of-the-art test or analysis methods. We have decided not to proceed with a Detailed Technical Review of this study plan at this time.

If you have any questions concerning this letter, please contact Charlotte Abrams (301) 504-3403 of my staff.

Sincerely,



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

cc: T. J. Hickey, Nevada Legislative Committee
R. Loux, State of Nevada
C. Gertz, DOE/NV
S. Bradhurst, Nye County, NV
M. Baughman, Lincoln County, NV
D. Bechtel, Clark County, NV
D. Weigel, GAO
P. Niedzielski-Eichner, Nye County, NV
V. Poe, Mineral County, NV
D. 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
B. Mettam, Inyo County, CA
B. Barnard, NWTRB

REFERENCES

Betancourt, J. L., Van Devender, T. R., and Martin, P. S., eds., 1990, Packrat middens: The University of Arizona Press, Tucson, Arizona, 467 p.

Claassen, H. C., 1985, Sources and mechanisms of recharge for ground water in the west-central Amargosa Desert, Nevada -- a geochemical interpretation: U. S. Geological Survey Professional Paper 712-F, p. F1-F32.

Colman, S. M., and Pierce, K. L., in press, Summary of Quaternary dating methods. *in* Morrison, R. B., Quaternary nonglacial geology of the conterminous United States: Geological Society of America, Decade North American Geology, V. K-2.

Donahue, D. J., Jull, A. J. T., Zabel, T. H., and Damon, P. E., 1983, The use of accelerators for radioisotope dating: Nucl. Instrum. Methods, 218, p. 425-429.

Edwards, T. W. D., and Fritz, P., in preparation, Stable isotope paleoclimate records for southern Ontario: results from marl and wood.

Epstein, S., Thompson, P., and Yapp, C. J., 1977, Oxygen and hydrogen isotopic ratios in plant cellulose: Science, v. 198, no. 323, p. 1209-1215.

La Marche, V. C., Jr., 1974, Paleoclimate inferences from long tree-ring records: Science, v. 183, p. 1043-1048.

Linick, T. W., Jull, A. J. T., Toolin, L. J., and Donahue, D. J., 1986, Operation of the NSF-Arizona accelerator facility for radioisotope analysis and results from selected collaborative research projects: Radiocarbon, 28, p. 522-533.

Long, A., Warneke, L. A., Betancourt, J. L., and Thompson, R. S., 1990, Deuterium variations in plant cellulose from fossil packrat middens, *in* Betancourt, J. L., Van Devender, T. R., and Martin, P. S., eds., Packrat middens: The University of Arizona Press, Tucson, Arizona, 467 p.

Smith, G. I., 1984, Paleohydrologic regime in the southwestern Great Basin, 0-3.2 my ago, compared with other long records of "global" climate: Quaternary Research 22, p. 1-17.

Spaulding, W. G., 1985, Vegetation and climates of the last 45,000 years in the vicinity of the Nevada Test Site, south-central Nevada: U. S. Geological Survey Professional Paper 1329.