



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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MAR 16 REC'D

MAR 10 1984

Dr. Dae Chung, Staff Scientist  
Lawrence Livermore National Laboratory  
University of California  
Livermore, California 94550

SUBJECT: CONTRACT NRC FIN A-0294 ENTITLED "TECHNICAL ASSISTANCE IN  
SEISMO-TECTONIC IMPACTS ON REPOSITORIES, LAWRENCE LIVERMORE NATIONAL  
LABORATORY"

Dear Dr. Chung:

As agreed in our telephone conversation of February 27, 1984, you are to attend the March 13-15, 1984, Basalt Waste Isolation Project, Geology Workshop which is being held at Hanford House Hotel in Richland, Washington. The authority for your attendance is described in Task I, Subtask 1.1 of the Statement of Work.

You are authorized to attend with the following persons: D. B. Slemmons, L. McKague and R. Whitney. The four of you are to also participate in a preparatory meeting of NRC staff and contractors at 3:00 pm, March 12, Rivershore Motel, Richland, Washington. Your attendance is to be followed with a letter report as described in the Statement of Work, Section 3.0 - Deliverable Products, Subsection 3.3 - Reports of Meetings, Workshops, and Site Visits.

Please be prepared to discuss, explain in detail, and justify all your comments on RHO-BW-ST-19-P made in your September 28, 1983 review.

Please call me on FTS, 427-4532 if you have any questions.

*Kristin B. Westbrook*  
Kristin B. Westbrook  
Project Manager  
Geology/Geophysics Section  
Geotechnical Branch  
Division of Waste Management

8409060183 840419  
PDR WMRES EXILLL  
A-0294 PDR

H. Lawrence McKague  
2642 Corte Vida  
Pleasanton, Ca., 94556  
(415) 846-9602 (home)  
(415) 422-6494 (work)

## EXPERIENCE

### 1972 to 1982 Lawrence Livermore National Laboratory

Program Leader - Technical, administrative and financial responsible for Underground Nuclear Explosion Containment Program. Headed multidiscipline team of 55 scientists, engineers, and technicians that evaluated geology, physics, engineering, and expected explosion phenomenology for each proposed nuclear test, and presented results to formal government panel. Implemented multidiscipline (geology, geophysics, physics, rock mechanics, mechanical engineering, and nuclear chemistry) research and development effort. Research was both basic and applied. Goals included: an integrated geological and geophysical understanding of Nevada Test Site, accurate prediction and measurement of nuclear explosion phenomenology, program cost effectiveness, conservation of testing medium and increased safety. Member of Department of Energy's Containment Evaluation Panel, an advisor panel that reviews the containment evaluation of each proposed nuclear test at the Nevada Test Site.

Section Leader - Line management of 20 professionals (geologists, hydrologists, and geochemists) and three technicians working on non nuclear energy, nuclear waste, and defense projects. Management responsibilities included job assignment, performance appraisal, salary management, and employee career development (Technical and Managerial).

Senior Geologist, Containment Program - Responsible for selection and geologic evaluation of sites for nuclear tests; utilizing geologic data from drill holes, geophysical logs, (density, electric, gravity magnetic, and sonic logs) and surface geophysical surveys (reflection, gravity, and aeromagnetic). Developed geological models for hydrodynamic shock wave calculations and geophysical evaluations.

### 1966 to 1972 Rutgers - The State University

Assistant Professor - Taught undergraduate and graduate courses in mineralogy, petrology, geochemistry, and economic geology. Supervision of graduate and undergraduate theses. Chairman of University Honor Committee.

### 1964 to 1966 Geological Institute of America

Research on gem minerals and their substitutes.

## EDUCATION

Pennsylvania State University - Ph.D., Mineralogy and Petrology. 1964  
Washington State University - M.S., Geology, 1960  
Franklin and Marshall College - B.S., Geology. 1957

## PROFESSIONAL ORGANIZATIONS

Registered California Geologist  
Fellow Geological Society of America  
Member American Geophysical Union

Bibliography attached

## H. Lawrence McKague

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Howard, N. H., Grothaus, B., and McKague, H. L. (1979) Subsurface Correlation of Tertiary-Quaternary Desert Alluvium Deposits, Northern Yucca Flat, Nevada, Geol. Soc. Am., abs Cordilleran Sec.

Terhune, R. W., Glenn, H. D., Burton, D. E., McKague, H. L., and Rambo, J. T. (1979) Numerical Simulation of the Baneberry Event, Nuclear Technology, Vol. 46, p. 159-169.

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