

Center for Nuclear Waste Regulatory Analyses

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September 18, 1997
Contract No. NRC-02-93-005
Account No. 20-5708-471

U.S. Nuclear Regulatory Commission
ATTN: Philip S. Justus
Office of Nuclear Material Safety and Safeguards
Two White Flint North
Mail Stop 7 C6
Washington, DC 20555

Subject: Global Positioning System Constraints on Fault Slip Rates in the Death Valley Region, California and Nevada (IM 20-5708-471-799)

Dear Dr. Justus:

Enclosed is a manuscript entitled Global Positioning System Constraints on Fault Slip Rates in the Death Valley Region, California and Nevada (IM 5708-471-799). It is submitted for your review and acceptance. The results of five GPS surveys conducted between 1991 and 1996 are discussed. The initial four surveys were funded by the NRC Office of Regulatory Research directly to the California Institute of Technology. The CNWRA participated in these surveys by supplying one to two staff members to assist in manning GPS stations. The most recent survey was funded by the Office of Nuclear Material Safety and Safeguards through the CNWRA.

Estimated horizontal velocities at 15 locations in southwestern Nevada and southeastern California are used to infer slip rates on the Hunter Mountain and Death Valley faults. Between 3 to 5 mm/yr of motion appears to be accommodated along the Death Valley fault. This suggests the potential for 5 to 10 M_w 6.5-7.5 earthquakes along the fault in the next 10,000 years.

This paper was submitted to Geophysical Research Letters in April, 1997, but was subsequently withdrawn to incorporate comments developed during CNWRA review. These comments have been incorporated and the manuscript will shortly be resubmitted by the senior author. Comments NRC may have as a result of reviewing this manuscript can be incorporated when the manuscript returns from peer review.

If have any questions please contact either David Ferrill at (210) 522-6082 or me at (210) 522-5183.

Sincerely,
H. Lawrence McKague
H. Lawrence McKague
Element Manager
Geology & Geophysics
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