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January 5, 1978

Mr. John F. Stolz, Chief
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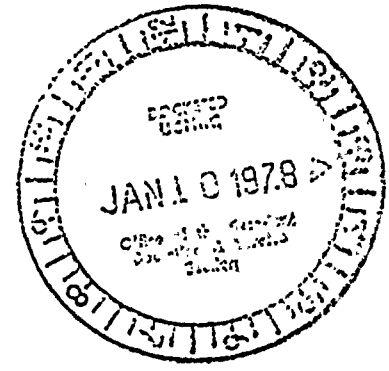
Division of Project Management
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555




Re: Docket No. 50-275-OL
Docket No. 50-323-OL
Diablo Canyon Units 1 & 2

Dear Mr. Stolz:

Enclosed are 40 copies of the text for Appendix 45A which is a part of the report D-LL 45 entitled, "Plate Boundary and Diffused Areal Probabilistic Considerations." This report, including the figures for Appendix 45A, was transmitted to you by our letter of December 23, 1977.

Also enclosed are 40 copies of revised Figure 45A-2 of the Appendix which reflects a slight correction in the 7.5M region.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it to me in the enclosed addressed envelope.

Very truly yours,

Philip A. Crane, Jr.

Enclosures
CC w/encs.: Service List

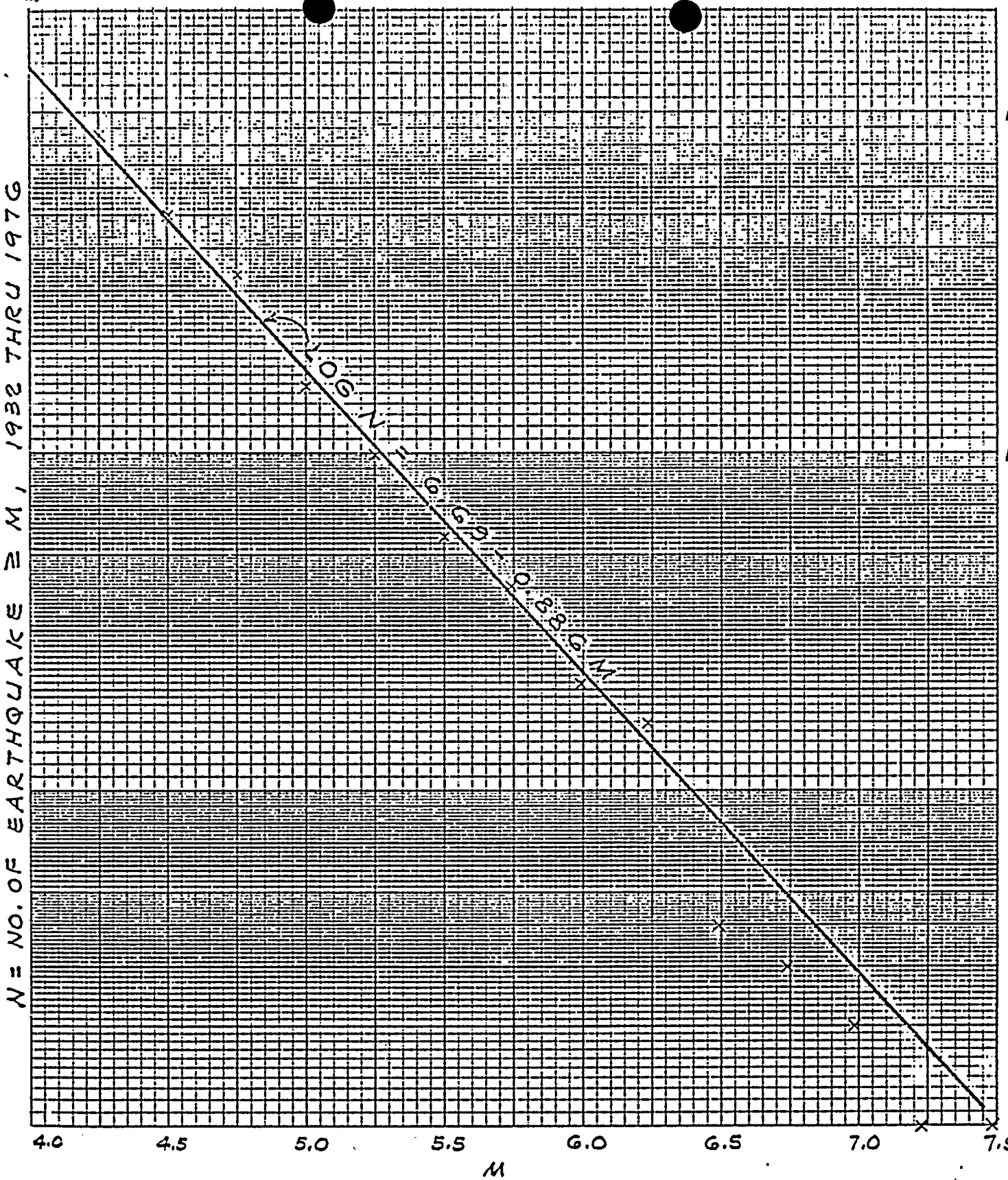
APPENDIX 45A
12/27/77

# SEISMICITY OF THE CALIFORNIA PLATE BOUNDARY SEGMENT

by Stewart W. Smith

The average seismicity for the San Andreas section of the Pacific-North American plate boundary has been characterized. A region between the Gulf of California and Cape Mendocino illustrated in Figure 45A-1 was the basis for a search of the NEIS catalog. The time interval chosen was 1932 through 1976. The catalog is considered complete for this time period for earthquakes greater than or equal to magnitude 4.25. The great majority of events in this region have local magnitudes assigned ($M_L$). However, a small number of events with only body wave magnitudes ($M_b$) are also included in the statistical sample.

The resulting cumulative distribution is shown in Figure 45A-2. The fitted line is log N = 6.69 - 0.886M and results from a least square fit to the data between magnitudes 4.25 and 6.25. At the upper magnitude end of the curve the scatter of data points is due to the well known effect of having only a few events with which to work. The overall fit of the data is considered satisfactory and because of the large area and long time sample should be a very stable estimation of the seismicity of this region.




NOTE : EXPOSURE SEGMENT IS SHOWN IN FIG. 45A-1

45-YEAR EARTHQUAKE RECORD FOR CALIFORNIA PLATE BOUNDARY SEGMENT

FIGURE 45A-2

Revised 1-4-78