

RELATED CORRESPONDENCE

received
12/8/75

ROISMAN, KESSLER AND CASHDAN

1712 N STREET, NORTHWEST

WASHINGTON, D. C. 20036

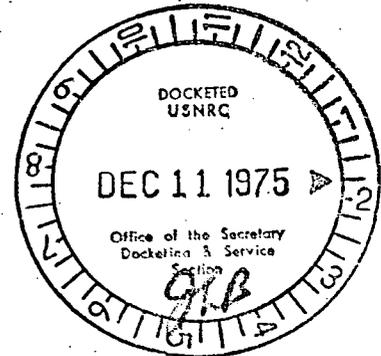
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50-247

PHYLLIS L. QUANDER
ADMINISTRATIVE SECRETARY

ANTHONY Z. ROISMAN
GLADYS KESSLER
DAVID R. CASHDAN
KARIN P. SHELDON
CLIFTON E. CURTIS
DAVID S. FLEISCHAKER
MERIDETH WRIGHT (ADM. FLORIDA)

December 4, 1975



Harry Voigt, Esq.
LeBoeuf, Lamb, Leiby and MacRae
1757 N Street N.W.
Washington, D.C. 20036

Dear Harry,

Attached are Citizens' Committee for Protection of the Environment's answers to Con. Edison's interrogatories, dated November 17, 1975.

While Ms. Dickinson was unable to sign these interrogatories as provided by §2.740(b), I have confirmed all the answers with her by telephone. She is mailing a signed and notarized copy of the answer to my office, and, upon receipt, I will forward a copy to you.

Sincerely yours,

Enclosure

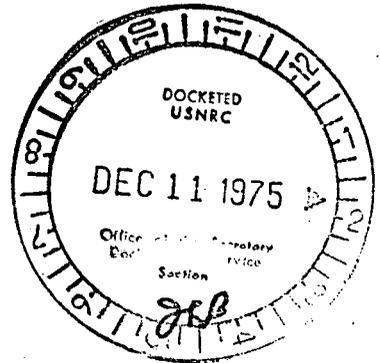
cc w/enc: Michael Farrar, Esq.
Dr. John H. Buck
Dr. Lawrence R. Quarles
Frederick Gray, Esq.
John Clemente, Esq.
Secretary, USNRC

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)
)
CONSOLIDATED EDISON COMPANY)
OF NEW YORK, INC.)
)
(Indian Point Station,)
Unit Nos. 1, 2, and 3)



AFFIDAVIT OF IRENE DICKINSON

Now comes Irene Dickinson, and being on oath, deposes and says as follows:

1. That she is the co-ordinator of Citizens Committee for Protection of the Environment and that she is duly authorized to execute and file these answers to interrogatories on behalf of CCPE.
2. That attached hereto are the answers to interrogatories propounded in the above entitled matter to Citizens Committee for Protection of the Environment by Con. Ed.
3. That the answers attached hereto are true and correct to the best of her knowledge.

Irene Dickinson
Irene Dickinson, Co-ordinator
Citizens Committee for
Protection of the Environment

STATE OF NEW YORK)
) SS
COUNTY OF WESTCHESTER

SUBSCRIBED AND SWORN to before me this 6⁷
day of December, 1975

My commission expires

March 30, 1976

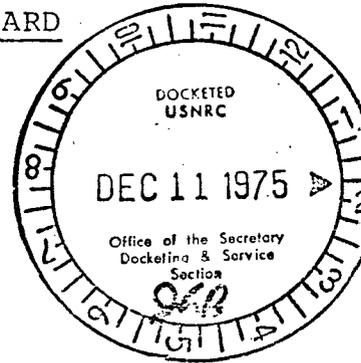
John Drew Barrett
John Drew Barrett Notary Public
Notary Public in the State of New York
Number 00-5194815
Appointed for Westchester County

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of)
)
CONSOLIDATED EDISON COMPANY)
OF NEW YORK, INC.)
)
(Indian Point Station,)
Unit Nos. 1, 2 and 3))
)
)
)
)

Docket Nos. 50-3
50-247
50-286



CITIZENS' COMMITTEE FOR PROTECTION OF THE
ENVIRONMENT'S (CCPE) RESPONSE TO CON EDISON'S
WRITTEN INTERROGATORIES

1. ANSWER TO QUESTIONS 1-6.

At present, CCPE does not intend to present witnesses on the issue of the Cape Ann earthquake.

2. ANSWER TO QUESTION 7.

CCPE expects to present Dr. Mihailo Trifunac to testify on issues of correct ground acceleration value produced by the Safe Shutdown Earthquake for Units 2 and 3 at the Indian Point site.

3. ANSWER TO QUESTION 8.

a) - c): See attachment 1 which is the Curriculum Vitae for Mihailo Trifunac.

d): Dr. Trifunac testified on the issue of ground acceleration at the construction license hearing -- In the Matter of Public Service Company of New Hampshire, Seabrook Station, Units 1 and 2. Docket Nos. 50-443 and 50-444 -- on June 13, 1975.

4. ANSWER TO QUESTION 9.

Dr. Trifunac became a witness for CCPE on December 2, 1975. He has not had an opportunity to review these interrogatories. Consequently, an answer to Question 9 is not available at present.

5. ANSWER TO QUESTION 10.

CCPE expects to present Dr. Lynn Sykes of Lamont-Dougherty Geological Observatory, to testify on the issue of the capability of the Ramapo Fault as phrased in the Appeal Board's Prehearing Conference Order of October 17, 1975

6. ANSWER TO QUESTIONS 10-25.

Dr. Lynn Sykes agreed to testify for CCPE on December 1, 1975. CCPE does not presently have any biographical data on Dr. Sykes and therefore cannot provide an answer to Question 11, a) - d). Dr. Sykes has not had an opportunity to review these Interrogatories. Consequently, answers to Questions 12-25 are not available at present.

CURRICULUM VITAE FOR MIHAILO D. TRIFUNAC

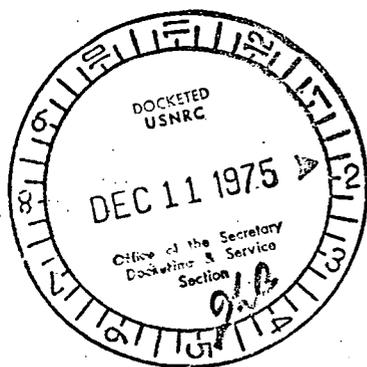
Birth Date: 7 November 1942 - Kikinda, Yugoslavia

Education: Ph. D. California Institute of Technology - 1969
M. S. Princeton University - 1966
B. S. University of Belgrade - 1965

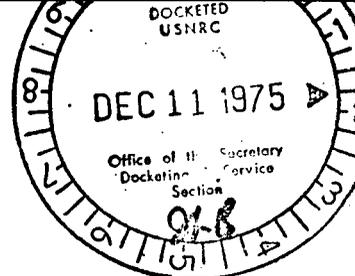
Scientific Research: Includes investigation of strong earthquake ground motions following Parkfield, California, 1966 earthquake (1967+); high-frequency resolution and strong-motion mechanism study of Imperial Valley, California 1940 earthquake (1968+); simple mathematical models of an alluvial valley subject to strong earthquake motion (1968+); ambient vibration studies of several multi-story structures (1968+); laboratory evaluation and instrument correction methods of strong motion accelerographs (1970+); development of the data processing methods of strong-motion accelerograms (1970+); statistics and triggering mechanism of earthquakes (1968+); studies of microtremor vibrations in the Imperial Valley (1970+); study of new methods for synthesizing artificial strong ground motion (1970+); investigation of the soil-structure interaction (1970+); amplification and focusing effects in complicated geologic structures (1971+); stress estimates and source mechanism studies of earthquakes based on the recorded strong-motion accelerograms (1971+).

Employment: Assistant Professor of Applied Science, California Institute of Technology, 1972-
Research Associate, Lamont-Doherty Geological Observatory and Lecturer in the Department of Geology of Columbia University, 1971-1972
Research Scientist, Lamont-Doherty Geological Observatory of Columbia University, 1970-1971
Research Fellow in Applied Mechanics, California Institute of Technology, July 1969-September 1970
Research Assistant, California Institute of Technology, 1966-1969
Research Assistant, Princeton University, 1965-1966

Professional Societies: American Geophysical Union
American Society of Civil Engineers
Seismological Society of America
Sigma Xi
Earthquake Engineering Research Institute



Publications of M. D. Trifunac



1. 1967 Analysis of accelerograms - Parkfield earthquake, with G. W. Housner, Bull. Seism. Soc. Amer., 57, 1193-1220.
2. 1969 Analysis of strong-motion accelerograph records, with D. E. Hudson and N. C. Nigam, Fourth World Conference on Earthquake Engineering, Santiago, Chile.
3. 1969 Strong-motion earthquake accelerograms, digitized and plotted data, Vol. I, with D. E. Hudson and A. G. Brady, Earthquake Engineering Research Laboratory, EERL 70-20, California Institute of Technology, Pasadena.
4. 1969 Investigation of strong earthquake ground motion, Earthquake Eng. Res. Lab., Calif. Inst. of Tech., Pasadena.
5. 1970 Analysis of the station No. 2 seismoscope record - 1966, Parkfield, California, earthquake, with D. E. Hudson, Bull. Seism. Soc. Amer., 60, 735-794.
6. 1970 Wind and microtremor induced vibrations of a 22-story steel frame building, Earthquake Eng. Res. Lab., EERL 70-01, Calif. Inst. of Tech., Pasadena.
7. 1970 Complexity of energy release during the Imperial Valley, California, earthquake of 1940, with J. N. Brune, Bull. Seism. Soc. Amer., 60, 137-160.
8. 1970 Ambient vibration test of a 39-story steel frame building, Earthquake Eng. Res. Lab., EERL 70-02, Calif. Inst. of Tech., Pasadena.
9. 1970 On the statistics and possible triggering mechanism of earthquakes in Southern California, Earthquake Eng. Res. Lab., EERL 70-03, Calif. Inst. of Tech., Pasadena.
10. 1970 Laboratory evaluation and instrument corrections of strong-motion accelerographs, Earthquake Eng. Res. Lab., EERL 70-04, Calif. Inst. of Tech., Pasadena.
11. 1970 Response envelope spectrum and interpretation of strong earthquake ground motion, Earthquake Eng. Res. Lab., EERL 70-06, Calif. Inst. of Tech., Pasadena.
12. 1970 Low frequency digitization errors and a new method for zero baseline correction of strong-motion accelerograms, Earthquake Eng. Res. Lab., EERL 70-07, Calif. Inst. of Tech., Pasadena.

13. 1971 Response envelope spectrum and interpretation of strong earthquake ground motion, Bull. Seism. Soc. Amer., 61, 343-356.
14. 1971 Zero baseline correction of strong-motion accelerograms, Bull. Seism. Soc. Amer., 61, 1201-1211.
15. 1971 A method for synthesizing realistic strong ground motion, Bull. Seism. Soc. Amer., 61, 1755-1770.
16. 1971 Surface motion of a semi-cylindrical alluvial valley for incident plane SH waves, Bull. Seism. Soc. Amer., 61, 1739-1753.
17. 1971 Analysis of the Pacoima Dam accelerogram, San Fernando, California, earthquake of 1971, with D. E. Hudson, Bull. Seism. Soc. Amer., 61, 1393-1411.
18. 1971 High frequency errors and instrument corrections of strong-motion accelerograms, with F. E. Udvardia and A. G. Brady, Earthquake Eng. Res. Lab., EERL 71-05, Calif. Inst. of Tech., Pasadena.
19. 1971 Strong-motion earthquake accelerograms, II, corrected accelerograms and integrated velocity and displacement curves, with D. E. Hudson, A. G. Brady and A. Vijayaraghavan, Earthquake Eng. Res. Lab., EERL 71-51, Calif. Inst. of Tech., Pasadena.
20. 1971 Engineering features of the San Fernando earthquake, February 9, 1971, Chapter II, edited by P. G. Jennings, Earthquake Eng. Res. Lab., EERL 71-02, Calif. Inst. of Tech., Pasadena.
21. 1972 Strong-motion accelerograms, III, response spectra, with D. E. Hudson and A. G. Brady, Earthquake Eng. Res. Lab., EERL 72-80, Calif. Inst. of Tech.
22. 1972 Strong-motion earthquake accelerograms, IV, Fourier spectra, with D. E. Hudson, F. E. Udvardia, A. Vijayaraghavan, and A. Brady, Earthquake Eng. Res. Lab., EERL 72-100, Calif. Inst. of Tech., Pasadena.
23. 1972 Interaction of a shear wall with the soil for incident plane SH waves, Bull. Seism. Soc. Amer., 62, 63-83.
24. 1972 A note on correction of strong-motion accelerograms for instrument response, Bull. Seism. Soc. Amer., 62, 401-409.
25. 1972 Stress estimates for San Fernando, California, earthquake of 9 February 1971: Main event and thirteen aftershocks, Bull. Seism. Soc. Amer., 62, 721-750.
26. 1972 Tectonic stress and source mechanism of the Imperial Valley, California, earthquake of 1940, Bull. Seism. Soc. Amer., 62, 1283-1302.

27. 1972 Comparison between ambient and forced vibration experiments, Int. J. of Earthquake Eng. and Struct. Dynamics, 1, 133-150.
28. 1972 Studies of strong earthquake motions and microtremor processes, with F. E. Udawadia, International Conf. of Microzonation, Seattle, Washington.
29. 1973 Analysis of errors in digitized strong-motion accelerograms, with F. E. Udawadia, and A. G. Brady, Bull. Seism. Soc. Amer., 63, 157-187.
30. 1973 A note on scattering of plane SH waves by a semi-cylindrical canyon, Int. J. of Earthquake Eng. and Struct. Dynamics, 1, 267-281.
31. 1973 Characterization of response spectra by parameters governing the gross nature of earthquake source mechanism, 5WCEE, Rome, Italy.
32. 1973 Recent developments in data processing and accuracy evaluations of strong-motion acceleration measurements, with F. E. Udawadia and A. G. Brady, 5WCEE, Rome, Italy.
33. 1973 Ambient vibration tests of full-scale structures, with F. E. Udawadia, 5WCEE, Rome, Italy.
34. 1973 Comparison of earthquake and microtremor ground motions in El Centro, California, with F. E. Udawadia, Bull. Seism. Soc. Amer., 63, No. 4, 1227-1253.
35. 1973 Analysis of strong earthquake ground motion for prediction of response spectra, Int. J. of Earthquake Eng. and Struct. Dynamics, Vol. 2, No. 1, 59-69.
36. 1973 The Fourier transform, response spectra and their relationship through the statistics of oscillator response, with F. E. Udawadia, Earthquake Eng. Res. Lab., EERL 73-01, Calif. Inst. of Tech.
37. 1973 Damped Fourier spectrum and response spectra, with F. E. Udawadia, Bull. Seism. Soc. Amer., 63, 1775-1783.
38. 1973 Routine computer processing of strong-motion accelerograms, with V. Lee, Earthquake Eng. Res. Lab., EERL 73-03, Calif. Inst. of Tech.
39. 1974 Characterization of response spectra through the statistics of oscillator response, with F. E. Udawadia, Bull. Seism. Soc. Amer., 64, 205-219.
40. 1974 A three-dimensional dislocation model for the San Fernando, California, earthquake of February 9, 1971, Bull. Seism. Soc. Amer., 64, 149-172.

41. 1974 Parkfield, California, earthquake of June 27, 1966: a three-dimensional moving dislocation, with F. E. Udvardia, Bull. Seism. Soc. Amer., 64, 511-533.
42. 1974 Time and amplitude dependent response of structures, with F. E. Udvardia, Intl. J. of Earthq. Engr. and Struct. Dyn. 2, 359-378.
43. 1974 A note on the accuracy of computed ground displacements from strong motion accelerograms, with V. W. Lee, Bull. Seism. Soc. Amer., 64, 1209-1219.
44. 1974 Variations of strong earthquake ground shaking in the Los Angeles area, with F. E. Udvardia, Bull. Seism. Soc. Amer., 64, 1429-1454.
45. 1974 Scattering of plane SH-waves by a semi-elliptical canyon, with H. L. Wong, Intl. J. of Earthquake Engr. and Struct. Dyn., 3, 157-169.
46. 1974 Surface motion of a semi-elliptical alluvial valley for incident plane SH-waves, with H. L. Wong, Bull. Seism. Soc. Amer., 64, 1389-1408.
47. 1974 Interaction of a shear wall with the soil for incident plane SH waves: elliptical rigid foundation, with H. L. Wong, Bull. Seism. Soc. Amer., 64, 1825-1842.
48. 1975 An array of strong motion accelerographs in Bear Valley, California, with R. J. Dielman and T. C. Hanks, Bull. Seism. Soc. Amer., 65, 1-12.
49. 1975 A note on the dynamic response of rigid embedded foundations, with J. E. Luco and H. L. Wong, submitted to Intl. J. of Earthquake Eng. and Struct. Dyn.
50. 1975 On the correlation of seismic intensity scales with the peaks of recorded strong ground motion, with A. G. Brady, Bull. Seism. Soc. Amer., 65, 139-162.
51. 1975 On the correlation of seismoscope response with earthquake magnitude and Modified Mercalli intensity, with A. G. Brady, Bull. Seism. Soc. Amer., 65, 307-321.
52. 1975 A study on the duration of strong earthquake ground motion, with A. G. Brady, Bull. Seism. Soc. Amer., 65, June issue.
53. 1975 Two-dimensional, antiplane, building-soil-building interaction for two or more buildings and for incident plane SH-waves with H. L. Wong, submitted to Bull. Seism. Soc. Amer.

54. 1975 A review of correlations of peak acceleration with earthquake magnitude and distance and the trends indicated by recent strong motion data, with A. G. Brady, submitted to Intl. J. of Earthquake Engr. and Struct. Dyn.
55. 1975 On the correlation of peak accelerations of strong motion with earthquake magnitude, epicentral distance and site conditions, with A. G. Brady, Proc. U.S. National Conference on Earthquake Engineering, Ann Arbor, Michigan.
56. 1975 Preliminary analysis of the peaks of strong earthquake ground motion - dependence of peaks on earthquake magnitude, epicentral distance and the recording site conditions, submitted to Bull. Seism. Soc. Amer.
57. 1975 Full scale three-dimensional tests of structural deformations during forced excitation of a nine-story reinforced concrete building, with D. A. Foutch, J. E. Luco, and F. E. Udwadia, Proc. U.S. National Conference on Earthquake Engineering, Ann Arbor, Michigan.
58. 1975 An experimental study of ground deformations caused by soil-structure interaction, with J. E. Luco and F. E. Udwadia, Proc. U.S. National Conference on Earthquake Engineering, Ann Arbor, Michigan.
59. 1975 A note on the calculation of Fourier amplitude transforms, with F. E. Udwadia, submitted to Intl. J. of Earthquake Eng. and Struct. Dyn.
60. 1975 A note on shielding and amplifying effects caused by local topography on the response of a nearby structure for antiplane two-dimensional vibrations, with H. L. Wong, submitted to Intl. J. of Earthquake Engr. and Struct. Dyn.
61. 1975 Antiplane dynamic soil-bridge-soil interaction for incident plane SH-waves, with A. M. Abdel-Ghaffar, submitted to American Society of Civil Engineers.
62. 1975 A note on the range of peak amplitudes of recorded accelerations, velocities and displacements with respect to the Modified Mercalli intensity, submitted to Bull. Seism. Soc. Amer.