

SUPPLEMENTAL AGREEMENT
BETWEEN

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
AND
THE U. S. NUCLEAR REGULATORY COMMISSION

THIS SUPPLEMENTAL AGREEMENT, effective the 1st day of September, 1980, by and between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), as represented by the UNITED STATES NUCLEAR REGULATORY COMMISSION (hereinafter referred to as the "Commission"), and Massachusetts Institute of Technology (hereinafter referred to as the "Contractor"),

WITNESSETH THAT:

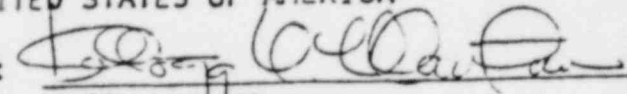
WHEREAS, the parties desire to modify Contract No. NRC-04-76-209 as hereinafter provided, and this supplemental agreement is authorized by law, including the Energy Reorganization Act of 1974, as amended, and the Atomic Energy Act of 1954, as amended.

NOW, THEREFORE, said contract is hereby modified as follows:

1. Appendix A, attached to this supplemental agreement and made a part hereof, provides for the research to be performed by the Contractor during the contract period specified therein.
2. In Article II - The Period of Performance, the date " August 31, 1981 " is substituted for the date " August 31, 1980 ".
3. In Article III - Consideration, the sum "\$ 406,180.00" is substituted for the sum "\$ 306,680.00".


IN WITNESS WHEREOF, the parties have executed this document.

UNITED STATES OF AMERICA

BY: 
Kellogg V. Morton
Contracting Officer
(title)

Nuclear Regulatory Commission

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

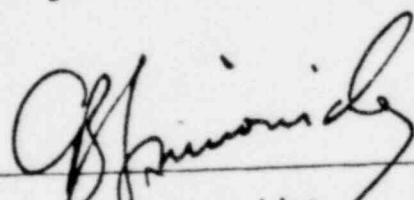
BY: 
George H. Dummer
Director Office of Sponsored Programs
(title)

I, C. Simonides, certify that I am the
(attester)
Secretary of the Executive
Committee of the Corporation
(title) of the Contractor named

under this document; that George H. Dummer
(signatory)

who signed this document on behalf of said Contractor was then
Director Office of Sponsored Programs of said Contractor; that
this document was duly signed for and on behalf of said Contractor by
authority of its governing body and is within the scope of its legal
powers.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of
said Contractor.


C. B. Simonides

(SEAL)

CONTRACTOR: MASSACHUSETTS INSTITUTE OF TECHNOLOGY

APPENDIX A

For the Contract period September 1, 1980 through August 31, 1981

Article A-I RESEARCH TO BE PERFORMED BY CONTRACTOR

(a) The unclassified scope of work under this contract shall be entitled, "A Study of New England Seismicity with Emphasis on Massachusetts and New Hampshire", shall be as follows:

1. Continue the operation of the MIT Seismic Network and significantly upgrade the quality of the data. This will be accomplished by digitally recording data from selected stations on an HP-1000 computer.
2. Refine the determinations of the crust and upper mantle structure of the Northeastern United States from seismic refraction experiments, teleseismic P-wave residual inversion, and surface wave dispersion analysis. This will improve the computation of local earthquake hypocenters and focal depths.
3. Continue to determine fault plane solutions for New England earthquakes and investigate the state of stress in the crust from detailed studies of body wave spectra.
4. Develop a magnitude scale based on coda duration for the determination of the magnitudes of New England earthquakes.
5. Estimate local variations of strong ground motion using the data from small earthquakes.
6. Reexamine the network configuration for optimum distribution of stations for more accurate hypocenter determination.

(b) The Principal Investigator expects to devote the following approximate amount(s) of time to the contract work:

M. N. Toksoz 5% of his time for 12 months

ARTICLE A-II WAYS AND MEANS OF PERFORMANCE

(a) Items for which support will be provided as indicated in A-III, below

(1) Salaries and Wages

\$ 42,610.00

(2) Equipment to be purchased or fabricated by the Contractor \$ 5,840.00

Items Under \$1,000
1 Mark Products L-4C Seismometer

Items Over \$1,000
Integrated Calibrator Telemetry System
2 amplifiers @ \$500
2 VCO's @ \$450
2 discriminators @ \$420
2 field cases @ \$370
2 pulse calibrators @ \$310
1 rack mount chassis
1 power supply
1 extender module

(3) Travel \$ 2,890.00
 (i) Domestic
 (ii) Foreign \$ - 0 -

(4) Other direct costs including employee benefits

(5) Indirect costs based on a predetermined rate of 70.5 percent applicable to direct wages and salaries plus employee benefits less one half of all research assistants and UROP student salaries. (Research assistants and UROP students do not earn employee benefits.)

(b) Items, if any, significant to the performance of this contract, but excluded from computation of Support Cost and from consideration in proportioning costs:

NONE

(c) Time or effort of Principal Investigator(s) including indirect costs and fringe benefits contributed by Contractor but excluded from computation of Support Cost and from consideration in proportioning costs:

NONE

Article A-III

The total estimated cost of items under A-II(a) above for the contract period stated in this Appendix A is \$ 99,500.00 ; the Commission will pay 100 percent of the actual costs of these items incurred during the contract period stated in this Appendix A, subject to the provisions of Article III and Article B-XXVIII. The estimated NRC Support Cost for the contract period stated in this Appendix A is \$ 99,500.00

The estimated NRC Support Cost is funded as follows:

- | | |
|---|---------------------------|
| (a) Estimated unexpended balance from prior period(s) | \$ <u> - 0 -</u> |
| (b) New funds for the current period | \$ <u>99,500.00</u> |
| (c) The new funds being added in A-III(b) constitute the basis for advance payments provided under Article B-X. | |