

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING		PAGE OF PAGES 1   23	
2. CONTRACT (Proc Inst Ident) NO. NRC-04-85-122		3. EFFECTIVE DATE AUG 1 1985		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. RS-RES-85-122			
5. ISSUED BY U. S. Nuclear Regulatory Commission Division of Contracts, Helen Hagey Washington, DC 20555		6. ADMINISTERED BY (If other than Item 5)		CODE			
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP Code) Georgia Tech Research Corporation 225 North Avenue Georgia Institute of Technology Atlanta, GA 30332-0420				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT N/A			
				10. SUBMIT INVOICES (4 copies unless other wise specified) TO THE ADDRESS SHOW/N IN <span style="float: right;">ITEM See G.6</span>			
CODE		FACILITY CODE					
11. SHIP TO/MARK FOR See F.2		CODE		12. PAYMENT WILL BE MADE BY See G.8		CODE	
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION. <input type="checkbox"/> 10 U.S.C. 2304(c)(1) <input checked="" type="checkbox"/> 41 U.S.C. 253(c)(1)				14. ACCOUNTING AND APPROPRIATION DATA B&R: 601950 FIN: D1598 Amount Obligated: \$100,000.00			
15A. ITEM NO	15B. SUPPLIES/SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT		
	The Commission hereby accepts Georgia Tech Research Corporation's proposal dated June 18, 1985, and as revised dated July 23, 1985, both of which are incorporated into this cost reimbursement type contract by this reference to perform the efforts detailed herein.						
						15G. TOTAL AMOUNT OF CONTRACT <span style="float: right;">\$ 278,921.00</span>	
16. TABLE OF CONTENTS							
W)	SEC	DESCRIPTION	PAGE(S)	W)	SEC	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
X	A	SOLICITATION/CONTRACT FORM		X	I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
X	C	DESCRIPTION/SPECS/WORK STATEMENT		J		LIST OF ATTACHMENTS	
X	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
X	E	INSPECTION AND ACCEPTANCE		K		REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE		L		INSTRS, CONDS, AND NOTICES TO OFFERORS	
X	G	CONTRACT ADMINISTRATION DATA		M		EVALUATION FACTORS FOR AWARD	
X	H	SPECIAL CONTRACT REQUIREMENTS					
CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 2 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
19A. NAME AND TITLE OF SIGNER (Type or print) Lynn Boyd Asst. to VP/Gen. Mgr.				20A. NAME OF CONTRACTING OFFICER Ronald D. Thompson			
19B. NAME OF CONTRACTOR J.W. Dees Assistant Secretary				20B. UNITED STATES OF AMERICA			
19C. DATE SIGNED 8/7/85				20C. DATE SIGNED 1-29-85			
19D. SIGNATURE OF PERSON AUTHORIZED TO SIGN <i>Lynn Boyd</i>				20D. SIGNATURE OF CONTRACTING OFFICER <i>Ronald D. Thompson</i>			

## Section B - Supplies or Services and Prices/Costs

## B.1 Brief Description of Work Entitled "Georgia/Alabama Regional Seismographic Network"

Continue the operation and maintenance of the physical equipment and the scientific analysis of the seismographic data recorded by the Georgia/Alabama Regional network. This analysis will include the determination of earthquake hypocenters, magnitudes and other source parameters and the integration and tectonic interpretation of the hypocenters.

## B.2 (Offeror should provide Cost information)

A. Total Estimated Cost.....\$ 278,921.00

## B.3 Remittance Address

If item 15c. of the Standard Form 33 has been checked, the offeror shall enter the remittance address below.

Name: Not Applicable

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Section C - Description/Specifications/Work StatementC.1 Statement of WorkC.1.1 Background

Appendix A, 10 CFR Part 100 established requirements applicable to nuclear power plant license applications for seismic and geologic site investigations for nuclear power plants and associated nuclear facilities necessary for evaluation of the site and for providing information needed for engineering designs. Paragraph (6), Section IV of Appendix A requires that, where possible, epicenters of historically reported earthquakes be correlated with tectonic structures, any part of which are within 200 miles of the site.

Seismic hazard evaluation in the southeastern U. S. is a complex problem because of the shortness of the historical seismic record, which only goes back about 200-250 years and because of the insufficient knowledge of neotectonic processes active there. Thus, the earthquake hazard evaluation in the southeastern U. S. is dependent on an integrated seismotectonic approach incorporating the available seismic record and knowledge of the geologic structures and contemporary stress field.

FIGURE 1

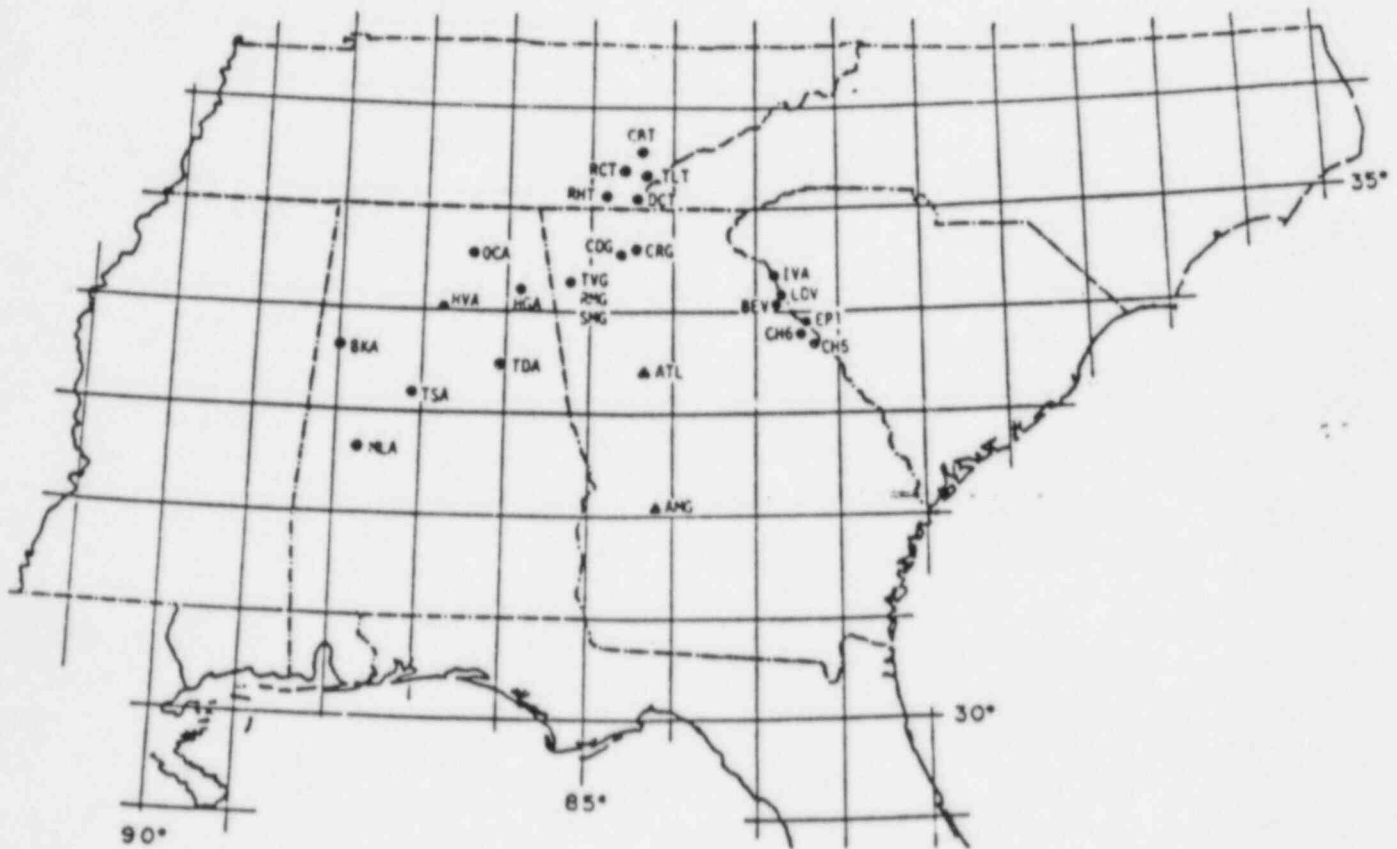


FIGURE 1 - Georgia Tech - Geological Survey Of Alabama Seismic Network.

Significant progress in earthquake hazard evaluation has been made over the last 5-7 years by the southeastern U. S. Regional Seismological/Seismotectonic Research Programs utilizing this approach. However, several critical questions concerning neotectonic processes, tectonic boundaries, regional stress patterns, microseismicity and the like remain to be answered before the study can be brought to a satisfactory conclusion. Thus, a program of continuing research is proposed which builds upon the results of previous investigations. This program should focus on the present program by narrowing the region of study, but it also should include continuation of current seismological investigations on a more detailed and intensive level.

The NRC has contracted with several organizations to operate a seismographic monitoring network in the southeastern United States. This network comprises about 85 stations. This research is directed towards the determination of local seismicity and the possible identification of associated geologic and tectonic features. Results to date indicate that the monitoring should be continued in order to provide a longer time base and concentrate in some instances on areas not regarded as significant previous to the present monitoring efforts.

#### C.1.2 Contract Objective

The objective of this contract is to continue monitoring the seismic activity of the southeastern U. S. as an integral part of the overall research program to evaluate the earthquake hazard potential of the region and to obtain pertinent analytical information based on the collected data with the broad objective of providing better criteria for hazard evaluations.

#### C.1.3 Scope of Work

The Contractor shall provide all personnel, materials, transportation, services, equipment and facilities necessary to perform the following:

The Contractor shall be responsible for obtaining all necessary permits or licenses and abide by all applicable laws, regulations, and ordinances of the United States and the State, territory, and political subdivision in which this project is performed.

The Contractor shall monitor the seismic activity in the eastern Tennessee, northern Alabama, and Georgia areas and contribute data to the southeastern U. S. regional bulletin. Correlate current and past observations and conduct topical studies based on available information, i.e., make plane analyses, identify active geologic features, determine recurrence rates, etc. Contribute data and analyses conducive to the development of criteria for establishing earthquake hazard potential in the southeastern United States. The Contractor shall have the network or subnetwork installed and fully operating within 60 days of contract award.

#### C.1.4 Delineation of Contractor Tasks

- a. Install or provide about 16 short-period seismograph stations deployed in Tennessee, Alabama and Georgia. The final configuration must be approved by the NRC Project Officer. This network is to be operated with a maximum of 5% downtime.

The network configuration presently in place is shown in Figure 1. (Figure 1 is provided as a guide, and is not necessarily the final configurations).

- b. Obtain and/or reaffirm use permits and telemetry service to convey the data to a central recording point.
- c. Provide all seismic phase readings and hypocenter locations to the following organization responsible for assembling the data from the southeastern region and for publishing the Southeast U. S. Seismographic Network Bulletin:

Virginia Polytechnic Institute and State University  
Attn: Professor G. A. Bollinger  
Department of Geological Services  
Blacksburg, VA 24061

- d. Provide a recording medium with on-line digital recording at the Central Recording Facility or analog recording with conversion available off-line. An acceptable alternative to recording the analog or digital data transmitted in real time to a central recording facility is digitization and temporary recordings of seismic data at the seismograph site with the ability to transfer data to the central facility without a personnel visit to the remote sites. Transfer can be initiated by either an on-site capability or by inquiry from the central facility. If such a recording scheme is selected, the accuracy of the time put on the remote data string is to be corrected daily to approximately 20 milliseconds.
- e. Report any significant earthquake within the study region to the Nuclear Regulatory Commission within 24 hours. A list of NRC contacts will be provided to the Contractor at time of award.
- f. Relocate and/or establish new seismograph stations as it becomes necessary after approval of the Nuclear Regulatory Commission.
- g. Study the spatial and temporal distributions, including earthquake recurrence rates, of seismicity and relate them to structural features.
- h. Identify parameters that influence seismic processes within the network area and use these in defining seismogenic/tectonic provinces.
- i. Study crustal and upper mantle velocity structure in the United States based on the current data from the network correlated with historic seismicity.



- j. Study the magnitudes of historic events using magnitude-felt area relationships and thus derive the magnitude-frequency relationships for the network area.
- k. Evaluate the relative significance of the results obtained in each of the above analyses as they impact the determination of seismic hazards in the area.

## C.2 Meetings and Travel

Prior to any of the following trips taken during the period of performance under this contract, the Contractor shall obtain verbal or written approval of the NRC Project Officer. Any other travel under this contract shall be approved by the NRC Contracting Officer via modification to the contract prior to such travel.

At the discretion of the NRC Project Officer, the Contractor shall attend and participate in one day briefings at the NRC facilities in Silver Spring, Maryland, following submission of the quarterly and annual reports, for the purpose of reviewing progress to date, anticipated future work activities, and NRC comments. Such briefings shall involve the Contractor's principal investigators, NRC technical staff assigned to this contract, and others to be designated at NRC's discretion. Such briefings will be arranged at the convenience of NRC, but will occur within 30 days of NRC's receipt of the above reports. There shall be a maximum of one meeting per year required.

## Section D - Packaging and Marking

### D.1 Packaging and Marking

The Contractor shall use standard commercial packaging for all items to be delivered. On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

## Section E - Inspection and Acceptance

### E.1 FAR Citations

The Contractor shall refer to Section I, Clause No. 52.252-2 for citations incorporated by reference.

## Section F - Deliveries and Performance

### F.1 Reports, Documentation and Other Deliverable End Items

#### F.1.1 Monthly Business Letters

The Contractor shall submit a written monthly business letter report, in two (2) copies to the Project Officer and one (1) copy to the Contracting Officer, by the 15th of the following month which shall identify the title of the project, the contract number, principal investigator, the contract period of performance, and the reporting period. Each report shall include the following two sections:

1. A Project Status Section, which shall consist of:
  - a. A listing of the efforts completed during the period; milestones reached or, if missed, an explanation provided;
  - b. Any problems or delays encountered or anticipated and recommendations for resolution; (if the recommended resolution involves a contract modification, e.g., change in work requirements, level of effort (cost) or schedule delay, a separate letter should be submitted to the Contracting Officer.)
  - c. A summary of progress to date; and
  - d. Plans for the next reporting period.
2. A Financial Status Section, which shall consist of:
  - a. The total estimated cost (value) of the project as reflected in the contract, the amount of funds available in the contract to date, and the balance of funds required to complete the work.
  - b. Detail of all direct and indirect costs incurred during the reporting period for each task.
  - c. Balance of total expenditures during the reporting period and cumulative balance of total expenditures during contract period.

#### F.1.2 Quarterly Reports

The Contractor shall submit a written quarterly letter progress report, in 16 copies to the NRC Project Officer and 1 copy to the NRC Contracting Officer, within 30 days after the end of each quarter period of the contract and shall contain, as a minimum, a technical report of progress, describing results and findings to date, problems incurred and solutions proposed, plans for the ensuing quarter, and a graphical representation of the operational status of the network.

#### F.1.3 Quarterly Preliminary Earthquake Bulletin

The Contractor shall submit a written quarterly preliminary earthquake bulletin in sixteen (16) copies to the NRC Project Officer, one (1) copy to the NRC Contracting Officer and one (1) copy to Professor G. Bollinger at the following address:

Virginia Polytechnic Institute  
Department of Geological Science  
Blacksburg, VA 24061

The bulletin shall be in the format of an informal letter report and shall be due within 30 days after each quarter period. The bulletin shall include phase data, hypocentral coordinates, magnitude, and a station and epicenter map. (See Section C.1.4 (c)).

#### F.1.4 Significant Earthquake Incidents Report

Any interesting or significant earthquakes within the study area shall, within 24 hours, be reported orally (by telephone) to the Branch Chief of the Earth Science Research Branch, RES, the Branch Chief of the Geosciences Branch, NRR, or to the NRC Duty Officer. A written informal letter report shall be submitted within 1 week to the Branch Chief of the Earth Science Research Branch, RES and to the Branch Chief of the Geosciences Branch, NRR. The name and addresses of the two Branch Chiefs will be submitted to the Contractor by the NRC Project Officer upon award of contract.

#### F.1.5 Annual Report

An annual report summarizing the year's activities, results and findings shall be submitted within 30 days of the end of each twelve-month period, in one camera-ready copy and two copies to the NRC Project Officer and one copy to the NRC Contracting Officer. (NOTE: The annual report will eliminate the need for a quarterly progress report for the fourth quarter of each twelve-month period.)

#### F.1.6 Draft Final and Final Report

The reports listed below are to be prepared in accordance with NRC Manual Chapter 3202 (Attachment 3).

The Contractor shall submit fifteen (15) copies of a draft version of the final report to the NRC Project Officer within thirty (30) calendar days prior to the contract expiration date. The NRC Project Officer shall review and provide any comments on the draft report to the Contractor within one (1) week after receipt of the draft report. This report shall contain a comprehensive recapitulation of the entire contract effort and shall be suitable for use as a press release. The format of the final report shall permit users to obtain useful geophysical, geological and seismic guidance from it. The Contractor shall submit one (1) camera-ready copy and two copies of the final report to the NRC Project Officer and one copy to the NRC Contracting Officer on or before the expiration date of the contract.

NOTE: Should the option to extend the term of the contract be exercised at the conclusion of the third and/or fourth year of the contract, the final report shall be due at the end of the extended period.

#### F.1.7 Microfiche Copies

In addition to the reporting requirements delineated above, one (1) master and ten (10) microfiche copies of the NRC-approved final report shall be provided to the NRC Project Officer on or before the contract expiration date. Such microfiche shall conform to the following specifications:

1. Microfiche containing source documentation shall conform to the NMA Type 1 format (ANSI/NMS MS.5) consisting of 98 frames arranged in 7 rows and 14 columns.



2. The reduction ratio shall be 24:1 for all microfiche.
3. The microfiche shall be standard 148mm x 105mm.
4. The microfiche shall be one (1) silver-halide master and one (1) diazo placed in individual acid-free envelopes.
5. Diazo duplicates may be either blue/black or black.
6. The microfiche shall be titled in the following manner:

FIN No.	Title of Report	Date
Contract No.		
NUREG/CR No.		
Fiche No.		

Fiche number refers to 1 of 2, 2 of 2, etc., information.

7. Title information shall be eye-readable on a clear background.
8. The submittal of microfiche containing proprietary material shall be coordinated with the Document Management Branch, Division of Technical Information and Document Control, U. S. Nuclear Regulatory Commission, to set format and procedures for submittal.
9. Foldouts, if any, shall be segmented and filmed in logical order.
10. The first frame shall be blank, and the second frame shall contain the resolution target (NBS 1010A).
11. Questions on microfiche specifications should be submitted in writing to:

Document Management Branch  
Division of Technical Information and Document Control  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

## F.2 Place of Delivery

The items to be furnished hereunder shall be delivered, with all delivery charges paid by the Contractor, to:

1. Copies to Project Officer:

U. S. Nuclear Regulatory Commission  
Attn: Dr. Andrew Murphy  
Office of Nuclear Regulatory Research  
Division of Health, Siting and Waste Management  
Mail Stop: 1130-SS  
Washington, DC 20555

2. Copies to Contracting Officer:

U. S. Nuclear Regulatory Commission  
Attn: Contracting Officer  
Division of Contracts  
Mail Stop: AR-2223  
Washington, DC 20555

F.3 Duration of Contract Period

This contract shall become effective on either the date of award or the effective date as otherwise specified, and shall continue to completion thereof, within thirty-six months after said contract is effective.

F.4 Option to Extend the Term of the Contract--Services

- (a) There are hereby created in the Government two options to require the Contractor to continue performance of the efforts specified in the Statement of Work herein on a yearly basis for each option, at the amount and for the period of performance to be specified at such time as the requirements arise.
- (b) The Contracting Officer may exercise any one or a combination of options at various times when the need arises by giving written notice to the Contractor provided, that the Government shall give the Contractor a preliminary written notice of its intent at least 30 days before the contract expires. The preliminary notice does not commit the Government to exercise the option.
- (c) The options may be exercised at any time after the effective date of the contract.
- (d) Upon exercise of any of the options, the following modifications will be made to the contract:
  - (i) the Statement of Work in Section C will be modified to incorporate the applicable Phase, as set forth herein and as further defined at such time.
  - (ii) the duration of the contract period in Section F.3 will be modified accordingly.
  - (iii) Section G.1, Consideration, will be modified accordingly.
- (e) The Contracting Officer shall require the Contractor to submit a Cost Proposal, in the same format as detailed under Section L.4 of the Solicitation, for the option efforts for the Government's consideration.
- (f) Pending exercise of the option for continuance of effort under this contract, the Contractor is not authorized to commence continuation of work and the total obligation of the Government, pursuant to Clause 52.232-21, "Limitation of Costs," shall not exceed the amount set forth in this contract.

- (g) If the Government exercises this option, the extended contract shall be considered to include this option provision.
- (h) The total duration of this contract, including the exercise of any options under this clause, shall not exceed five (5) years.
- (i) Level of effort anticipated for each option year is 1 staff year per year.

F.5 FAR Citations

The Contractor shall refer to Section I, Clause No. 52.252-2 for citations incorporated by reference.

Section G - Contract Administration Data

G.1 Consideration

Estimated Cost and Obligation

1. It is estimated that the total cost to the Government for full performance of this contract will be \$278,921.00.
2. Total funds currently available for payment and allotted to this contract are \$100,000.00.
3. It is estimated that the amount currently allotted will cover performance of the first year which is scheduled to be completed 12 months from the effective date of the contract.

G.2 Overhead Rates

- A. Pending the establishment of final overhead rates which shall be negotiated based on audit of actual costs, the Contractor shall be reimbursed for allowable indirect costs hereunder at the provisional rate of        percent of modified total direct costs, including equipment and subcontracts over \$5,000.00.
- B. Notwithstanding A. of this Section, said provisional overhead rates may be adjusted as appropriate during the term of the contract upon the acceptance of such revised rates by the Contracting Officer.

G.3 Technical Direction

- A. Performance of the work under this contract shall be subject to the technical direction of the NRC Project Officer named under F. below. The term "Technical Direction" is defined to include the following:
  1. Technical direction to the Contractor which shifts work emphasis between areas of work or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise serves to accomplish the contractual scope of work.

2. Providing assistance to the Contractor in the preparation of drawings, specifications or technical portions of the work description.
  3. Review and where required by the contract, approval of technical reports, drawings, specifications and technical information to be delivered by the Contractor to the Government under the contract.
- B. Technical direction must be within the general scope of work stated in the contract. The Project Officer does not have the authority to and may not issue any technical direction which:
1. Constitutes an assignment of additional work outside the general scope of the contract.
  2. Constitutes a change as defined in the clause of the General Provisions, entitled "Changes."
  3. In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.
  4. Changes any of the expressed terms, conditions or specifications of the contract.
- C. ALL TECHNICAL DIRECTIONS SHALL BE ISSUED IN WRITING BY THE PROJECT OFFICER OR SHALL BE CONFIRMED BY SUCH PERSON IN WRITING WITHIN TEN (10) WORKING DAYS AFTER VERBAL ISSUANCE. A copy of said written direction shall be submitted to the Contracting Officer.

The Contractor shall proceed promptly with the performance of technical directions duly issued by the Project Officer in the manner prescribed by this article and within such person's authority under the provisions of this article.

If, in the opinion of the Contractor, any instruction or direction issued by the Project Officer is within one of the categories as defined in B(1) through (4) above, the Contractor shall not proceed but shall notify the Contracting Officer in writing within five (5) working days after the receipt of any such instruction or direction and shall request the Contracting Officer to modify the contract accordingly. Upon receiving such notification from the Contractor, the Contracting Officer shall issue an appropriate contract modification or advise the Contractor in writing that, in the Contracting Officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the Changes Clause.

- D. Any unauthorized commitment or direction issued by the Project Officer may result in an unnecessary delay in the Contractor's performance, and may even result in the Contractor expending funds for unallowable costs under the contract.

E. A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto shall be subject to the provisions of the contract clause entitled "Disputes."

F. Project Officer

The individual(s) listed below is (are) hereby designated as the Contracting Officer's authorized representative (hereinafter called Project Officer) for technical aspects of this contract. The Project Officer is not authorized to approve or request any action which results in or could result in an increase in contract cost; or terminate, settle any claim or dispute arising under the contract, or issue any unilateral directive whatever.

The Project Officer is responsible for: (1) monitoring the Contractor's technical progress, including surveillance and assessment of performance, and recommending to the Contracting Officer changes in requirements; (2) interpreting the scope of work; (3) performing technical evaluation as required; (4) performing technical inspections and acceptances required by this contract; and (5) assisting the Contractor in the resolution of technical problems encountered during performance. Within the purview of this authority, the Project Officer is authorized to review all costs requested for reimbursement by Contractors and submit recommendations for approval, disapproval, or suspension for supplies/services required under the contract. The Contracting Officer is responsible for directing or negotiating any changes in terms, conditions, or amounts cited in the contract.

For guidance from the Project Officer to the Contractor to be valid, it must: (1) be consistent with the description of work set forth in the contract; (2) not constitute new assignment of work or change to the expressed terms, conditions or specifications incorporated into this contract; (3) not constitute a basis for an extension to the period of performance or contract delivery schedule; and, as stated above, (4) not constitute a basis for any increase in the contract cost.

Name and Mail Code: Dr. Andrew Murphy  
Office Address: U. S. Nuclear Regulatory Commission  
Mail Stop: 1130-SS  
Washington, DC 20555  
Telephone Number: (301) 427-4078

G.4 Travel Reimbursement

The Contractor will be reimbursed for the following reasonable domestic travel costs incurred directly and specifically in the performance of this contract and accepted by the Contracting Officer:

1. Per diem shall be reimbursed at a daily rate not to exceed \$50.00. The per diem amount is comprised of lodging expense plus \$23.00 for



meals and miscellaneous expense, the total of which shall not exceed the daily rate.

2. When travel is to one of the high-rate geographical areas as detailed in the current Federal Travel Regulations, actual subsistence costs shall be reimbursed in accordance with the current Federal Travel Regulations.
3. The cost of travel by privately owned automobile shall be reimbursed at the rate of 20.5¢ per mile.
4. The cost of travel by rented automobile shall be reimbursed on a reasonable actual expense basis.
5. All common carrier travel reimbursable hereunder shall be via economy class rates when available. If not available, reimbursement vouchers will be annotated that economy class accommodations were not available. First-class air travel is not authorized.
6. Receipts are required for common carrier transportation, lodging and miscellaneous items in excess of \$25.00.

G.5 Payment Due Date

- (a) Payments under this contract will be due 30 calendar days after the later of:

- (1) The date of actual receipt of a proper invoice (original and 4 copies) to:

U.S. Nuclear Regulatory Commission  
Division of Accounting and Finance  
Office of Resource Management  
ATTN: GOV/COM Accounts Section  
Washington, D.C. 20555

or

- (2) The date the final deliverable product/service is accepted by the Government.
- (b) For the purpose of determining the due date for payment and for no other purpose, acceptance will be deemed to occur 30 calendar days after the date of delivery of the final deliverable product/service performed in accordance with the terms of the contract.
- (c) If the final product/service is rejected for failure to conform to the technical requirements of the contract, the provisions in paragraph (b) of this clause will apply to the new delivery of the final product/service.
- (d) The date of payment by wire transfer through the Treasury Financial Communications System shall be considered the date payment is made for individual payments exceeding \$25,000. The date a check is

issued shall be considered the date payment is made for individual payments of \$25,000 or less.

G.6 Invoice Requirements

Invoices shall be submitted in an original and 4 copies to:

U.S. Nuclear Regulatory Commission  
Division of Accounting and Finance  
Office of Resource Management  
ATTN: GOV/COM Accounts Section  
Washington, D.C. 20555.

To constitute a proper invoice, the invoice must include the following information and/or attached documentation:

- (1) Name of the business concern and invoice date.
- (2) Contract number or other authorization for delivery of property or services.
- (3) Description and quantity of property and services actually delivered or rendered, and price.
- (4) Shipping and payment terms.
- (5) Name (where practicable), title, phone number, and complete mailing address of responsible official to whom payment is to be sent.
- (6) Other substantiating documentation or information as required by the contract.

G.7 Interest on Overdue Payments

- (a) The Prompt Payment Act, Public Law 97-177 (96 STAT. 85, 31 USC 1801) is applicable to payment of the expiration invoice under this contract and requires the payment of interest to Contractors on overdue payments of the expiration invoice or improperly taken discounts.
- (b) Determinations of interest due will be made in accordance with the provisions of the Prompt Payment Act and Office of Management and Budget Circular A-125, Vol. 47 Federal Register 37321, August 25, 1982. Among other considerations, OMB Circular A-125 provides that:
  - (1) Interest penalties are not required when payment is delayed because of a disagreement over the amount of payment or other issues concerning compliance with the terms of the contract.
  - (2) Whenever a proper invoice is paid after the due date plus 15 days, interest will be included with the payment at the interest rate applicable on the payment date. Interest will be computed from the day after the due date through the payment date.

- (c) For purposes of this clause, an expiration invoice is defined as a claim submitted for costs incurred for performance through the expiration date of a Cost Type contract.

G.8 Method of Payment

- (a) Payment under this contract will be made by wire transfer through the Treasury Financial Communications System for each individual payment in excess of \$25,000 and by Treasury check for each individual payment of \$25,000 or less.

- (b) Within seven days after the effective date of the contract, the Contractor shall forward the following information in writing to the Contracting Officer to facilitate wire transfer of contract payments. In the event that the Contractor's financial institution has access to the Federal Reserve Communications System, Contractor shall complete all items except items 7 - 9. In the event the Contractor's financial institution does not have access to the Federal Reserve Communications System, Contractor shall complete all items except item 4.

1. Name and address of organization
  2. Contact person and telephone number
  3. Name and address of financial institution
  4. Financial institutions's 9-digit ABA identifying number for routing transfer of funds
  5. Telegraphic abbreviation of financial institution
  6. Account number at your financial institution your financial institution receives electronic funds transfer messages through, if it does not have access to the Federal Reserve Communications System
  7. Name and address of the correspondent financial institution your financial institution receives electronic funds transfer messages through, if it does not have access to the Federal Reserve Communications System
  8. Correspondent financial institution 9-digit ABA identifying number for routing transfer of funds
  9. Telegraphic abbreviation of correspondent financial institution
  10. Signature and title of person supplying this information
- (c) Any changes to the information furnished under paragraph (b) of this clause shall be furnished to the Contracting Officer in writing. It is the Contractor's responsibility to furnish these changes promptly to avoid payments to erroneous bank accounts.

## Section H - Special Contract Requirements

### H.1 Key Personnel

(a) The following individuals are considered to be essential to the successful performance of the work hereunder.

Dr. Timothy Long

The Contractor agrees that such personnel shall not be removed from the contract work or replaced without compliance with paragraphs (b) and (c) hereof.

(b) If one or more of the key personnel for whatever reason becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the Contractor shall immediately notify the Contracting Officer and shall, subject to the concurrence of the Contracting Officer or his authorized representative, promptly replace such personnel with personnel of at least substantially equal ability and qualifications.

(c) All requests for approval of substitutions hereunder must be in writing and provide a detailed explanation of the circumstances necessitating the proposed substitutions. They must contain a complete resume for the proposed substitute, and other information requested by the Contracting Officer or needed by him to approve or disapprove the proposed substitution. The Contracting Officer or his authorized representative will evaluate such requests and promptly notify the Contractor of his approval or disapproval thereof in writing.

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(d) If the Contracting Officer determines that suitable and timely replacement of key personnel who have been reassigned, terminated or have otherwise become unavailable for the contract work is not reasonably forthcoming or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the Contracting Officer ~~for default or for the convenience of the Government, as appropriate, or, at the discretion of the Contracting Officer if he finds the Contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss or damage.~~

### H.2 Safety, Health, and Fire Protection

The Contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of employees and of members of the public and to minimize danger from all hazards to life and property and shall comply with all health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission and the Department of Labor. In the event that the Contractor fails to comply with said regulations or requirements, the Contracting Officer may, without prejudice to any

other legal or contractual rights of the Commission, issue an order stopping all or any part of the work; thereafter, a start order for resumption of work may be issued at the discretion of the Contracting Officer. The Contractor shall make no claim for an extension of time or for compensation or damages by reason of or in connection with such work stoppage.

H.3 Dissemination of Contract Information (OMB Clearance Number 3150-0112)

The Contractor shall not publish, permit to be published, or disseminate to the public any information, oral or written, concerning the work performed under this contract without the prior written consent of the Contracting Officer. Two copies of any information proposed to be published or disseminated shall be submitted to the Contracting Officer. Failure to comply with this clause shall be grounds for termination of this contract.

H.4 Private Use of Contract Information and Data

Except as otherwise specifically authorized by this contract or as otherwise approved by the Contracting Officer, information and other data developed or acquired by or furnished the Contractor in the performance of this contract, shall be used only in connection with the work under this contract.

H.5 Drawings, Designs, and Specifications

All drawings, sketches, designs, design data, specifications, notebooks, technical and scientific data, and all photographs, negatives, reports, findings, recommendations, data and memoranda of every description relating thereto, as well as all copies of the foregoing relating to the work or any part thereto, shall be subject to inspection by the Commission at all reasonable times (for which inspection the proper facilities shall be afforded the Commission by the Contractor and its subcontractors), shall be the property of the Government and may be used by the Government for any purpose whatsoever without any claim on the part of the Contractor and its subcontractors and vendors for additional compensation and shall, subject to the right of the Contractor to retain a copy of said material for its own use, be delivered to the Government, or otherwise disposed of by the Contractor either as the Contracting Officer may from time to time direct during the progress of the work or in any event as the Contracting Officer shall direct upon completion or termination of this contract. The Contractor's right of retention and use shall be subject to the security, patent, and use of information provisions, if any, of this contract.

H.6 Proprietary Data and Confidential Information

In connection with the performance of the work under this contract, the Contractor may be furnished, or may develop or acquire, proprietary data (trade secrets) or confidential or privileged technical, business, or financial information, including Commission plans, policies, reports, financial plans, internal data protected by the Privacy Act of 1974 (P.L. 93-579), or other information which has not been released to the



public or has been determined by the Commission to be otherwise exempt from disclosure to the public. Contractor agrees to hold such information in confidence and not to directly or indirectly duplicate, disseminate, or disclose such information in whole or in part to any other person or organization except as may be necessary to perform the work under this contract. Contractor agrees to return such information to the Commission or otherwise dispose of it either as the Contracting Officer may from time to time direct during the progress of the work or in any event as the Contracting Officer shall direct upon completion or termination of this contract. Failure to comply with this clause shall be grounds for termination of this contract.

H.7 Security (OMB Clearance Number 3150-0112)

(a) It is the Contractor's duty to safeguard Restricted Data, Formerly Restricted Data, and other classified information. The Contractor shall, in accordance with the Commission's security regulations and requirements, be responsible for safeguarding Restricted Data, Formerly Restricted Data, and other classified information and protecting against sabotage, espionage, loss and theft, the classified documents and material in the Contractor's possession in connection with the performance of work under this contract. Except as otherwise expressly provided in this contract, the Contractor shall, upon completion or termination of this contract, transmit to the Commission any classified matter in the possession of the Contractor or any person under the Contractor's control in connection with performance of this contract.

If retention by the Contractor of any-classified matter is required after the completion or termination of the contract and such retention is approved by the Contracting Officer, the Contractor will complete a certificate of possession to be furnished to the Commission specifying the classified matter to be retained. The certification shall identify the items and types or categories of matter retained, the conditions governing the retention of the matter and their period of retention, if known. If the retention is approved by the Contracting Officer, the security provisions of the contract will continue to be applicable to the matter retained.

(b) Regulations. The Contractor agrees to conform to all security regulations and requirements of the Commission.

(c) Definition of Restricted Data. The term "Restricted Data," as used in this clause, means all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to section 142 of the Atomic Energy Act of 1954, as amended.

(d) Definition of Formerly Restricted Data. The term "Formerly Restricted Data," as used in this clause, means all data removed from the Restricted Data category under section 142-d. of the Atomic Energy Act of 1954, as amended.

(e) Security Clearance Personnel. The Contractor shall not permit any individual to have access to Restricted Data, Formerly Restricted Data, or other classified information, except in accordance with the Atomic Energy Act of 1954, as amended, and the Commission's regulations or requirements applicable to the particular type or category of classified information to which access is required.

(f) Criminal Liabilities. It is understood that disclosure of Restricted Data, Formerly Restricted Data, or other classified information relating to the work or services ordered hereunder to any person not entitled to receive it, or failure to safeguard any Restricted Data, Formerly Restricted Data, or any other classified matter that may come to the Contractor or any person under the Contractor's control in connection with work under this contract, may subject the Contractor, its agents, employees, or subcontractors to criminal liability under the laws of the United States. (See the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.; 18 U.S.C. 793 and 794; and Executive Order 11652.)

(g) Subcontracts and Purchase Orders. Except as otherwise authorized in writing by the Contracting Officer, the Contractor shall insert provisions similar to the foregoing in all subcontracts and purchase orders under this contract.

(h) In performing the contract work, the Contractor shall assign classifications to all documents, material, and equipment originated or generated by the Contractor in accordance with classification guidance by the Commission. Every subcontract and purchase order issued hereunder involving the origination or generation of classified documents, material, or equipment shall provide that the subcontractor or supplier shall assign classifications to all such documents, material, and equipment in accordance with classification guidance furnished by the Contractor.

H.8 Contractor Organizational Conflicts of Interest (OMB Clearance Number 3150-0112)

(a) Purpose. The primary purpose of this clause is to aid in ensuring that the Contractor: (1) Is not placed on a conflicting role because of current or planned interest (financial, contractual, organizational, or otherwise) which relate to the work under this contract, and (2) does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(b) Scope. The restrictions described herein shall apply to performance or participation by the Contractor as defined in 41 CFR §20-1.5402(f) in the activities covered by this clause.

(c) Work for Others. Notwithstanding any other provision of this contract, during the term of this contract, the Contractor agrees to forgo entering into consulting or other contractual arrangements with any firm or organization, the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The Contractor shall ensure that all employees who are

employed full time under this contract and employees designated as key personnel, if any, under this contract abide by the provision of this clause. If the Contractor believes with respect to itself or any such employee that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the Contractor shall obtain the written approval of the Contracting Officer prior to execution of such contractual arrangement.

(d) Disclosure after award.

(1) The Contractor warrants that to the best of its knowledge and belief and except as otherwise set forth in this contract, it does not have any organizational conflicts of interest, as defined in 41 CFR 20-1.5402(a).

(2) The Contractor agrees that if after award it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the Contracting Officer. This statement shall include a description of the action which the Contractor has taken or proposes to take to avoid or mitigate such conflicts. The NRC may, however, terminate the contract for convenience if it deems such termination to be in the best interests of the Government.

(e) Access to and use of information.

(1) If the Contractor in the performance of this contract obtains access to information, such as NRC plans, policies, reports, studies, financial plans, internal data protected by the Privacy Act of 1974 (Pub. L. 93-579), or data which has not been released to the public, the Contractor agrees not to:

(i) Use such information for any private purpose until the information has been released to the public;

(ii) compete for work for the Commission based on such information for a period of six (6) months after either the completion of this contract or the release of such information to the public, whichever is first;

(iii) submit an unsolicited proposal to the Government based on such information until one year after the release of such information to the public, or

(iv) release the information without prior written approval by the Contracting Officer unless such information has previously been released to the public by the NRC.

(2) In addition, the Contractor agrees that to the extent it receives or is given access to proprietary data, data protected by the Privacy Act of 1974 (Pub. L. 93-579), or other confidential or privileged technical, business, or financial information under this

contract, the Contractor shall treat such information in accordance with restrictions placed on use of the information.

(3) The Contractor shall have, subject to patent and security provisions of this contract, the right to use technical data it produces under this contract for private purposes provided that all requirements of this contract have been met.

(f) Subcontracts. Except as provided in 41 CFR 20-1.5402(h), the Contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms "contract," "Contractor," and "Contracting Officer," shall be appropriately modified to preserve the Government's rights.

(g) Remedies. For breach of any of the above prescriptions or for intentional nondisclosure or misrepresentation of any relevant interest required to be disclosed concerning this contract or for such erroneous representations as necessarily imply bad faith, the Government may terminate the contract ~~for default~~, disqualify the Contractor from subsequent contractual efforts, and pursue other remedies as may be permitted by law or this contract.

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(h) Waiver. A request for waiver under this clause shall be directed in writing through the Contracting Officer to the Executive Director for Operations (EDO) in accordance with the procedures outlined in §20-1.5411.

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## PART II - CONTRACT CLAUSES

## Section I - Contract Clauses

## 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT--SERVICES. (APR 1984)

(a) The Government may extend the term of this contract by written notice to the Contractor within the time specified in the Schedule; provided, that the Government shall give the Contractor a preliminary written notice of its intent to extend at least 30 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option provision.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed five (5) years.

(End of clause)

(R 7-104.27(c))

R 1-1.1508-2(d))

## 52.252-2 CLAUSES INCORPORATED BY REFERENCE. (APR 1984)

This contract incorporates the following clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

## I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

## Section E

## 52.246-5 INSPECTION OF SERVICES--COST-REIMBURSEMENT. (APR 1984)

## Section F

## 52.212-13 STOP-WORK ORDER.-- Alternate 1 (APR 1984)

## Section I

## 52.202-1 DEFINITIONS. (APR 1984)

## 52.203-1 OFFICIALS NOT TO BENEFIT. (APR 1984)

## 52.203-3 GRATUITIES. (APR 1984)

## 52.203-5 COVENANT AGAINST CONTINGENT FEES. (APR 1984)

## 52.204-2 SECURITY REQUIREMENTS (APR 1984)--Alternate 1

## 52.215-1 EXAMINATION OF RECORDS BY COMPTROLLER GENERAL. (APR 1984)

## 52.215-2 AUDIT--NEGOTIATION. (APR 1984)

## 52.215-22 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA. (APR 1984)

## 52.215-24 SUBCONTRACTOR COST OR PRICING DATA. (APR 1985)

## 52.216-7 ALLOWABLE COST AND PAYMENT. (APR 1984)

## 52.216-11 COST CONTRACT--NO FEE. (APR 1984)--Alternate 1. (APR 1984)

## 52.216-15 PREDETERMINED INDIRECT COST RATES. (APR 1984)

## 52.217-8 OPTION TO EXTEND SERVICES. (APR 1984)

## 52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS. (APR 1984)

## 52.219-13 UTILIZATION OF WOMEN-OWNED SMALL BUSINESSES. (APR 1984)



52.220-1 PREFERENCE FOR LABOR SURPLUS AREA CONCERNS. (APR 1984)  
52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES. (APR 1984)  
52.222-3 CONVICT LABOR. (APR 1984)  
52.222-26 EQUAL OPPORTUNITY. (APR 1984)  
52.222-35 AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM ERA  
VETERANS (APR 1984)

52.222-36 AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS (APR 1984)  
52.223-2 CLEAN AIR AND WATER. (APR 1984)  
52.227-1 AUTHORIZATION AND CONSENT. (APR 1984)  
52.227-11 PATENT RIGHTS--RETENTION BY THE CONTRACTOR (SHORT FORM).  
(APR 1984)  
52.228-6 INSURANCE-IMMUNITY FROM TORT LIABILITY  
52.228-7 INSURANCE LIABILITY TO THIRD PERSONS. ALTERNATE I (APR 1984)  
52.232-20 LIMITATION OF COST. (APR 1984)  
52.232-22 LIMITATION OF FUNDS. (APR 1984)  
52.232-23 ASSIGNMENT OF CLAIMS. (APR 1984)  
52.233-1 DISPUTES. (APR 1984)  
52.242-1 NOTICE OF INTENT TO DISALLOW COSTS. (APR 1984)  
52.242-2 PRODUCTION PROGRESS REPORTS. (APR 1984)  
52.243-2 CHANGES--COST-REIMBURSEMENT. ALTERNATE V (APR 1984)  
52.244-2 SUBCONTRACTS UNDER COST-REIMBURSEMENT AND LETTER CONTRACTS.  
(APR 1984)  
52.244-5 COMPETITION IN SUBCONTRACTING. (APR 1984)  
52.246-25 LIMITATION OF LIABILITY--SERVICES. (APR 1984)  
52.247-63 PREFERENCE FOR U.S.-FLAG AIR CARRIERS. (APR 1984)  
52.249-5 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (EDUCATIONAL  
AND OTHER NONPROFIT INSTITUTIONS). (APR 1984)  
52.215-18 ORDER OF PRECEDENCE

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