	, 01	MADDICONTRACT	II CER		THE RESTRICT	LDIFINSE	N 111				
4,,,,,,		WARD/CONTRACT	UND	TIFIED FOR ER BDSA RE	EG 2 AND	OR DMS RE	G. 1			1	55
	NRO	0'roc. Inst Ident ; NO. C-04-85-104	3. EFF	APR	1 0 199	5 A. REG	S-85-104	JRCHASE RE	QUEST/	PROJE	CT NO.
ISSUE	EDBY	CODE			6. ADMIN	ISTERED B	Y (If other th		CODE		
ivis	sion o	ear Regulatory Commi of Contracts n, DC 20555	ssion								
NAME	EANDA	ADDRESS OF CONTRACTOR (A	vo., street, city, c	ounty, State	and ZIP Co	de)	8. DELIVE	RY			
SEA, Inc. ATTN: Jim Cleveland 1625 The Alameda, Suite 303 San Jose, CA 95126					9. DISCOUNT			ORIGIN INT FOR PRO	FOR PROMPT PAYMENT		
							10. SUBMIT INVOICES (4 copies unless other wise specified) TO THE			12	
DE		RK FOR	FACILITY CO	FACILITY CODE				SHOWN IN			
hin 13. T CQUIS AS (of N gton, THIS SITION Check	ar Regulatory Commis Nuclear Regulatory R. DC 20555/ATTN: Ji A ADVERTISED B NEGOTIATED PURSUAN	esearch tt Vora M	1/5 5650	NL D	ffice of ivision	f Resource of Account Marriconni	ulatory 9 ce Mgmt. unting & 20555 DATA	, ATN Final	: GO	
-	ox (es))	10 USC 2304(a)()	X 41 USC 25	2(c)()						00	
B. 1	EM NO.	The contractor sha entitled, "Aging E and Functional Syst accordance with the	ll perform ffects on tems Inter	System Factions	h erform		15D. UNIT	15E. UNIT F	PRICE	15F.	AMOUNT
		The contractor sha entitled, "Aging E and Functional Sys	ll perform ffects on tems Inter e Statemen	System F actions" t of Wor	h erform	ance in.					
		The contractor sha entitled, "Aging E and Functional Syst accordance with the	ll perform ffects on tems Inter e Statemen e Type Con	System F actions" t of Wor	h erform in k here	ance in.		DF CONTRAC			
B. 1		The contractor sha entitled, "Aging E and Functional Syst accordance with the	ll perform ffects on tems Inter e Statemen e Type Con	System F actions' t of Wor tract	erform in k here	ance in.	L AMOUNT (760
B. 1	C	The contractor sharentitled, "Aging Educational System accordance with the Cost Plus Fixed Feet DESCRIPTION PARTITION THE SCHEDU	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	erform in k here	ance in. 15G. TOTAL	L AMOUNT O	DF CONTRAC	CT ▶ §		760
3.1	SOL	The contractor shatentitled, "Aging Educational System accordance with the Cost Plus Fixed Feet Description Part 1 - The schedulicitation/contract form	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	h erform in k here	ance in. 15G. TOTAL ENTS PA	DES ART II - CON T CLAUSES	OF CONTRAC CRIPTION NTRACT CLA	CT ► S	548,7	760 PAGEUS
SEC	SOL SUPI	The contractor sharentitled, "Aging Educational System accordance with the Cost Plus Fixed Feet Description PART 1 - THE SCHEDUTICITATION/CONTRACT FORM PLIES OR SERVICES AND PRICE	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	h erform in k here	ance in. 15G. TOTAL ENTS PA CONTRAC	DES ART II - CON CT CLAUSES	OF CONTRAC CRIPTION NTRACT CLA	CT ► S	548,7	760 PAGEUS
SEC A B C	SOL SUPPLED DES	The contractor shall entitled, "Aging Educational System accordance with the Cost Plus Fixed Feet Description PART 1 - THE SCHEDUTION PART 1 - THE SCHEDUTION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS/WORK STATE	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	erform in k here	in. 15G. TOTAL ENTS PA CONTRAC I - LIST OF A	DES ART II - CON IT CLAUSES DOCUMENT	OF CONTRAC CRIPTION NTRACT CLA IS, EXHIBITS	USES AND O	\$48,7	PAGETS
SEC	SOL SUP DES PAC	The contractor sharentitled, "Aging Educational System accordance with the Cost Plus Fixed Feet Description PART 1 - THE SCHEDUTICITATION/CONTRACT FORM PLIES OR SERVICES AND PRICE	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	h erform in k here	ance in. 15G. TOTAL ENTS CONTRAC I - LIST OF A PART IV - R	DESI ART II - CON T CLAUSES DOCUMENT TTACHMEN REPRESENTA	OF CONTRAC CRIPTION NTRACT CLA IS, EXHIBITS IS	CT > S	THER	PAGETS
SEC D	SOL SUPI DES PAC INSF	The contractor shall entitled, "Aging Educational System accordance with the Cost Plus Fixed Feet Description PART 1 - THE SCHEDU ICITATION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS (WORK STATE KAGING AND MARKING)	Il perform ffects on tems Inter e Statemen e Type Con	System Factions' t of Wor	erform in k here	ance in. 15G. TOTAL ENTS PA CONTRAC I - LIST OF A PART IV - R REPRESEN	DESI ART II - CON CT CLAUSES DOCUMENT TTACHMENT REPRESENTA	OF CONTRAC CRIPTION NTRACT CLA IS, EXHIBITS	CT > S	THER	PAGETS
SECC D	SOL SUPI DES PAC INSP	The contractor shall entitled, "Aging Educational System and Functional System accordance with the Cost Plus Fixed Feet Description PART 1—THE SCHEDUCTION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS/WORK STATE KAGING AND MARKING PECTION AND ACCEPTANCE	Il perform ffects on tems Inter e Statemen e Type Con 10 TLE CES/COSTS	System Factions' t of Wor	h erform in k here	ance in. 15G. TOTAL ENTS CONTRAC I - LIST OF LIST OF A PART IV - R REPRESEN OTHER ST	DESI ART II - CON IT CLAUSES DOCUMENT ITTACHMEN REPRESENTA NTATIONS, C TATEMENTS	OF CONTRAC CRIPTION NTRACT CLA IS, EXHIBITS IS ATIONS AND CERTIFICATI	CT > S	THER	PAGELS
SEC DE F	SOL SUPI DES PAC INSP DEL CON	The contractor sharentitled, "Aging Edand Functional Systand Functional Systaccordance with the Cost Plus Fixed Fee Description PART 1—THE SCHEDUTION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS /WORK STATE KAGING AND MARKING PECTION AND ACCEPTANCE IVERIES OR PERFORMANCE	Il perform ffects on tems Inter e Statemen e Type Con II LE CES/COSTS TEMENT	System Factions' t of Wor	h erform in k here	ance in. 15G. TOTAL ENTS PA CONTRAC I - LIST OF A PART IV - R REPRESEN OTHER ST INSTRS, C	DES ART II - CON IT CLAUSES DOCUMENT ITTACHMEN' REPRESENTA NTATIONS, COATEMENTS	OF CONTRAC CRIPTION NTRACT CLA IS, EXHIBITS IS ATIONS AND CERTIFICATION OF OFFERON	CT > S	THER	PAGELS
SEC DE F	SOL SUPI DES PAC INSP DEL CON	The contractor shall entitled, "Aging Edand Functional Systand Functional Systaccordance with the Cost Plus Fixed Fee Description PARTITUTE SCHEDUTION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS WORK STATE KAGING AND MARKING PECTION AND ACCEPTANCE LIVERIES OR PERFORMANCE OF TRACT ADMINISTRATION DACIAL CONTRACT REQUIREMENTS	Il perform ffects on tems Inter e Statemen e Type Con II LE CES/COSTS TEMENT	System Factions" t of Wor tract 6. TABLE C [PAGE(S)]	of CONTI	ance in. 15G. TOTAL ENTS CONTRAC I - LIST OF A PART IV - R REPRESEN OTHER ST INSTRS, C EVALUAT	DESIGNATION OF ATEMENTS	CRIPTION NTRACT CLA IS, EXHIBITS TS ATIONS AND CERTIFICATI OF OFFEROI NOTICES TO	CT > S	THER	PAGELS
B. 1 SEC D E F G H XX d for raction or raction of raction	SOL SUPI DES PAC INSP DEL CONTR aign this or agrees otherwistion states that the state of the st	The contractor shall entitled, "Aging Educational System and Functional System accordance with the Cost Plus Fixed Fee Description PART I - THE SCHEDU ICITATION/CONTRACT FORM PLIES OR SERVICES AND PRICE CRIPTION/SPECS WORK STATE KAGING AND MARKING PECTION AND ACCEPTANCE IVERIES OR PERFORMANCE IN THE INDIVIDUAL SECURITIES OF PERFORMANCE IN T	Il perform ffects on tems Inter e Statemen e Type Con III ILE CES/COSTS TEMENT COPIES to issue perform all the continuation she sations of the parillowing documen such provisions, tached or incorp	System Factions' tof Work tract 6. TABLE Compage (S) PAGE (S) PAGE (S) R WILL COMmactor is 're ins office.) Services set ets for the ties to this its: (a) this representational by corated by	herform in k here OF CONTI W) SEC. I PART II J F K L M PLETE ITE 18. Offer on S including are set for on any consists of the offer, and sary.	ance in. 15G. TOTAL ENTS PACE CONTRACT I - LIST OF A PART IV - R REPRESEN OTHER ST INSTRS, C EVALUAT M 17 OR 18 AWARD (Co olicitation No the additions the in full about the infull about the i	DESIGNATIONS OF ACTOR STATEMENTS CONDS. AND ION FACTOR STATEMENTS CONDS. This away documents: purple of the statements of the statement of the	CRIPTION NTRACT CLA IS, EXHIBITS IS ATIONS AND CERTIFICATI OF OFFEROI NOTICES TO RS FOR AWA ABLE of required to made by you r accepted as I wild consumm a) the Govern No further cor	INSTRUIONS AND O OFFER AND O wigh the which a to the ite lates the sment's	is docu	PAGE(S) ATTACH. IS ment.) Your s or changes of above and t which con- ion and your
B. 1 SEC D E F G H XX d for or a closed of condense of conden	SOL SUPI DES PAC INSP DEL CONTR sign thin or agrees otherwise intract, (t tillication herein.	The contractor shall entitled, "Aging Edand Functional Systand Functional Systand Formal Edand Functional Systand Formal Edand Functional Systand Formal Edand Fo	Il perform ffects on tems Inter e Statemen e Statemen e Type Con III CES/COSTS TEMENT COPIES to issue perform all the continuation she par lilowing documen such provisions, tached or incorp int)	System Factions' tof Work tract 6. TABLE Compage (S) PAGE (S) PAGE (S) R WILL COMmactor is 're ins office.) Services set ets for the ties to this its: (a) this representational by corated by	ch erform in k here in k h	ance in. 15G. TOTAL ENTS PACE CONTRACT I - LIST OF A PART IV - R REPRESEN OTHER ST INSTRS, C EVALUAT M 17 OR 18 AWARD (Co olicitation No the additions the in full about the infull about the i	DESIGNATION OF ASSET OF CHANGES OF CHANGES OF CONDS. AND CONDS. AN	CRIPTION NTRACT CLA IS, EXHIBITS IS ATIONS AND CERTIFICATI OF OFFEROI NOTICES TO RS FOR AWA ABLE of required to made by you r accepted as I wild consumm a) the Govern No further cor	INSTRUIONS AND O OFFER AND O wigh the which a to the ite lates the sment's	is docu	PAGE(S) ATTACH. IS ment.) Your s or changes ed above and t which con-

GPO: 1984 0 - 421-526 (96)

Prescribed by GSA FAR (48 CFR) 53.214(a)

Section B - Supplies or Services and Prices/Costs

B.1 Brief Description of Work

The contractor shall perform research entitled "Aging Effects on System Performance and Functional Systems Interaction" in accordance with Section C below:

Total	Estimated	Cost			\$44,734
Fixed	Fee				\$4,026
Total	Estimated	Cost	Plus	Fee	\$48,760

Section C - Description/Specifications/Work Statement

C.1 Statement of Work

C.1.0 Introduction

In the overall program strategy on NRC Nuclear Plant Aging Research it has been recognized that to evaluate the presence and the consequences of aged components and interfaces in vital LWR systems on plant safety, a systems approach and detail assessments at component level must be pursued. In certain scenarios investigations of functional interactions between multiple systems will be necessary for safety equipment function. In another situation, within a given system an interaction approach will be necessary to evaluate the effect that an aged equipment may have on systems performance during and after a postulated event.

A major thrust of this program element will be to select a fluid system and an electrical system considered vital for plant safety. Conduct systems level assessments, investigate the effect on selected systems ability to perform the required safety function with normally aged equipment and identify the set of critical equipment important for the safety function. The identified critical equipment will than become candidates for comprehensive aging assessment.

C.2.0 Objectives

The primary objective of this research element is to identify unsuspected or unknown age related problems in systems that may be important to nuclear plant safety. Investigate the systems ability to mitigate effects of aging leading to common mode failures due to triggered events and identify the set of critical equipment and interfaces considered important for those events.

C.3.0 Project Tasks:

Select as a minimum, a fluid system and/or an electrical system of an LWR to conduct SI evaluation with aged equipment and demonstrate the recommended approach to investigate the effect that an aged safety related item may have on plant performance during and after a triggered event. (LOCA, MSLB, Lightning and Switching transients, cycling and trips, etc.)

Note: The selected system and its equipment interact with systems representative of the total plant, e.g. HVAC, 4160V-440V ac to 24V dc electrical distribution systems, cooling and seal water, instrumentation and control, emergency power (diesel generators).

- C.3.1 System Selection: Select systems, if practical, in cooperation with a architectural engineering firm (associated with the participating utility for the designs, specifications and systems interaction studies) and equipment manufacturers (suppliers who furnished various equipment for the selected systems). Select a PWR system and/or a BWR system.
- C.3.2 Design Documents: List and obtain design documentation, e.g., FSAR, design specifications, electrical circuit diagrams, general arrangements.
- C.3.3 Identify System Design and Licensing Requirements: The system design and licensing requirements are addressed for the equipment that provide: 1) system initiation, 2) system internal protection features, 3) intra-and inter-system interlocks and bypasses, and 4) operator information. Mechanical portions of the system design will be reviewed to identify possible system interaction such as, bypasses and branch piping systems that could degrade the system function. System design functional requirements are initially established in system specification or design description documentation. The design bases for these systems are embodied in regulatory and vendor/AE design requirements documentation. These documents will be reviewed for specific design requirements.
- C.3.4 Safety Function Definition: The system or subsystem safety function must be identified from the FSAR or design documentation. In some cases, the safety function of a system or subsystem is different than the normal operating mode. Therefore, the safety function definition guides the engineer to investigate interfaces, instrumentation and control, and support system that can effect the safety objective.
- C.3.5 System Interface Review: System interfaces that can effect the system or subsystem design function will be identified for interlock, electrical separation (1.75/IEEE 384), operating bypasses (R.G. 1.47), and interfaces with other piping systems.
- C.3.6 Supporting System: Support system(s) required operable will be identified separately and reviewed. Safety systems that change state to perform a safety function require supporting system(s) to be operable. Supporting systems are circulating fluids (e.g., water or oil) HVAC, pneumatic, electrical, etc. Each safety system that actuate motor operator, SWGR or a trip coil require the availability of supporting systems to operate within their design specification to assure the operability of the safety system.
- C.3.7 Safety System Equipment Required Operable: All equipment of the safety and support systems particular operating mode that must operate or maintain state to achieve the design objective will be identified. This equipment constitutes the group or components that are attached to the system piping loops or instrument channels.

- C.3.8 Develop N² diagrams of safety related equipment to identify the lowest unit with aging significance LUWAS.
- C.3.9 Identify and tabulate the LUWAS aging effect on the host equipment. Age related stress as a result of normal and accident environments will be tabulated in a typical FMEA format (IEEE 352).
- C.3.10 Predict system behavior due to effect of agred LUWAS (includes supporting systems).
- C.3.11 Define plant function and evaluate system interactions effect on plant function due to aging. Identify components and interfaces which require detailed aging assessments.
- C.3.12 Provide recommendations for additional system interaction studies involving different safety functions.

C.4 NRC Furnished Material

Detailed program plan for nuclear plant aging research as applied to electrical and mechanical components in nuclear power plants.

C.5 Meetings and Travel:

Travel and meetings to NRC Headquarters, to other NRC contractors, and to industry is anticipated and approved to the extent specified in Section G.6, Travel Reimbursement.

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

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

- (a) Definition. "Services," as used in this clause, includes services performed, workmanship, and material furnished or used in performing services.
- (b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.
- (c) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all places and times

during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

- (d) If any of the services performed do not conform with contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, for no additional fee. When the defects in services cannot be corrected by reperformance, the Government may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and (2) reduce any fee payable under the contract to reflect the reduced value of the services performed.
- (e) If the Contractor fails to promptly perform the services again or take the action necessary to ensure future performance in conformity with contract requirements, the Government may (1) by contract or otherwise, perform the services and reduce any fee payable by an amount that is equitable under the circumstances or (2) terminate the contract for default.

(End of clause) (R 7-1909.5 1971 Nov.)

Section F - Deliveries and Performance

F.1 Monthly Letter Status Report

The contractor will submit monthly letter status reports to the NRC Project Officer. These monthly status letters should:

- (1) Summarize the progress and work completed during the period and compare actual progress versus the schedule.
- (2) List contacts with industry during the period.
- (3) Describe signficant problems encountered or anticipaed, plans for their resolution, and the impact on the overall program.
- (4) Discuss plans for the next reporting period.
- (5) Summarize the amount of funds expended during the period and cumulative to date and compare actual versus planned rate of expenditure.

The first monthly letter report should define the schedule and planned monthly expenditures for this contract.

F.2 Final Report

The contractor shall submit three copies of the final report to the Project Officer and one copy to the Contract Administrator within eight months from the effective date of the contract. The draft report shall be submitted to NRC for review. Allow 30 days for NRC comments. Printed copies or reproducible masters of the final report shall be in accordance with the procedure outlined in Manual Chapter 3202.

F.3 FAR Citations

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

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work order is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the, Termination clause of this contract or the Termination for Convenience of the

Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part

of this contract; and

- (2) The Contractor asserts a claim for the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim asserted at any time before final payment under this contract.
- (c) If a stop-work order is not canceled and the work covered by the order is terminated for the conveninece of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.
- (d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of clause) (AV 7-105.3 1971 APR)

F.4 Period of Performance - Eight months after effective date of contract.

Section G - Contract Administration Data

G.1 Consideration and Payment (Fully Funded CPFF)

A. Estimated Cost, Fixed Fee and Obligation

1. It is estimated that the total cost to the Government for full performance of this contract will be \$48,760, of which the sum of \$44,734 represents the estimated reimbursable costs, and of which \$4,026 represents the fixed fee.

- There shall be no adjustment in the amount of the Contractor's fixed fee by reason of differences between any estimate of cost for performance of the work under this contract and the actual cost of performance of that work.
- 3. The amount presently obligated by the Government with respect to this contract is \$ 48,760.00.

B. Payment

The Government shall render payment to the Contractor in approximately 30 days after submission of proper and correct invoices or vouchers.

Additional provisions relating to payment are contained in Clause 52.232.22 of Part II, Section I hereto.

G.2 Technical Direction

- A. Performance of the work under this contract shall be subject to the technical direction of the NRC Project Officer named in Section G.5 of this contract. The term "Technical Direction" is defined to include the following:
 - 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.
 - 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:
 - Constitutes an assignment of additional work outside the general scope of the contract.
 - Constitutes a change as defined in the clause of the General Provisions, entitled "Changes."
 - 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.
 - 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."

G.3 Project Officer

A. The incividual(s) listed in "B" 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.

B. Name and Mail Code: Office Address:

Mr. Jitendra Vora (Mail Stop NL 5650) Nuclear Regulatory Commission Office of Nuclear Regulatory Research Washington, DC 20555

Telephone Number:

(301) 443-7946

G.4 Travel Reimbursement

Total expenditure for domestic travel shall not exceed \$4,200 without the prior approval of the Contracting Officer. 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:

- 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 expenses.
- 2. The cost of travel by privately owned automobile shall be reimbursed at the rate of 20.5¢ per mile.
- The cost of travel by rented automobile shall be reimbursed on a reasonable actual expense basis.
- 4. 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.
- 5. 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 caluse 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 <u>Invoice Requirements</u>

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 price and quantity of property and services actually delivered or rendered.
- (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 Payment of Fixed Fee

Payment of fixed fee shall be in accordance with paragraph (b) of clause 52.216-8 entitled "Fixed Fee" and the NRC billing instructions in Part III, Section J.

G.9 Overhead/General and Administrative Rates

- A. Pending the establishment of final overhead rates which shall be negotiated based on audit of actual costs (but not to exceed the Contractor shall be reimbursed for allowable indirect costs hereunder at a ceiling rate of the of direct labor costs.
- B. Pending the establishment of final general and administrative rates which shall be negotiated based on audit of actual costs (but not to exceed the contractor shall be reimbursed for allowable indirect costs hereunder at a ceiling rate of of travel costs.
- C. Notwithstanding A. and B. of this Section, said overhead and G&A rates may be adjusted downward as appropriate during the term of the contract or as a result of audit of actual costs, by the Contracting Officer.

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.
- (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 Consultant or Other Comparable Employment Services of Contractor Employees (OMB Clearance Number 3150-0112)

The Contractor shall require all employees who are employed full-time (an individual who performs work under the list type contract on a full-time annual basis) or part-time (50 percent or more of regular annual compensation received under terms of a contract with the Commission) on the contract work to disclose to the Contractor all consultant or other comparable employment services which the employees proposed to undertake for others. The Contractor shall transmit to the Contracting Officer all information obtained from such disclosures. The Contractor will require any employee who will be employed full-time on the contract to agree, as a condition of his participation in such work, that he will not perform consultant or other comparable employment services for another Commission cost-type Contractor under its contract with the Commission except with the prior approval of the Contractor.

H.3 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.4 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.5 Private Use of Contract Information and Data

Except as otherwise specifically authorized by Section H., publication of contract work of 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.6 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.7 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.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 I sed on such information until one year after the releas 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.
- (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.

H.9 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
 - 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.