

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS RATED ORDER UNDER DPAS (15 CFR 700)		RATING N/A	PAGE OF PAGES 1 39	
2. CONTRACT NO. (Proc. Inst. Ident.) NRC-HQ-12-C-04-0066		3. EFFECTIVE DATE <b>7/26/2012</b>		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. RES-12-017, RES-10-160		
5. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Matthew J. Bucher, 301-492-3485 Mail Stop: TWB-01-B10M Washington, DC 20855		CODE 3100	6. ADMINISTERED BY (If other than Item 5) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M  Washington, DC 20555		CODE 3100	
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP Code)  REGENTS OF THE UNIVERSITY OF CALIFORNIA UNIVERSITY OF CALIFORNIA SAN DIEGO SCHOOL OF MEDICINE  9500 GILMAN DR MAIL CODE 0602  LA JOLLA CA 920935004				8. DELIVERY  <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)		
				9. DISCOUNT FOR PROMPT PAYMENT		
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN		
CODE		FACILITY CODE				
11. SHIP TO/MARK FOR U.S. Nuclear Regulatory Commission  Washington DC 20555		CODE	12. PAYMENT WILL BE MADE BY Department of Interior / NBC NRCPayments@nbc.gov Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue Denver CO 80235-2230 PHONE: FAX:		CODE	3100
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA 2012-60-17-6-161 V6067 252A 31X0200 Obligates: \$166,000.00 NACIS:611310 FAIMIS:120135 DUNS:167446488 PSC:AF11		
15A. ITEM NO.	15B. SUPPLIES/SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	The items to be procured under this Cost-Reimbursable Contract shall be done in accordance with the attached Statement of Work.					
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						\$100,000.00
<b>16. TABLE OF CONTENTS</b> See Attached Table of Contents						
(X)	SEC	DESCRIPTION	PAGE(S)	(X)	SEC	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES		
	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 OFFER	
X	G	CONTRACT ADMINISTRATION DATA		M	EVALUATION FACTORS FOR AWARD	
X	H	SPECIAL CONTRACT REQUIREMENTS				

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 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"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid 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 terms 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 bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)	
19A. NAME AND TITLE OF SIGNER (Type or print) S. Cortlandt Urquhart, Contract Officer		20A. NAME OF CONTRACTING OFFICER Matthew J. Bucher Contracting Officer	
19B. NAME OF CONTRACTOR BY _____ (Signature of person authorized to sign)	19C. DATE SIGNED 7/25/2012	20B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	20C. DATE SIGNED 7-26-2012

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**SUNSI REVIEW COMPLETE**

STANDARD FORM 26 (REV. 5/2011)  
Prescribed by GSA - FAR (48 CFR) 53.214(a)

TEMPLATE - ADM001

JUL 30 2012

ADM002

**PART I - THE SCHEDULE****SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS**

**Period of Performance: Twenty Four (24) Months after Contract Award.**

CLIN #	Description	Quantity	Unit	Total Cost
0001	Work to be performed in accordance with Tasks 1-4 of the Statement of Work		Lot	\$666,346.55

CLIN #	Description	Quantity	Unit	Total Cost
0002	Travel Costs:		Lot	\$7,500.00

Optional Tasks

**Period of Performance: Twenty Four (24) Months after exercise of the Option.**

CLIN #	Description	Quantity	Unit	Total Cost
1001	Work to be performed in accordance with Tasks 5-8 of the Statement of Work		Lot	\$375,340.45

CLIN #	Description	Quantity	Unit	Total Cost
1002	Travel Costs:		Lot	\$7,500.00

Total cost including all tasks: \$1,056,687.

**B.1 BRIEF PROJECT TITLE AND WORK DESCRIPTION (AUG 2011)**

(a) The title of this project is: Lateral Earth Pressure.

(b) Summary work description:

The objectives of this contract are to assess existing analytical tools and develop recommendations on their appropriate use for calculating soil pressures and structural response of partially to fully embedded nuclear power plants under seismic loading conditions.

**B.2 CONSIDERATION AND OBLIGATION--COST REIMBURSEMENT--NO FEE (AUG 2011)  
ALTERNATE I (AUG 2011)**

(a) The total estimated cost to the Government for full performance under this contract is \$673,846.55.

(b) The amount presently obligated by the Government with respect to this contract is \$166,000.00.

- (c) It is estimated that the amount currently obligated will cover performance through 05-31-2014.
- (d) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.

## SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

### I. BACKGROUND

The importance of seismically-induced (or dynamic) pressure on walls was recognized by Okabe (1924) and Mononobe (1929) following the great Kanto earthquake of 1923. This insight led to the development of the Mononobe-Okabe (M-O) method for determining seismically-induced lateral earth pressures on walls. Although decades have passed since the M-O method was developed, and a number of other relationships and methods have been developed, seismically-induced lateral earth pressures are still very poorly understood and very few predictive tools exist. This is because the difficulties of obtaining actual field data, coupled with the complexity and cost of the necessarily large scale laboratory studies, have resulted in a problematic lack of data. As a result, the M-O method is still the most widely used tool for predicting seismically-induced lateral earth pressure with finite element modeling used for advanced analyses. Unfortunately, lack of accuracy and precision remain significant issues. The Nuclear Regulatory Commission (NRC) is interested in investigating new approaches to the determination of dynamic lateral earth pressures during seismic events.

In an effort to address this need, several years ago the NRC undertook a project in which Brookhaven National Laboratory used the computational tools SASSI and LS DYNA to attempt to replicate seismic wall pressure that had been recorded in a series of experiments undertaken by the Nuclear Power Engineering Corporation (NUPEC) through support by the Ministry of Economy, Trade and Industry (METI) of Japan. The BNL analyses and results are reported in NUREG/CR-6957. The NUPEC Seismic Field Test Program is described in NUREG/CR-6822.

Unfortunately, while the analyses were able to replicate the acceleration of the structures to a large degree, the predicted lateral pressures showed a poor fit to the recorded data. This work again showed the challenges the engineering community faces in predicting dynamic lateral earth pressures with the level of accuracy desired by the structural engineering community.

Accurate prediction of seismically-induced earth pressures and the associated structural response are of interest for NRC staff because several advanced reactor designs propose to fully or partially embed reactor structures as one of their major design features.

NRC research has the principal goals of providing technical bases and technical tools to aid NRC staff in making regulatory decisions and developing and disseminating regulatory guidance that is used by both the NRC staff and the nuclear industry to make safety decisions by the agency. Research outcomes should be consistent with and support these goals.

### II. OBJECTIVE

The objectives of this contract are to assess existing analytical tools and develop recommendations on their appropriate use for calculating soil pressures and structural response of partially to fully embedded nuclear power plants under seismic loading conditions.

### III. SCOPE OF WORK

The scope of work consists of four tasks to be completed within two years of initiation of the project and four optional tasks to be performed at the discretion of the NRC. The project tasks are described below.

Task 1 (Items number 1-4 under the Scope of Work Section)

1. Collect, summarize, and assess existing tools for predicting seismically-induced lateral earth pressures and associated structural response. Assessment of existing tools could include listing and discussing the capabilities and

deficiencies of available tools and performing comparative analyses. A limited amount of funds may be available for the acquisition of analysis tools.

2. Collect and summarize appropriate data from existing field and laboratory studies available, and compile a database. This may include data from centrifuge testing, shake table testing, and sensors installed in structures of interest.

3. Collect, summarize, and critically review finite element analysis work or work using other applicable analysis tools that compares calculated seismic induced earth pressures with recorded data.

4. Provide a technical report which includes the results from the assessment of analytical tools, information and data collected from field and laboratory studies, the review of analyses in comparison with recorded data, and a proposed approach to modeling seismic soil structure interaction for deeply embedded nuclear power plant structures.

### Optional Tasks

Task 2 (Items number 5-8 under the Scope of Work Section)

5. Using appropriate modeling methods, perform parametric studies that vary modeling and analytical details likely to impact dynamic soil-structure interaction. Modeling details of interest may include: intensity of ground motion (e.g. operating basis earthquake, safe shutdown earthquake, beyond design basis loads), linear, equivalent linear, and non-linear material constitutive models for soil and/or structure, constitutive model assumptions and properties, wall stiffness, end connection details, three-dimensional effects, soil-wall interface friction, potential for volumetric compression, dynamic soil softening, gapping potential, and others. This task must be completed within 30 months of this option being exercised.

6. The above parametric study should be designed to correspond to a well-documented case history if possible. A detailed comparison should be made between the results of the parametric study and the case history. This task must be completed within 30 months of this option being exercised.

7. Develop recommendations for an experimental plan that would provide additional data needed for the purpose of assessing the reliability of analytical tools in computing dynamic soil pressures and structural response of deeply embedded nuclear power plants. This task must be completed within 12 months of this option being exercised.

8. Provide a comprehensive report on the data collected, the analyses undertaken, findings of the project, and recommendations on the appropriate use of numerical tools in assessing seismic soil-structure interaction of deeply embedded nuclear power plants. A draft report must be submitted at least 3 months before the final report due date for NRC staff review and comments. A final draft of the report must address NRC comments. The final draft report must be submitted within 36 months of this option being exercised.

## IV. RESEARCH QUALITY

The quality of NRC research programs are assessed each year by the Advisory Committee on Reactor Safeguards. Within the context of their reviews of RES programs, the definition of quality research is based upon several major characteristics:

Results meet the objectives ( ) of overall score)

Justification of major assumptions ( )

Soundness of technical approach and results ( )

Uncertainties and sensitivities addressed ( )

Documentation of research results and methods is adequate ( ) of overall score)

Clarity of presentation ( )

Identification of major assumptions ( )

It is the responsibility of the contractor to ensure that these quality criteria are adequately addressed throughout the course of the research that is performed. The NRC project manager and technical monitor will review all research products with these criteria in mind.

**V. TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED**

It is anticipated that this project will be undertaken by a collaborative team of researchers that may include both geotechnical and structural engineering specialists. This team may include more than one institution. Multi-organizational collaboration is encouraged.

It is anticipated that this project will be led by investigators with extensive experience in the soil structure-interaction issues, as required by this project. It is anticipated that these lead researcher(s) may be supported by students or post-doctoral staff, who will contribute staff time to the project. Workload for the project may be arranged to follow typical university patterns of full time staff in the summer months, with lower levels of effort in the academic year.

**VI. PERIOD OF PERFORMANCE**

Tasks 1 through 4 are to be completed within 24 months from the start of the contract. The contract period of performance can be extended to complete the optional tasks. Optional tasks if exercised will be initiated between 12 and 24 months from the start of the contract. All optional tasks must be completed within five years from the start of the contract.

**VII. REPORTING REQUIREMENTS**

The reporting requirements for this project include the following:

An interim technical report as described in Task 6 which includes results from the assessment of analytical tools, information and data collected from field and laboratory studies, the review of analyses in comparison with recorded data, and a proposed approach to modeling seismic soil structure interaction for deeply embedded nuclear power plant structures.

A comprehensive report as described in Task 8 on the data collected, the analyses undertaken, findings of the project, and recommendations to NRC staff on the appropriate use of numerical tools in assessing seismic soil-structure interaction of deeply embedded nuclear power plants. A draft of the comprehensive report will be due a minimum of 3 months before the project end date. NRC staff will review the draft report and provide comments that should be addressed in the final report submitted by the research team.

A presentation on the project by two research team members at NRC headquarters in Rockville, Maryland, on two occasions that correspond with the submission of the interim and final reports.

Monthly status letter reports, as described below.

**Monthly Letter Status Report:**

A Monthly Letter Status Report (MLSR) is to be submitted to the NRC Project Manager (TBD), and the NRC Technical Monitor (TBD), by the 20th of the month following the month to be reported with copies provided to the following:

Resource Name: RESDEMLSR.Resource@nrc.gov

The MLSR will identify the title of the project, the job code, the Principal Investigator, the period of performance, the reporting period, summarize each month's technical progress, list monthly spending, total spending to date, and the remaining funds and will contain information as directed in NRC Management Directive 11.1. Any administrative or technical difficulties which may affect the schedule or costs of the project shall be immediately brought to the attention of the NRC project manager.

A sample MLSR can be provided upon request to assist the Principal Investigator in providing required information in format acceptable to the NRC staff.

### VIII. NEW STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

The U.S. Nuclear Regulatory Commission (NRC) began to capture most of its official records electronically on January 1, 2000. The NRC will capture each final NUREG-series publication in its native application. Therefore, please submit your final manuscript that has been approved by your NRC Project Manager in both electronic and camera-ready copy.

All format guidance, as specified in NUREG-0650, Revision 2, will remain the same with one exception. You will no longer be required to include the NUREG-series designator on the bottom of each page of the manuscript. The NRC will assign this designator when we send the camera-ready copy to the printer and will place the designator on the cover, title page, and spine. The designator for each report will no longer be assigned when the decision to prepare a publication is made. The NRC's Publishing Services Branch will inform the NRC Project Manager for the publication of the assigned designator when the final manuscript is sent to the printer.

For the electronic manuscript, the Contractor shall prepare the text in Microsoft Word, and use any of the following file types for charts, spreadsheets, and the like.

File Types to be Used for NUREG-Series Publications	
File Type	File Extension
Microsoft® Word®	.doc
Microsoft® PowerPoint®	.ppt
Microsoft® Excel	.xls
Microsoft® Access	.mdb
Portable Document Format	.pdf

This list is subject to change if new software packages come into common use at NRC or by our licensees or other stakeholders that participate in the electronic submission process. If a portion of your manuscript is from another source and you cannot obtain an acceptable electronic file type for this portion (e.g., an appendix from an old publication), the NRC can, if necessary, create a tagged image file format (file extension.tif) for that portion of your report. Note that you should continue to submit original photographs, which will be scanned, since digitized photographs do not print well.

If you choose to publish a compact disk (CD) of your publication, place on the CD copies of the manuscript in both (1) a portable document format (PDF); (2) a Microsoft Word file format, and (3) an Adobe Acrobat Reader, or, alternatively, print instructions for obtaining a free copy of Adobe Acrobat Reader on the back cover insert of the jewel box.

### X. DELIVERABLES/SCHEDULES AND/OR MILESTONES

A technical report which includes results from the assessment of analytical tools, information and data collected from field and laboratory studies, the review of analyses in comparison with recorded data, and a proposed approach to modeling seismic soil structure interaction for deeply embedded nuclear power plant structures (tasks 1 through 4) shall be provided to NRC staff within 24 months of the project start date. A presentation on these tasks will be provided at NRC headquarters in Rockville, Maryland.

If the optional tasks are exercised by the NRC, a comprehensive report on the data collected, the analyses undertaken, findings of the project, and guidance to NRC staff on the appropriate use of numerical tools in assessing seismic soil-structure interaction of deeply embedded nuclear power plants. This shall be provided in draft form for NRC staff review no later than 33 months after the option for Task 8 is initiated; and in final form within 36 months of initiation of Task 8. A presentation on all project tasks will be provided at NRC headquarters in Rockville, Maryland.

**XI. MEETINGS AND TRAVEL**

It is expected that two project staff will make a presentation on tasks 1 through 4 at NRC headquarters in Rockville, Maryland during a one-day meeting. If optional tasks are performed, it is expected that one additional presentation will be made at NRC headquarters by two project staff during a one-day meeting and that results from this research will be presented by two project staff at a professional conference or meeting within the United States on one occasion. The presentations and conference travel are expected to take approximately 3 days each. Project travel requires the approval of the NRC Project Manager.

**XII. NRC-FURNISHED MATERIAL**

None



**SECTION D - PACKAGING AND MARKING****D.1 PACKAGING AND MARKING (AUG 2011)**

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows:

**D.2 BRANDING (AUG 2011)**

The Contractor is required to use the official NRC branding logo or seal on any publications, presentations, products, or materials funded under this contract, to the extent practical, in order to provide NRC recognition for its involvement in and contribution to the project. If the work performed is funded entirely with NRC funds, then the contractor must acknowledge that information in its documentation/presentation.

Access the following websites for branding information and specifications:  
<http://www.internal.nrc.gov/ADM/branding/> and Management Directive and Handbook 3.13 -

(internal NRC website): <http://www.internal.nrc.gov/policy/directives/toc/md3.13.htm>

(external public website): <http://pbadupws.nrc.gov/docs/ML1122/ML112280190.pdf>

**SECTION E - INSPECTION AND ACCEPTANCE****E.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
52.246-9	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1) INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR 1984

**SECTION F - DELIVERIES OR PERFORMANCE****F.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.242-15	STOP-WORK ORDER	AUG 1989
	ALTERNATE I (APR 1984)	
52.247-34	F.O.B. DESTINATION	NOV 1991
52.247-48	F.O.B. DESTINATION--EVIDENCE OF SHIPMENT	FEB 1999

**F.2 2052.211-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)**

All technical reports required by Section C and all Technical Progress Reports required by Section F are to be prepared in accordance with the attached Management Directive 3.7, "Unclassified Contractor and Grantee Publications in the NUREG Series." Management Directive 3.7 is not applicable to any Contractor Spending Plan (CSP) or any Financial Status Report that may be included in this contract. Any differing views on content that may arise shall be subject to the provision within Clause H.6 (b) for review and comment of Contractor technical reports.

**F.3 2052.211-71 TECHNICAL PROGRESS REPORT (JAN 1993)**

The contractor shall provide a monthly Technical Progress Report to the project officer and the contracting officer. The report is due within 15 calendar days after the end of the report period and must identify the title of the project, the contract number, appropriate financial tracking code specified by the NRC Project Officer, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report must include the following for each discrete task/task order:

(a) A listing of the efforts completed during the period, and 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, the contractor shall submit a separate letter to the contracting officer identifying the required change and estimated cost impact.

(c) A summary of progress to date; and

(d) Plans for the next reporting period.

**F.4 2052.211-72 FINANCIAL STATUS REPORT (OCT 1999)**

The contractor shall provide a monthly Financial Status Report (FSR) to the project officer and the contracting officer. The FSR shall include the acquisition of, or changes in the status of, contractor-held property acquired with government funds valued at the time of purchase at \$50,000 or more. Whenever these types of property changes occur, the contractor shall send a copy of the report to the Chief, Property and Acquisition Oversight Branch, Office of Administration. The report is due within 15 calendar days after the end of the report period and must identify the title of the project, the contract number, the appropriate financial tracking code (e.g., Job Code Number or JCN) specified by the NRC Project Officer, project manager and/or principal investigator, the contract period of performance, and the period covered by the report. Each report must include the following for each discrete task:

- (a) Total estimated contract amount.
- (b) Total funds obligated to date.
- (c) Total costs incurred this reporting period.
- (d) Total costs incurred to date.
- (e) Detail of all direct and indirect costs incurred during the reporting period for the entire contract or each task, if it is a task ordering contract.
- (f) Balance of obligations remaining.
- (g) Balance of funds required to complete contract/task order.
- (h) Contractor Spending Plan (CSP) status: A revised CSP is required with the Financial Status Report whenever the contractor or the contracting officer has reason to believe that the total cost for performance of this contract will be either greater or substantially less than what had been previously estimated.
  - (1) Projected percentage of completion cumulative through the report period for the project/task order as reflected in the current CSP.
  - (2) Indicate significant changes in the original CSP projection in either dollars or percentage of completion. Identify the change, the reasons for the change, whether there is any projected overrun, and when additional funds would be required. If there have been no changes to the original NRC-approved CSP projections, a written statement to that effect is sufficient in lieu of submitting a detailed response to item "h".
- (i) Property status:
  - (1) List property acquired for the project during the month with an acquisition cost between \$500 and \$49,999. Give the item number for the specific piece of equipment.
  - (2) Provide a separate list of property acquired for the project during the month with an acquisition cost of \$50,000 or more. Provide the following information for each item of property: item description or nomenclature, manufacturer, model number, serial number, acquisition cost, and receipt date. If no property was acquired during the month, include a statement to that effect. The same information must be provided for any component or peripheral equipment which is part of a "system or system unit."

(3) For multi-year projects, in the September monthly financial status report provide a cumulative listing of property with an acquisition cost of \$50,000 or more showing the information specified in paragraph (i)(2) of this clause.

(4) In the final financial status report provide a closeout property report containing the same elements as described above for the monthly financial status reports, for all property purchased with NRC funds regardless of value unless title has been vested in the contractor. If no property was acquired under the contract, provide a statement to that effect. The report should note any property requiring special handling for security, health, safety, or other reasons as part of the report.

(j) Travel status: List the starting and ending dates for each trip, the starting point and destination, and the traveler(s) for each trip.

(k) If the data in this report indicates a need for additional funding beyond that already obligated, this information may only be used as support to the official request for funding required in accordance with the Limitation of Cost (LOC) Clause (FAR 52.232-20) or the Limitation of Funds (LOF) Clause FAR 52.232-22.

## **F.6 PLACE OF DELIVERY--REPORTS (AUG 2011)**

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

Name: Thomas Weaver  
Contracting Officer's Representative (COR)  
U.S. Nuclear Regulatory Commission

U.S. Nuclear Regulatory Commission  
Mail Stop: CSB/ C5 C7M  
Washington, DC 20555

Electronic copies to:

Thomas Weaver, [Thomas.Weaver@nrc.gov](mailto:Thomas.Weaver@nrc.gov)  
Matthew J. Bucher, [Matthew.Bucher@nrc.gov](mailto:Matthew.Bucher@nrc.gov)

Name: Matthew J. Bucher (1 hard copy)  
Contracting Officer (CO)  
U.S. Nuclear Regulatory Commission

U.S. Nuclear Regulatory Commission  
Div. of Contracts  
Mail Stop: TWB-01-B10M  
Washington, DC 20555

**SECTION G - CONTRACT ADMINISTRATION DATA****G.1 2052.215-71 PROJECT OFFICER AUTHORITY (NOVEMBER 2006)**

(a) The contracting officer's authorized representative (hereinafter referred to as the project officer) for this contract is:

Name: Thomas Weaver

Address: U.S. Nuclear Regulatory Commission  
Mail Stop: CSB/ C5 C7M  
Washington, DC 20555

Telephone Number: 301-251-7654

Email: [Thomas.weaver@nrc.gov](mailto:Thomas.weaver@nrc.gov)

(b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. 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, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work (SOW) or changes to specific travel identified in the SOW), fills in details, or otherwise serves to accomplish the contractual SOW.

(2) Provide advice and guidance 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.

(c) Technical direction must be within the general statement 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 work outside the general scope of the contract.

(2) Constitutes a change as defined in the "Changes" clause of this contract.

(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.

(5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.

(d) All technical directions must be issued in writing by the project officer or must be confirmed by the project officer in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the

contracting officer. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the contracting officer.

(e) The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause.

(f) 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 paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the 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.

(g) 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.

(h) 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 is subject to 52.233-1 -Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the project officer shall:

(1) Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the contracting officer changes in requirements.

(2) Assist the contractor in the resolution of technical problems encountered during performance.

(3) Review all costs requested for reimbursement by the contractor and submit to the contracting officer recommendations for approval, disapproval, or suspension of payment for supplies and services required under this contract.

(4) Assist the contractor in obtaining the badges for the contractor personnel.

(5) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(6) Ensure that all contractor employees that require access to classified Restricted Data or National Security Information or matter, access to sensitive unclassified information (Safeguards, Official Use Only, and Proprietary information) access to sensitive IT systems or data, unescorted access to NRC controlled buildings/space, or unescorted access to protected and vital areas of nuclear power plants receive approval of SB/DFS prior to access in accordance with Management Directive and Handbook 12.3.

(7) For contracts for the design, development, maintenance or operation of Privacy Act Systems of Records, obtain from the contractor as part of closeout procedures, written certification that the contractor has returned to NRC, transferred to the successor contractor, or destroyed at the end of the contract in accordance with instructions provided by the NRC Systems Manager for Privacy Act Systems of Records, all records (electronic or paper) which were created, compiled, obtained or maintained under the contract.

**G.2 2052.215-77 TRAVEL APPROVALS AND REIMBURSEMENT (OCT 1999)**

(a) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days before beginning travel.

(b) The contractor must receive written approval from the NRC Project Officer before taking travel that was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work, or changes to specific travel identified in the Statement of Work).

(c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and are allowable subject to the limitations prescribed in FAR 31.205-46.

(d) It is the responsibility of the contractor to notify the contracting officer in accordance with the Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the estimated costs specified in the Schedule.

(e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

**G.3 2052.216-71 INDIRECT COST RATES-ALTERNATE 2 (OCT 1999)**

(a) For this contract, the ceiling amount reimbursable for indirect costs is as follows:

INDIRECT COST POOL	RATE	BASE	PERIOD
Organized Research (On-Campus)	54.5%		7/1/2008-6/30/2012
Organized Research (On-Campus)	55.0%		7/1/2012-6/30/2014
Organized Research (Off-Campus)	26.0%		7/1/2008-6/30/2014
Instruction (On-Campus)	53.0%		7/1/2008-6/30/2014
Instruction (Off-Campus)	26.0%		7/1/2012-6/30/2014
Other Spon Act. (On-Campus)	43.0%		7/1/2010-6/30/2014
Other Spon Act. (Off-Campus)	26.0%		7/1/2008-6/30/2014
Organized Research	18.0%		7/01/2008-6/30/2014
IPA (Off-Campus)	10.3%		7/1/2008-6/30/2014

(b) In the event that indirect rates developed by the cognizant audit activity on the basis of actual allowable costs result in a lower amount for indirect costs, the lower amount will be paid. The Government may not be obligated to pay any additional amounts for indirect costs above the ceiling rates set forth above for the applicable period.



**G.4 ELECTRONIC PAYMENT (AUG 2011)**

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. Payment shall be made in accordance with FAR 52.232-33, entitled "Payment by Electronic Funds- Central Contractor Registration".

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal - Continuation Sheet." The preferred method of submitting invoices is electronically to the Department of the Interior at [NRCPayments\\_NBCDenver@nbc.gov](mailto:NRCPayments_NBCDenver@nbc.gov). If the contractor submits a hard copy of the invoice, it shall be submitted to the following address:

Department of the Interior  
National Business Center  
Attn: Fiscal Services Branch - D2770  
7301 West Mansfield Avenue  
Denver, CO 80235-2230

**SECTION H - SPECIAL CONTRACT REQUIREMENTS****H.1 2052.209-72 CONTRACTOR ORGANIZATIONAL CONFLICTS OF INTEREST (JAN 1993)**

(a) Purpose. The primary purpose of this clause is to aid in ensuring that the contractor:

(1) Is not placed in a conflicting role because of current or planned interests (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 apply to performance or participation by the contractor, as defined in 48 CFR 209.570-2 in the activities covered by this clause.

(c) Work for others.

(1) Notwithstanding any other provision of this contract, during the term of this contract, the contractor agrees to forego 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 under this contract abide by the provision of this clause. If the contractor has reason to believe, with respect to itself or any 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 before the execution of such contractual arrangement.

(2) The contractor may not represent, assist, or otherwise support an NRC licensee or applicant undergoing an NRC audit, inspection, or review where the activities that are the subject of the audit, inspection, or review are the same as or substantially similar to the services within the scope of this contract (or task order as appropriate) except where the NRC licensee or applicant requires the contractor's support to explain or defend the contractor's prior work for the utility or other entity which NRC questions.

(3) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site, the contractor shall neither solicit nor perform work in the same or similar technical area for that licensee or applicant organization for a period commencing with the award of the task order or beginning of work on the site (if not a task order contract) and ending one year after completion of all work under the associated task order, or last time at the site (if not a task order contract).

(4) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site,

(i) The contractor may not solicit work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate.

(ii) The contractor may not perform work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate, and for one year thereafter.

(iii) Notwithstanding the foregoing, the contracting officer may authorize the contractor to solicit or perform this type of work (except work in the same or similar technical area) if the contracting officer determines that the situation will not pose a potential for technical bias or unfair competitive advantage.

## (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, that it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.

(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 must 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 if termination is in the best interest of the Government.

(3) It is recognized that the scope of work of a task-order-type contract necessarily encompasses a broad spectrum of activities. Consequently, if this is a task-order-type contract, the contractor agrees that it will disclose all proposed new work involving NRC licensees or applicants which comes within the scope of work of the underlying contract. Further, if this contract involves work at a licensee or applicant site, the contractor agrees to exercise diligence to discover and disclose any new work at that licensee or applicant site. This disclosure must be made before the submission of a bid or proposal to the utility or other regulated entity and must be received by the NRC at least 15 days before the proposed award date in any event, unless a written justification demonstrating urgency and due diligence to discover and disclose is provided by the contractor and approved by the contracting officer. The disclosure must include the statement of work, the dollar value of the proposed contract, and any other documents that are needed to fully describe the proposed work for the regulated utility or other regulated entity. NRC may deny approval of the disclosed work only when the NRC has issued a task order which includes the technical area and, if site-specific, the site, or has plans to issue a task order which includes the technical area and, if site-specific, the site, or when the work violates paragraphs (c)(2), (c)(3) or (c)(4) of this section.

## (e) Access to and use of information.

(1) If in the performance of this contract, the contractor obtains access to information, such as NRC plans, policies, reports, studies, financial plans, internal data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), the contractor agrees not to:

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

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

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

(iv) Release the information without prior written approval by the contracting officer unless the 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 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), or other confidential or privileged technical, business, or financial information under this contract, the contractor shall treat the information in accordance with restrictions placed on use of the information.

(3) Subject to patent and security provisions of this contract, the contractor shall have 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 48 CFR 2009.570-2, the contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms contract, contractor, and contracting officer, must be appropriately modified to preserve the Government's rights.

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

(h) Waiver. A request for waiver under this clause must be directed in writing to the contracting officer in accordance with the procedures outlined in 48 CFR 2009.570-9.

(i) Follow-on effort. The contractor shall be ineligible to participate in NRC contracts, subcontracts, or proposals therefor (solicited or unsolicited), which stem directly from the contractor's performance of work under this contract. Furthermore, unless so directed in writing by the contracting officer, the contractor may not perform any technical consulting or management support services work or evaluation activities under this contract on any of its products or services or the products or services of another firm if the contractor has been substantially involved in the development or marketing of the products or services.

(1) If the contractor, under this contract, prepares a complete or essentially complete statement of work or specifications, the contractor is not eligible to perform or participate in the initial contractual effort which is based on the statement of work or specifications. The contractor may not incorporate its products or services in the statement of work or specifications unless so directed in writing by the contracting officer, in which case the restrictions in this paragraph do not apply.

(2) Nothing in this paragraph precludes the contractor from offering or selling its standard commercial items to the Government.

## **H.2 2052.215-70 KEY PERSONNEL (JAN 1993)**

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

Dr. Elgamal-Principle Investigator  
Dr. Hashash-Principle Investigator  
Dr. Luco-Principle Investigator  
Dr. Sitar-Principle Investigator

The contractor agrees that personnel may not be removed from the contract work or replaced without compliance with paragraphs (b) and (c) of this section.

(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, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

(c) Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer and the project officer shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision 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. If the contracting officer 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.3 2052.235-70 PUBLICATION OF RESEARCH RESULTS (OCT 1999)**

(a) The principal investigator(s)/contractor shall comply with the provisions of NRC Management Directive 3.7 (Vol. 3, Part 1) and NRC Handbook 3.7 (Parts I-IV) regarding publication in referenced scientific and engineering journals or dissemination to the public of any information, oral or written, concerning the work performed under this contract, subject to the provision within Clause H.6 (b) for review and comment of Contractor technical reports under the time period for publications under H.3(c). This unclassified fundamental research project requires the development of research methodologies. The scope of work of this project does not involve making conclusions or recommendations regarding NRC policy or regulatory role.

(b) The principal investigator(s)/contractor may publish the results of this work in referenced scientific and engineering journals or in open literature and present papers at public or association meetings at interim stages of work, in addition to submitting to NRC the final reports and other deliverables required under this contract. However, such publication and papers shall focus on advances in science and technology and minimize conclusions and/or recommendations which may have regulatory implications.

(c) The principal investigator(s) shall coordinate all such publications with, and transmit a copy of the proposed article or paper to, the NRC Contracting Officer or Project Officer, prior to publication. The NRC agrees to review and provide comments within forty-five (45) days after receipt of a proposed publication. However, in those cases where the information to be published addresses and/or discusses NRC policy, or where the NRC does not agree with the technical approach or results, the NRC reserves the right to have the contractor add the following disclaimer that states "Any opinions, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the Nuclear Regulatory Commission".

### **H.4 2052.235-71 SAFETY, HEALTH, AND FIRE PROTECTION (JAN 1993)**

The contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of its employees and of members of the public, including NRC employees and contractor personnel, and to minimize danger from all hazards to life and property. The contractor shall comply with all applicable health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission and the Department of Labor. If the contractor fails to comply with these regulations or requirements, the contracting office 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 work order for resumption of work may be issued at the discretion of the contracting officer. The contractor may not make a claim for an extension of time or for compensation or damages by reason of, or in connection with, this type of work stoppage.

### **H.5 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS (AUG 2011)**

Annual and final evaluations of contractor performance under this contract will be prepared in accordance with FAR Subpart 42.15, "Contractor Performance Information," normally at or near the time the contractor is notified of the NRC's intent to exercise the contract option. If the multi-year contract does not have option years, then an annual evaluation will be prepared (state time for annual evaluation). Final evaluations of contractor performance will be prepared at the expiration of the contract during the contract closeout process.

The Contracting Officer will transmit the NRC Contracting Officer's Representative's (COR) annual and final contractor performance evaluations to the contractor's Project Manager, unless otherwise instructed by the contractor. The contractor will be permitted thirty days to review the document and submit comments, rebutting statements, or additional information.

Where a contractor concurs with, or takes no exception to an annual performance evaluation, the Contracting Officer will consider such evaluation final and releasable for source selection purposes. Disagreements between the parties regarding a performance evaluation will be referred to an individual one level above the Contracting Officer, whose decision will be final.

The Contracting Officer will send a copy of the completed evaluation report, marked "Source Selection Information", to the contractor's Project Manager for their records as soon as practicable after it has been finalized. The completed evaluation report also will be used as a tool to improve communications between the NRC and the contractor and to improve contract performance.

The completed annual performance evaluation will be used to support future award decisions in accordance with FAR 42.1502 and 42.1503. During the period the information is being used to provide source selection information, the completed annual performance evaluation will be released to only two parties - the Federal government personnel performing the source selection evaluation and the contractor under evaluation if the contractor does not have a copy of the report already.

## **H.6 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS (AUG 2011)**

### **Review and Comment of Contractor Technical Reports**

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. The contractor shall edit all technical reports. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC's directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, presentation, or release of papers, articles, reports, data summaries, or abstracts developed under the NRC/University of California San Diego contract, the University shall submit them to the NRC for review and comment. With respect to Contract required technical reports, the Contractor shall provide technical reports to the NRC for review and comments for which the NRC shall have a review and comment period of at least [90] days. If there is a disagreement on Contract required content, both an NRC and University of California San Diego representative at the lowest management level (principal investigator), shall attempt to resolve any differing viewpoints or statements which are the subject of NRC objection. If the matter cannot be resolved at that level, the issue shall be brought up to the next management level in both organizations until an agreement can be reached, ultimately if required, the NRC Office of Research and the University Office of Research Affairs. Matters which cannot be resolved at this level shall be submitted for resolution to the Vice Chancellor of

Research. In the event resolution cannot be achieved at the Office Director level of NRC RES and the University of California San Diego Office of Research Affairs Vice-Chancellor level the NRC may direct the University of California San Diego to publish the work without the NRC/RES office name or Contracting Officer Representative's name listed on the report, and with a Disclaimer conspicuously noted on the report, article, summary, abstract or related document that the University of California San Diego intends to release, display, disseminate or publish to other persons, the public or any other entities:

"Any opinions, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the Nuclear Regulatory Commission".

(c) Identification/Marking of Sensitive Unclassified and Safeguards Information. The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes sensitive unclassified or safeguards information is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/ grantee shall clearly mark sensitive unclassified and safeguards information, to include for example, AOUE-Allegation Information@ or AOUE-Security Related Information@ on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 ASafeguards Information@) in maintaining these records and documents. The contractor/grantee shall ensure that sensitive unclassified and safeguards information is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified and Non-Safeguards Information policies, and NRC Management Directive and Handbook 12.6.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

(e) Flowdown. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements

## **H.7 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES (AUG 2011)**

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24 entitled: "Your Rights Under the Energy Reorganization Act".

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

**H.8 GREEN PURCHASING (JUN 2011)**

(a) In furtherance of the sustainable acquisition goals of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" products and services provided under this contract/order shall be energy- efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives, where such products and services meet agency performance requirements. <http://www.fedcenter.gov/programs/eo13514/>

(b) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

**H.9 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS (AUG 2011)**

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

**H.10 AWARD NOTIFICATION AND COMMITMENT OF PUBLIC FUNDS (AUG 2011)**

(a) All offerors will receive preaward and postaward notices in accordance with FAR 15.503.

(b) It is also brought to your attention that the contracting officer is the only individual who can legally obligate funds or commit the NRC to the expenditure of public funds in connection with this procurement. This means that unless provided in a contract document or specifically authorized by the contracting officer, NRC technical personnel may not issue contract modifications, give formal contractual commitments, or otherwise bind, commit, or obligate the NRC contractually. Informal unauthorized commitments, which do not obligate the NRC and do not entitle the contractor to payment, may include:

- (1) Encouraging a potential contractor to incur costs prior to receiving a contract;
- (2) Requesting or requiring a contractor to make changes under a contract without formal contract modifications;
- (3) Encouraging a contractor to incur costs under a cost-reimbursable contract in excess of those costs contractually allowable; and
- (4) Committing the Government to a course of action with regard to a potential contract, contract change, claim, or dispute.



**PART II - CONTRACT CLAUSES****SECTION I - CONTRACT CLAUSES****I.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE**

The following contract clauses pertinent to this section are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" in Section I of this contract. See FAR 52.252-2 for an internet address (if specified) for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.202-1	DEFINITIONS	JAN 2012
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	APR 1984
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	SEP 2006
52.203-7	ANTI-KICKBACK PROCEDURES	OCT 2010
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	OCT 2010
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER	MAY 2011
52.204-7	CENTRAL CONTRACTOR REGISTRATION	FEB 2012
52.204-10	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS	FEB 2012
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	DEC 2010
52.215-2	AUDIT AND RECORDS--NEGOTIATION ALTERNATE II (APR 1998)	OCT 2010
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT 1997
52.215-22	LIMITATIONS ON PASS THROUGH CHARGES -- IDENTIFICATION OF SUBCONTRACTOR EFFORT	OCT 2009
52.216-11	COST CONTRACT--NO FEE	APR 1984
52.217-2	CANCELLATION UNDER MULTIYEAR CONTRACTS	OCT 1997
52.219-4	NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS	JAN 2011
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	JAN 2011
52.219-9	SMALL BUSINESS SUBCONTRACTING PLAN	JAN 2011

	ALTERNATE II (OCT 2001)	
52.219-16	LIQUIDATED DAMAGES--SUBCONTRACTING PLAN	JAN 1999
52.219-25	SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM--DISADVANTAGED STATUS AND REPORTING	DEC 2010
52.222-3	CONVICT LABOR	JUN 2003
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB 1999
52.222-26	EQUAL OPPORTUNITY	MAR 2007
52.222-35	EQUAL OPPORTUNITY FOR VETERANS	SEP 2010
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	OCT 2010
52.222-37	EMPLOYMENT REPORTS ON VETERANS	SEP 2010
52.222-50	COMBATING TRAFFICKING IN PERSONS	FEB 2009
52.222-54	EMPLOYMENT ELIGIBILITY VERIFICATION	JAN 2009
52.223-6	DRUG-FREE WORKPLACE	MAY 2001
52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG 2011
52.225-5	TRADE AGREEMENTS	MAR 2012
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN 2008
52.227-1	AUTHORIZATION AND CONSENT	DEC 2007
	ALTERNATE I (APR 1984)	
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	DEC 2007
52.227-11	PATENT RIGHTS--OWNERSHIP BY THE CONTRACTOR	DEC 2007
52.227-14 Alt IV	RIGHTS IN DATA--GENERAL	DEC 2007
52.227-16	ADDITIONAL DATA REQUIREMENTS	JUN 1987
52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR 1996
52.230-5	COST ACCOUNTING STANDARDS--EDUCATIONAL INSTITUTION	OCT 2010
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS	JUN 2010
52.232-17	INTEREST	OCT 2010
52.232-18	AVAILABILITY OF FUNDS	APR 1984
52.232-23	ASSIGNMENT OF CLAIMS	JAN 1986
52.232-25	PROMPT PAYMENT	OCT 2008
52.232-33	PAYMENT BY ELECTRONIC FUNDS--CENTRAL CONTRACTOR REGISTRATION	OCT 2003
52.233-1	DISPUTES	JUL 2002
52.233-3	PROTEST AFTER AWARD	AUG 1996
	ALTERNATE I (JUN 1985)	
52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT 2004
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984
52.242-3	PENALTIES FOR UNALLOWABLE COSTS	MAY 2001
52.242-13	BANKRUPTCY	JUL 1995
52.243-2	CHANGES--COST REIMBURSEMENT	AUG 1987
	ALTERNATE V (APR 1984)	
52.244-2	SUBCONTRACTS	OCT 2010
	ALTERNATE I (JUNE 2007)	
52.244-5	COMPETITION IN SUBCONTRACTING	DEC 1996
52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	DEC 2010
52.245-1	GOVERNMENT PROPERTY	APR 2012

	ALTERNATE II (APR 2012)	
52.245-9	USE AND CHARGES	APR 2012
52.246-23	LIMITATION OF LIABILITY	FEB 1997
52.246-25	LIMITATION OF LIABILITY--SERVICES	FEB 1997
52.248-1	VALUE ENGINEERING	OCT 2010
52.249-5	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (EDUCATIONAL AND OTHER NONPROFIT INSTITUTIONS)	SEP 1996
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

## **I.2 52.215-23 LIMITATIONS ON PASS-THROUGH CHARGES (OCT 2009) ALTERNATE I (OCT 2009)**

(a) Definitions. As used in this clause--

"Added value" means that the Contractor performs subcontract management functions that the Contracting Officer determines are a benefit to the Government (e.g., processing orders of parts or services, maintaining inventory, reducing delivery lead times, managing multiple sources for contract requirements, coordinating deliveries, performing quality assurance functions).

"Excessive pass-through charge," with respect to a Contractor or subcontractor that adds no or negligible value to a contract or subcontract, means a charge to the Government by the Contractor or subcontractor that is for indirect costs or profit/fee on work performed by a subcontractor (other than charges for the costs of managing subcontracts and any applicable indirect costs and associated profit/fee based on such costs).

"No or negligible value means" the Contractor or subcontractor cannot demonstrate to the Contracting Officer that its effort added value to the contract or subcontract in accomplishing the work performed under the contract (including task or delivery orders).

"Subcontract" means any contract, as defined in FAR 2.101, entered into by a subcontractor to furnish supplies or services for performance of the contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

"Subcontractor," as defined in FAR 44.101, means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime Contractor or another subcontractor.

(b) General. The Government will not pay excessive pass-through charges. The Contracting Officer has determined that there will be no excessive pass-through charges, provided the Contractor performs the disclosed value-added functions.

(c) Reporting. Required reporting of performance of work by the Contractor or a subcontractor. The Contractor shall notify the Contracting Officer in writing if--

(1) The Contractor changes the amount of subcontract effort after award such that it exceeds 70 percent of the total cost of work to be performed under the contract, task order, or delivery order. The notification shall identify the revised cost of the subcontract effort and shall include verification that the Contractor will provide added value; or

(2) Any subcontractor changes the amount of lower-tier subcontractor effort after award such that it exceeds 70 percent of the total cost of the work to be performed under its subcontract. The notification shall identify the revised cost of the subcontract effort and shall include verification that the subcontractor will provide added value as related to the work to be performed by the lower-tier subcontractor(s).

(d) Recovery of excessive pass-through charges. If the Contracting Officer determines that excessive pass-through charges exist;

(1) For other than fixed-price contracts, the excessive pass-through charges are unallowable in accordance with the provisions in FAR subpart 31.2; and

(2) For applicable DoD fixed-price contracts, as identified in 15.408(n)(2)(i)(B), the Government shall be entitled to a price reduction for the amount of excessive pass-through charges included in the contract price.

(e) Access to records.

(1) The Contracting Officer, or authorized representative, shall have the right to examine and audit all the Contractor's records (as defined at FAR 52.215-2(a)) necessary to determine whether the Contractor proposed, billed, or claimed excessive pass-through charges.

(2) For those subcontracts to which paragraph (f) of this clause applies, the Contracting Officer, or authorized representative, shall have the right to examine and audit all the subcontractor's records (as defined at FAR 52.215-2(a)) necessary to determine whether the subcontractor proposed, billed, or claimed excessive pass-through charges.

(f) Flowdown. The Contractor shall insert the substance of this clause, including this paragraph (f), in all cost-reimbursement subcontracts under this contract that exceed the simplified acquisition threshold, except if the contract is with DoD, then insert in all cost-reimbursement subcontracts and fixed-price subcontracts, except those identified in 15.408(n)(2)(i)(B)(2), that exceed the threshold for obtaining cost or pricing data in accordance with FAR 15.403-4.

### **I.3 52.216-7 ALLOWABLE COST AND PAYMENT (JUN 2011)**

(a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) Subpart 31.3 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(2) Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act. Interim payments made prior to the final payment under the contract are contract financing payments, except interim payments if this contract contains Alternate I to the clause at 52.232-25.

(3) The designated payment office will make interim payments for contract financing on the day after the designated billing office receives a proper payment request.

In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

(b) Reimbursing costs.

(1) For the purpose of reimbursing allowable costs (except as provided in paragraph (b)(2) of this clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only--

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for--

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made-

(1) In accordance with the terms and conditions of a subcontract or invoice; and

(2) Ordinarily within 30 days of the submission of the Contractor's payment request to the Government;

(B) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check, or other forms of payment to subcontractors.

(2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless-

(i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's indirect costs for payment purposes).

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns. A small business concern may receive more frequent payments than every 2 weeks.

(d) Final indirect cost rates.

(1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal

years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data.

(ii) The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.

(iii) An adequate indirect cost rate proposal shall include the following data unless otherwise specified by the cognizant Federal agency official:

(A) Summary of all claimed indirect expense rates, including pool, base, and calculated indirect rate.

(B) General and Administrative expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts).

(C) Overhead expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) for each final indirect cost pool.

(D) Occupancy expenses (intermediate indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) and expense reallocation to final indirect cost pools.

(E) Claimed allocation bases, by element of cost, used to distribute indirect costs.

(F) Facilities capital cost of money factors computation.

(G) Reconciliation of books of account (i.e., General Ledger) and claimed direct costs by major cost element.

(H) Schedule of direct costs by contract and subcontract and indirect expense applied at claimed rates, as well as a subsidiary schedule of Government participation percentages in each of the allocation base amounts.

(I) Schedule of cumulative direct and indirect costs claimed and billed by contract and subcontract.

(J) Subcontract information. Listing of subcontracts awarded to companies for which the contractor is the prime or upper-tier contractor (include prime and subcontract numbers; subcontract value and award type; amount claimed during the fiscal year; and the subcontractor name, address, and point of contact information).

(K) Summary of each time-and-materials and labor-hour contract information, including labor categories, labor rates, hours, and amounts; direct materials; other direct costs; and, indirect expense applied at claimed rates.

(L) Reconciliation of total payroll per IRS form 941 to total labor costs distribution.

(M) Listing of decisions/agreements/approvals and description of accounting/organizational changes.

(N) Certificate of final indirect costs (see 52.242-4, Certification of Final Indirect Costs).

(O) Contract closing information for contracts physically completed in this fiscal year (include contract number, period of performance, contract ceiling amounts, contract fee computations, level of effort, and indicate if the contract is ready to close).

(iv) The following supplemental information is not required to determine if a proposal is adequate, but may be required during the audit process:

(A) Comparative analysis of indirect expense pools detailed by account to prior fiscal year and budgetary data.

(B) General Organizational information and Executive compensation for the five most highly compensated executives. See 31.205-6(p). Additional salary reference information is available at [http://www.whitehouse.gov/omb/procurement\\_index\\_exec\\_comp/](http://www.whitehouse.gov/omb/procurement_index_exec_comp/).

(C) Identification of prime contracts under which the contractor performs as a subcontractor.

(D) Description of accounting system (excludes contractors required to submit a CAS Disclosure Statement or contractors where the description of the accounting system has not changed from the previous year's submission).

(E) Procedures for identifying and excluding unallowable costs from the costs claimed and billed (excludes contractors where the procedures have not changed from the previous year's submission).

(F) Certified financial statements and other financial data (e.g., trial balance, compilation, review, etc.).

(G) Management letter from outside CPAs concerning any internal control weaknesses.

(H) Actions that have been and/or will be implemented to correct the weaknesses described in the management letter from subparagraph (G) of this section.

(I) List of all internal audit reports issued since the last disclosure of internal audit reports to the Government.

(J) Annual internal audit plan of scheduled audits to be performed in the fiscal year when the final indirect cost rate submission is made.

(K) Federal and State income tax returns.

(L) Securities and Exchange Commission 10-K annual report.

(M) Minutes from board of directors meetings.

(N) Listing of delay claims and termination claims submitted which contain costs relating to the subject fiscal year.

(O) Contract briefings, which generally include a synopsis of all pertinent contract provisions, such as: Contract type, contract amount, product or service(s) to be provided, contract performance period, rate ceilings, advance approval requirements, pre-contract cost allowability limitations, and billing limitations.

(v) The Contractor shall update the billings on all contracts to reflect the final settled rates and update the schedule of cumulative direct and indirect costs claimed and billed, as required in paragraph (d)(2)(iii)(I) of this section, within 60 days after settlement of final indirect cost rates.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(5) Within 120 days (or longer period if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract, the Contractor shall submit a completion invoice

or voucher to reflect the settled amounts and rates. The completion invoice or voucher shall include settled subcontract amounts and rates. The prime contractor is responsible for settling subcontractor amounts and rates included in the completion invoice or voucher and providing status of subcontractor audits to the contracting officer upon request.

(6)(i) If the Contractor fails to submit a completion invoice or voucher within the time specified in paragraph (d)(5) of this clause, the Contracting Officer may--

(A) Determine the amounts due to the Contractor under the contract; and

(B) Record this determination in a unilateral modification to the contract.

(ii) This determination constitutes the final decision of the Contracting Officer in accordance with the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates--

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be (1) reduced by amounts found by the Contracting Officer not to constitute allowable costs or (2) adjusted for prior overpayments or underpayments.

(h) Final payment. (1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(5) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver--

(i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except--

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and



(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

#### **I.4 52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)**

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within ten (10) days of contract expiration.

#### **I.5 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)**

(a) The Government may extend the term of this contract by written notice to the Contractor within ten (10) days prior to contract expiration; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least fifteen (15) 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 clause.

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

#### **I.6 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (APR 2012)**

(a) Definitions. As used in this clause-

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall represent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts-

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall represent its size status in accordance with the size standard in effect at the time of this representation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/content/table-small-business-size-standards>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the rerepresentation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following representation and submit it to the contracting office, along with the contract number and the date on which the representation was completed:

The Contractor represents that it [ ] is, [ ] is not a small business concern under NAICS Code assigned to contract number NRC-HQ-12-C-04-0066.

[Contractor to sign and date and insert authorized signer's name and title].

## **I.7 52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT (DEC 2010)**

(a) During the term of this contract, the Contractor shall post an employee notice, of such size and in such form, and containing such content as prescribed by the Secretary of Labor, in conspicuous places in and about its plants and offices where employees covered by the National Labor Relations Act engage in activities relating to the performance of the contract, including all places where notices to employees are customarily posted both physically and electronically, in the languages employees speak, in accordance with 29 CFR 471.2(d) and (f).

(1) Physical posting of the employee notice shall be in conspicuous places in and about the Contractor's plants and offices so that the notice is prominent and readily seen by employees who are covered by the National Labor Relations Act and engage in activities related to the performance of the contract.

(2) If the Contractor customarily posts notices to employees electronically, then the Contractor shall also post the required notice electronically by displaying prominently, on any Web site that is maintained by the Contractor and is customarily used for notices to employees about terms and conditions of employment, a link to the Department of Labor's Web site that contains the full text of the poster. The link to the Department's Web site, as referenced in (b)(3) of this section, must read, "Important Notice about Employee Rights to Organize and Bargain Collectively with Their Employers."

(b) This required employee notice, printed by the Department of Labor, may be-

(1) Obtained from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW., Room N-5609, Washington, DC 20210, (202) 693-0123, or from any field office of the Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Provided by the Federal contracting agency if requested;

(3) Downloaded from the Office of Labor-Management Standards Web site at <http://www.dol.gov/olms/regs/compliance/EO13496.htm>; or

(4) Reproduced and used as exact duplicate copies of the Department of Labor's official poster.

(c) The required text of the employee notice referred to in this clause is located at Appendix A, Subpart A, 29 CFR Part 471.

(d) The Contractor shall comply with all provisions of the employee notice and related rules, regulations, and orders of the Secretary of Labor.

(e) In the event that the Contractor does not comply with the requirements set forth in paragraphs (a) through (d) of this clause, this contract may be terminated or suspended in whole or in part, and the Contractor may be suspended or debarred in accordance with 29 CFR 471.14 and subpart 9.4. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 471, which implements Executive Order 13496 or as otherwise provided by law.

(f) Subcontracts.

(1) The Contractor shall include the substance of this clause, including this paragraph (f), in every subcontract that exceeds \$10,000 and will be performed wholly or partially in the United States, unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 3 of Executive Order 13496 of January 30, 2009, so that such provisions will be binding upon each subcontractor.

(2) The Contractor shall not procure supplies or services in a way designed to avoid the applicability of Executive Order 13496 or this clause.

(3) The Contractor shall take such action with respect to any such subcontract as may be directed by the Secretary of Labor as a means of enforcing such provisions, including the imposition of sanctions for noncompliance.

(4) However, if the Contractor becomes involved in litigation with a subcontractor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

**I.8 52.232-22 LIMITATION OF FUNDS (APR 1984)**

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

(e) If, after notification, additional funds are not allotted by the end of the period specified in the Schedule or another agreed-upon date, upon the Contractor's written request the Contracting Officer will terminate this contract on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

(f) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause--

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to this contract; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of--

(i) The amount then allotted to the contract by the Government or;

(ii) If this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, until the Contracting Officer notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to this contract.

(g) The estimated cost shall be increased to the extent that (1) the amount allotted by the Government or, (2) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, exceeds the estimated cost specified in the Schedule. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(h) No notice, communication, or representation in any form other than that specified in paragraph (f)(2) of this clause, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

(i) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of--

(1) The amount previously allotted by the Government or;

(2) If this is a cost-sharing contract, the amount previously allotted by the Government to the contract plus the Contractor's corresponding share, shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that the increase is solely to cover termination or other specified expenses.

(j) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in the Schedule, unless they contain a statement increasing the amount allotted.

(k) Nothing in this clause shall affect the right of the Government to terminate this contract. If this contract is terminated, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(l) If the Government does not allot sufficient funds to allow completion of the work, the Contractor is entitled to a percentage of the fee specified in the Schedule equalling the percentage of completion of the work contemplated by this contract.

## **I.9 52.249-14 EXCUSABLE DELAYS (APR 1984)**

(a) Except for defaults of subcontractors at any tier, the Contractor shall not be in default because of any failure to perform this contract under its terms if the failure arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of these causes are (1) acts of God or of the public enemy, (2) acts of the Government in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance, the failure to perform must be beyond the control and without the fault or negligence of the Contractor. "Default" includes failure to make progress in the work so as to endanger performance.

(b) If the failure to perform is caused by the failure of a subcontractor at any tier to perform or make progress, and if the cause of the failure was beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be deemed to be in default, unless--

(1) The subcontracted supplies or services were obtainable from other sources;

(2) The Contracting Officer ordered the Contractor in writing to purchase these supplies or services from the other source; and

(3) The Contractor failed to comply reasonably with this order.

(c) Upon request of the Contractor, the Contracting Officer shall ascertain the facts and extent of the failure. If the Contracting Officer determines that any failure to perform results from one or more of the causes above, the delivery schedule shall be revised, subject to the rights of the Government under the termination clause of this contract.

**I.10 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates one or more 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. Also, the full text of a clause may be accessed electronically at this/these address(es):

<https://www.acquisition.gov/far/>

**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS****SECTION J - LIST OF ATTACHMENTS**

ATTACHMENT NUMBER	TITLE	DATE	NO. PAGES
1	Billing Instructions	2011	6
2	Sub-Contracting Plan	10/2/2009	3
3	Contractor Spend Plan	2011	8

**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

- i. Work Completed. Provide a general summary description of the services performed or products submitted for the invoice period and specify the section or Contract Line Item Number (CLIN) or SubCLIN in the contract pertaining to the required deliverable(s).
- j. Shipping. Insert weight and zone of shipment, if shipped by parcel post.
- k. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.
- l. Instructions. Include instructions to consignee to notify the Contracting Officer of receipt of shipment.
- m. For Indefinite Delivery contracts, the final invoice/voucher shall be marked "FINAL INVOICE" or "FINAL VOUCHER".
- n. Direct Costs. Insert the amount billed for the following cost elements, adjustments, suspensions, and total amounts, for both the current billing period and for the cumulative period (from contract inception to end date of this billing period).

- (1) Direct Labor. This consists of salaries and wages paid (or accrued) for direct performance of the contract itemized as follows:

<u>Labor Category</u>	<u>Hours Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative Hours Billed</u>
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- (2) Fringe Benefits. This represents fringe benefits applicable to direct labor and billed as a direct cost. Where a rate is used indicate the rate. Fringe benefits included in direct labor or in other indirect cost pools should not be identified here.

- (3) Contractor-acquired property (\$50,000 or more). List each item costing \$50,000 or more and having a life expectancy of more than one year. List only those items of equipment for which reimbursement is requested. For each such item, list the following (as applicable): (a) an item description, (b) manufacturer, (c) model number, (d) serial number, (e) acquisition cost, (f) date of purchase, and (g) a copy of the purchasing document.

- (4) Contractor-acquired property (under \$50,000), Materials, and Supplies. These are equipment other than that described in (3) above, plus consumable materials and supplies. List by category. List items valued at \$1,000 or more separately. Provide the item number for each piece of equipment valued at \$1,000 or more.

- (5) Premium Pay. This enumeration in excess of the basic hourly rate. (Requires written approval of the Contracting Officer.)

- (6) Consultant Fee. The supporting information must include the name, hourly or daily rate of the consultant, and reference the NRC approval (if not specifically approved in the original contract).



**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

(7) **Travel.** Total costs associated with each trip must be shown in the following format:

<u>Start Date</u>		<u>Destination</u>		<u>Costs</u>
From	To	From	To	\$

*(Must include separate detailed costs for airfare, per diem, and other transportation expenses. All costs must be adequately supported by copies of receipts or other documentation.)*

(8) **Subcontracts.** Include separate detailed breakdown of all costs paid to approved subcontractors during the billing period.

(9) **Other Costs.** List all other direct costs by cost element and dollar amount separately.

o. **Indirect Costs (Overhead and General and Administrative Expense).** Cite the formula (rate and base) in effect in accordance with the terms of the contract, during the time the costs were incurred and for which reimbursement is requested.

p. **Fixed-Fee.** If the contract provides for a fixed-fee, it must be reimbursed as indicated in the contract. Cite the formula or method of computation. Include this information as it applies to individual task orders as well.

(1) The NRC will withhold payment of 15% of the negotiated contract fixed-fee amount, not to exceed \$100,000.

(2) If the fee withholding amount has reached \$100,000, the contractor may resume billing the NRC for the balance of its fee under subsequent invoices for work completed.

(3) Any fee amounts withheld by the NRC will be paid to the contractor during contract closeout in increments, following the submission/settlement of indirect rate proposals in accordance with FAR 52.216-8 (JUN 2011).

q. **Total Amount Billed.** Insert columns for total amounts for the current and cumulative periods.

r. **Adjustments.** Insert columns for any adjustments, including outstanding suspensions for deficient or defective products or nonconforming services, for the current and cumulative periods.

s. **Grand Totals.**

**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

**3. Sample Invoice/Voucher Information**

Sample Invoice/Voucher Information (Supporting Documentation must be attached)

This invoice/voucher represents reimbursable costs for the billing period from \_\_\_\_\_ through \_\_\_\_\_.

		<u>Amount Billed</u>	
		<u>Current Period</u>	<u>Cumulative</u>
<b>(a)</b>	<b><u>Direct Costs</u></b>		
(1)	Direct labor	\$ _____	\$ _____
(2)	Fringe benefits (% of direct labor)	\$ _____	\$ _____
(3)	Government property (\$50,000 or more)	\$ _____	\$ _____
(4)	Government property, Materials, and Supplies (under \$50,000 per item)	\$ _____	\$ _____
(5)	Premium pay (NRC approved overtime)	\$ _____	\$ _____
(6)	Consultants Fee	\$ _____	\$ _____
(7)	Travel	\$ _____	\$ _____
(8)	Subcontracts	\$ _____	\$ _____
(9)	Other costs	\$ _____	\$ _____
	Total Direct Costs:	\$ _____	\$ _____

**(b) Indirect Costs (provide the rate information applicable to your firm)**

(10)	Overhead ____ % of _____ (Indicate Base)	\$ _____	\$ _____
(11)	General and Administrative (G&A) ____ % of _____ (Indicate Base)	\$ _____	\$ _____
	Total Indirect Costs:	\$ _____	\$ _____

**(c) Fixed-Fee:**

- (12) Fixed-Fee Calculations:
- Total negotiated contract fixed-fee percent \_\_\_\_ and amount \$ \_\_\_\_\_
  - 85% allowable fee amount \$ \_\_\_\_\_
  - Cumulative fee billed on prior invoices \$ \_\_\_\_\_
  - Fee due this invoice (*not to exceed 85% of fee earned based upon negotiated contract fee percentage*) \$ \_\_\_\_\_

Note: The fee balance withheld by NRC may not exceed \$100,000.

Total Fixed-Fee:	\$ _____	\$ _____
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**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

(d)	<b>Total Amount Billed</b>	\$ _____	\$ _____
(e)	<b>Adjustments (+/-)</b>	\$ _____	\$ _____
(f)	<b>Grand Total</b>	\$ _____	\$ _____

(The invoice/voucher format provided above must include information similar to that included below in the following to ensure accuracy and completeness.)

**SAMPLE SUPPORTING INFORMATION**

The budget information provided below is for format purposes only and is illustrative.

Cost Elements:

1) Direct Labor - \$2,400

<u>Labor Category</u>	<u>Hours Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative Hours Billed</u>
Senior Engineer I	100	\$14.00	\$1,400	975
Engineer	50	\$10.00	\$ 500	465
Computer Analyst	100	\$ 5.00	\$ 500	320
			\$2,400	1,760 hrs.

2) Fringe Benefits - \$480

Fringe @ 20% of Direct Salaries

<u>Labor Category</u>	<u>Salaries</u>	<u>Fringe Amount</u>
Senior Engineer I	\$1,400	\$280
Engineer	\$ 500	\$100
Computer Analyst	\$ 500	\$100
	\$2,400	\$480

3) Government-furnished and contractor-acquired property (\$50,000 or more) - \$60,000

Prototype Spectrometer - item number 1000-01 = \$60,000

4) Government-furnished and contractor-acquired property (under \$50,000), Materials, and Supplies - \$2,000

10 Radon tubes @ \$110.00	=	\$1,100
6 Pairs Electrostatic gloves @ \$150.00	=	\$ 900

**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

\$2,000

5) Premium Pay - \$150

Walter Murphy - 10 hours @ \$10.00 Per Hour (Reg. Pay) = \$100 x 1.5 OT rate = \$150  
(EX: Premium pay for this individual was approved and authorized under this contract by the NRC Contracting Officer by letter dated 6/1/2011.)

6) Consultants' Fee - \$100

Dr. Carney - 1 hour fully-burdened @ \$100 = \$100

7) Travel - \$2,640

(i) Airfare: (2 Roundtrip trips for 1 person @ \$300 per r/t ticket)

<u>Start Date</u>	<u>End Date</u>	<u>Days</u>	<u>From</u>	<u>To</u>	<u>Cost</u>
4/1/2011	4/7/2011	7	Philadelphia, PA	Wash, D.C.	\$300
7/1/2011	7/8/2011	8	Philadelphia, PA	Wash, D.C.	\$300

(ii) Per Diem: \$136/day x 15 days = \$2,040

8) Subcontracting - \$30,000

Company A	= \$10,000
Company B	= <u>\$20,000</u>
	\$30,000

(EX: Subcontracts for Companies A & B were consented to by the Contracting Officer by letter dated 6/15/2011.)

9) Other Costs - \$5,100

Honorarium for speaker at American Nuclear Society conference = \$5,000  
*Nuclear Planet Journal* subscription fee = \$100

10) Overhead Expense - \$41,148

Overhead @ 40% of Total Direct Costs

11) General and Administrative (G&A) Expense - \$22,784

G&A @ 20% of Total Costs, excluding subcontracts and consultants

12) Fixed-Fee - \$8,218

Fixed-Fee applied to Total Costs @ 5%

**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

Fixed-Fee Calculations:

- i. Total contract fixed-fee \$100,000
- ii. 85% allowable fee \$85,000
- iii. Cumulative fee billed on prior invoices \$85,000
- iv. Fee due this invoice (*not to exceed 85% of fee earned based upon negotiated contract fee percentage*) \$8,218

Total Amount Billed	\$175,020
Adjustments (+/-)	<u>- 8,218</u>
Grand Total	\$166,802

# Master Subcontracting Plan

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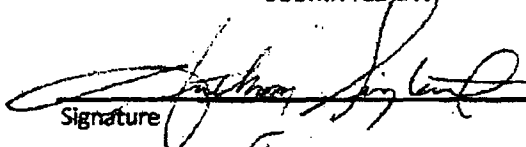


# UCSD

THIS MASTER PLAN IS APPROVED FOR THE PERIOD OF:  
01 OCTOBER 2009 TO 01 SEPTEMBER 2012

SUBMITTED BY:

APPROVED BY:

  
Signature

Anthony Singleton  
UCSD  
Chief Small Business Officer

  
Signature

Veronica Y. Lacey  
ONR  
Administrative Contracting Officer

Date: 10/2/09

Date: 10/2/09

**FAR 19.704 (a) (11) (b) SUBCONTRACTING PLAN REQUIREMENTS.** A master plan, when incorporated in an individual plan, shall apply to that contract throughout the life of the contract.



**UNIVERSITY OF CALIFORNIA, SAN DIEGO**  
**MASTER SUBCONTRACTING PLAN**  
FOR PUBLIC LAW 95-507, 103-355, 105-135 and [106-50]

1/4/2011

**Contractor:**

The Regents of the University of California  
C/O Office of Contract and Grant Administration  
9500 Gilman Drive 0934  
La Jolla, CA 92093-0934

**Contract Number:**

NRC-HQ-11-R-04-00011

**Research Title:**

Investigation of Lateral Earth Pressures on Foundation Walls and Floors During Seismic Events

**Period of Performance:**

July 1, 2011 to June 30, 201

**Principal Investigator:**

Ahmed Elgamal

**Department:**

Structural Engineering

**Authorized University Representative:**

Anthony Singleton, Manager  
Small Business Development Office

**Administrative Contracting Officer:**

Veronica Y. Lacey  
Office of Naval Research  
140 Sylvester Road, Bldg 140, Rm. 218  
San Diego, CA 92106-3521

The Master Small Business Subcontracting Plan and Supplement A are submitted in accordance with Public Law 95-507, 103-355, 105-135 Historically Underutilized Business Zone Act of 1997, and the Veteran Entrepreneurship and Small Business Development Act of 1999, P.L. 106-50 as implemented by the Federal Acquisition Regulation 19.702, the Defense Supplement thereto, Public Law 100-180 and 103-337.

### 1. Goals

It is the intent of the University of California at San Diego and its organizational entities to seek out and encourage small business (SB), small disadvantaged business (SDB) businesses owned and controlled by socially and economically disadvantaged individuals, women-owned business concerns (WOSB), Historically Black Colleges and Universities/Minority Institutions (HBCU/MI), historically underutilized business zone (HUBZone), veteran-owned small business concerns (VOSB) and service-disabled veteran-owned small business (SDVOSB), to the maximum extent practicable consistent when developing each solicitation that exceed \$550,000 and will be expressed in terms of percentages and dollars of total planned subcontracting using Supplement A. Goals for each solicitation will also include a description of the principal products and services to be purchased from each of the small business entities. (Please note: Subcontracting amounts must not include University system recharges.)

If assistance is needed to locate small business sources, contact the Small Business Office at [sbdo@ucsd.edu](mailto:sbdo@ucsd.edu) or 858-534-SBDO (7236).

*See Supplement A (Budget Summary, last page) for principal subcontracting areas and goals.*

### 2. Method for Developing Goals

Small business subcontracting goals are developed through consultation between the university's Small Business Development Office (SBDO) and the Principal Investigator. As needed to facilitate establishment of the goals, the SBDO and PI shall utilize the expertise of the research administrator and procurement professionals, utilize market research tools, and shall consider past experience regarding the availability of small businesses to fulfill specific requirements in the area of research or supporting requirements.

The capabilities and past performance of the SB/SDB shall be considered in determining whether or not to include the SB/SDB in the goals. Qualified small, disadvantaged, women-owned, veteran-owned, service-disabled veteran-owned and HUBzone firms shall be used to meet program goals whenever possible. Reasonable goals are established based on the determination of the type and value of the subcontract and the availability of qualified firms.

### 3. Source Lists

Source lists utilized in identifying and making the determinations in paragraph 3 above are as follows:

- Efforts to obtain all concerns were establish from outreach programs from the community
- Contacting minority and small business trade associations
- Certified HUBZone Concerns <https://eweb1sp.sba.gov/hubzone/internet/index.cfm>
- Central Contractor Registration (CCR) <http://www.ccr.gov/>
- Online Representations and Certifications Application (ORCA) <https://orca.bpn.gov/>
- SBA - Dynamic Small Business Search [http://dsbs.sba.gov/dsbs/search/dsp\\_dsbs.cfm](http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm)
- State of California Certified Small Business and DVBE Services <http://www.pd.dgs.ca.gov/smbus/default.htm>
- Attending small, minority, and women-owned business procurement conferences and trade fairs
- Establishing, maintaining and using small, HUBZone small, small disadvantaged, women-owned small, veteran-owned small, and service-disabled veteran-owned small business source lists, guides and other data for soliciting subcontracts
- Monitoring activities to evaluate compliance with the subcontracting plan

### 4. Indirect Cost

Indirect and overhead costs are not included in the goals.



5. Departmental Plan Administrator

The Departmental Plan Administrator is responsible for administering the subcontracting plan. His/her duties are as follows:

- a. Assure inclusion of small business, small disadvantaged business, women-owned business, Historically Black Colleges and Universities/Minority Institutions, historically underutilized business zone, veteran-owned small business and service-disabled veteran-owned small business concerns will have maximum practicable opportunity in all solicitations for products or services which they are capable of providing;
- b. Assure that the University meets the commitments specified in this plan, his/her related duties will include:
  - i. In support of the Small Business Office, establishing and maintaining source lists of potential small business concerns, small disadvantaged business concerns, women-owned business concerns, Historically Black Colleges and Universities/Minority Institutions, historically underutilized business zone, veteran-owned small business concerns and service-disabled veterans, which are capable or potentially capable of providing the goods and services required for this contract.
  - ii. Actively seeking out such business concerns. Participate in trade fairs, meetings, and seminars and maintain records of such participation.
  - iii. Maintaining records to show the University's performance with regards to the goals established by this plan.
- c. Monitoring the company's performance and making any adjustments necessary to achieve the subcontract plan goals; and submitting report explanations for lack of subcontract performance (requirement for the preparation and submission of ISR and SSR subcontracting reports):
  - i. Provide a short narrative explanation if SB, SDB, WOSB, VOSBs, SDVOSBs, or HUBZone SB accomplishments for the reporting period of performance was not met.
  - ii. For a final report, provide a short narrative explanation if one or more of the goals was not met.

6. Subcontract Program Administrator

The University recognizes its responsibility to assure that small business concerns, small disadvantaged business concerns, women-owned business concerns, Historically Black Colleges and Universities/Minority Institutions, historically underutilized business zone, veteran-owned small business concerns and service-disabled veterans-owned small business concerns have maximum practicable opportunity to compete for it subcontracts. To that end, the University provides the services of The Office of Small Business Development to assist the Subcontract Plan Administrator and University management in attaining the goals as set forth.

The following University of California, San Diego employee will administer the Small Business Program:

Anthony Singleton  
UCSD Small Business Development Office - 0914  
La Jolla, CA 92093-0914  
P: 858.534.7236 / F: 858.822.0064

This individual's specific duties, as they relate to the firm's subcontracting program, are as follows:

General overall responsibility for this company's Small Business Program, to include the development, preparation, and execution of individual subcontracting plans, and for monitoring performance relative to contractual subcontracting requirements contained in this plan, and including, but not limited to:

- a. Ensuring that procurement packages are structured to permit SB, SDVOSB, VOSB, HUBZone SB, SDB, and WOSB concerns to participate to the maximum extent possible.
- b. Assuring inclusion of SB, SDVOSB, VOSB, HUBZone SB, SDB and WOSB concerns in all solicitations for products or services which they are capable of providing.
- c. Ensuring the establishment and maintenance of records of award activity.
- d. Attending or arranging for attendance of company counselors at Business Opportunity Workshops, Minority Business Enterprise Seminars, Trade Fairs, etc.
- e. Conducting or arrange training for purchasing personnel pursuant to the intent of P.L. 95-507.
- f. Monitoring attainment of proposed goals.
- g. Preparing and submitting required periodic subcontracting reports.
- h. Coordinating contractor's activities during the conduct of compliance reviews by Federal agencies.
- i. Coordinating the conduct of contractor's activities involving its small and small disadvantaged business subcontracting program.

7. Assurances and Flow down

The university agrees to include the Federal Acquisition Regulation (FAR) clause 52.219-8 entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities. All subcontractors (except SB Concerns) who receive subcontracts in excess of \$550,000 will be required to adopt and comply with a subcontracting plan similar to the plan required by FAR 52.219-9, entitled "Small Business Subcontracting Plan."

The acceptability of percentage goals shall be determined on a case-by-case basis depending on the supplies/services involved, the availability of potential small business, veteran-owned small business, service-disabled veteran-owned small business, women-owned small business, historically underutilized business zone small business, small disadvantaged business, and historically black college and university/minority institution subcontractors, and prior experience. Upon approval and implementation, plans will be monitored through the submission of periodic reports, and/or, as time and availability of funds permit, periodic visits to subcontracting program participants.

9. Opportunities for Small Businesses to Compete

The University will make a concerted effort in accordance with its stated policy requirements, to ensure that small business concerns, small disadvantaged business concerns businesses owned and controlled by socially and economically disadvantaged individuals, women-owned business concerns, Historically Black Colleges and Universities/Minority Institutions, historically underutilized business zone, veteran-owned small business concerns and service-disabled veteran-owned small business concerns will have an equitable opportunity to compete for subcontracts under this plan. This will be accomplished in the following manner:

- a) Potential vendor source lists were identified by referring to the Central Contractor Registration (CCR) database and the SBA/HUBZone database.
- b) Where an adequate number of such business concerns is not available, the University will, through liaison with the Small Business Administration, minority business organizations, and other trade and professional associations and industry groups, encourage participation of prospective small business contractors.

- c) Specific performance responsibilities will be assigned to key University personnel charged with ensuring the University achieves program objectives.
- d) Consistent with the University's contract obligations and customer (Principal Investigator) requirements, the University will assist such business concerns by arranging solicitation requirements such as allowing reasonable time for the small business concerns to prepare quotations, reasonable procurement quantities (where feasible), specifications and delivery schedules (unless such will impact the contract requirements), etc., in order to facilitate the participation of such concerns.
- e) A special effort will be made to identify and use such business concerns in this contract, even in a small way, so that they may be in a better position to compete for subcontracts to other divisions of the University whenever such action might result in another subcontracting opportunity.
- f) The contractor agrees that Federal Acquisition Regulation clause 52.219-8 entitled "Utilization of Small Business Concerns" will be included in all subcontracts which offer further subcontracting opportunities, and all subcontractors, except SB concerns, who receive subcontracts in excess of \$650,000, will be required to adopt and comply with a subcontracting plan similar to the plan required by Federal Acquisition Regulation 52.219-9, entitled "Small Business Subcontracting Plan".

#### 10. Reports

The offeror University of California at San Diego agrees to submit such periodic reports and cooperate in any studies or surveys as may be required by the contracting agency or the Small Business Administration in order to determine the extent of compliance by the bidder University of California at San Diego, with the subcontracting plan and with the clause entitled "Utilization of Small Business Concerns" contained in the contract.

- a) The University of California San Diego shall submit the Individual Subcontracting Reports (ISRs) and Summary Subcontracting Reports (SSRs) via electronic Subcontracting Reporting System (eSRS) website <https://esrs.gov>, or the Standard Form (SF) 294, Subcontracting Report for Individual Contracts and/or Standard Form (SF) 295, Summary Subcontract Report, in accordance with the instructions on the forms, and shall ensure that its subcontractors agree to submit 294 and 295 as required by (Federal Acquisition Regulation) section 52.219-9 and will adhere to section 52.219-8
- b) In addition, the University will cooperate in audits, studies or surveys which may be conducted by the contracting agency or the Small Business Administration in order to determine the extent of compliance with the subcontracting plan.

#### 11. Records

The offeror University of California at San Diego agrees that it will maintain at least the following types of records to document compliance with this subcontracting plan,

- a. Source concerns. list, guides, and other data identifying SB, SDVOSB, VOSB, HUBZone SB, SDB, and WOSB concerns.
- b. Organizations contacted to locate SB, SDVOSB, VOSB, HUBZone SB, SDB, and WOSB
- c. On a contract-by-contract basis, records on all subcontract solicitations over \$100,000, indicating for each solicitation (1) whether SB concerns were solicited, and if not, why not; (2) whether SDVOSB concerns were solicited, and if not, why not; (3) VOSB concerns were solicited, and if not, why not; (4) whether HUBZone SB concerns were solicited, and if not, why not; (5) SDB concerns were solicited, and if not, why not; (6) whether WOSB concerns were solicited, and if not, why not, and (7) reasons for the failure of solicited SB, SDVOSB, VOSB, HUBZone SB, SDB, and WOSB concerns to receive the subcontract award.

These records will be maintained on a regular basis. Copies of the subcontract status reports will be distributed to relevant University individuals and members of management in order to indicate the University's progress in meeting its subcontracting plan goals.

Attachment

A) *See Supplement A (Budget Summary, last page) for principal subcontracting areas and goals.*

**Supplement A - Budget Summary**  
**Subcontracting Opportunities: Utilization of Small Business Concerns**

Contract Number: **NRC-HQ-11-R-04-00011**  
 Contractor Name: **Nuclear Regulatory Commission**  
 Status: **New**  
 Project Title: **Investigation of Lateral Earth Pressures on Foundation Walls and Floors During Seismic Events**  
 Principal Investigator: **Ahmed Elgamal**  
 Program Administrator: **Anthony Singleton, Small Business Development Office**  
 Prime Contract Amount: **[REDACTED]**  
 From: **July 1, 2011**  
 To: **June 30, 2015**

**Subcontracting Goal's:**

- a.) **SMALL BUSINESS ENTERPRISE, (SBE)**
- b.) **SMALL DISADVANTAGED BUSINESS ENTERPRISE, (SDB)**
- c.) **WOMEN BUSINESS ENTERPRISE, (WBE)**
- d.) **HISTORICALLY BLACK COLLEGES AND UNIVERSITIES AND MINORITY INSTITUTION, (HBCU/MI)**
- e.) **HISTORICALLY UNDERUTILIZED BUSINESS ZONE, (HUBZONE)**
- f.) **VETERAN OWNED SMALL BUSINESS, (VOSB)**
- g.) **SERVICE-DISABLED VETERAN OWNED SMALL BUSINESS, (SDVOSB)**

**Sub Type Total (b - g):**

**Sub Total (a):**

**TO SB & SDB,WBE,HBCU/MI,HUBZ,VOSB & SDVOSB:**

**TO LB & NON-PROFIT:**

Subcontract Dollars	
1.87%	\$13,820
0.00%	\$0
1.87%	\$13,820
0.00%	\$0
0.00%	\$0
0.00%	\$0
0.00%	\$0
0.00%	\$0
1.87%	\$13,820
86.7%	\$13,820
1.74%	\$27,640
90.26%	\$738,578
<b>Total Subcontract Outsourcing Amount:</b>	<b>100.00%</b>

**Subcontracting Areas:**

- 1.) Materials and Supplies
- 2.) Equipment
- 3.) Travel
- 4.) Other Expenses

**Total SBE/DBE/WBE/SD/VOSB/HBCU/MI & HUBZONE**

Limited Opportunities which are project specific are based on Travel Airfare only.

Outsource opportunities include:

	SBE	DBE	WBE	HBCU/MI	HUB ZONE	VOSB	SDVOSB
1.) Materials and Supplies	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.) Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.) Travel	\$13,820	\$0	\$13,820	\$0	\$0	\$0	\$0
4.) Other Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total SBE/DBE/WBE/SD/VOSB/HBCU/MI &amp; HUBZONE</b>	<b>\$13,820</b>	<b>\$0</b>	<b>\$13,820</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## **Billing Instructions for Cost-Reimbursable Contracts Attachment 1**

**General:** During performance and through final payment of this contract, the contractor is responsible for the accuracy and completeness of data within the Central Contractor Registration (CCR) database and for any liability resulting from the Government's reliance on inaccurate or incomplete CCR data.

The contractor shall prepare invoices/vouchers for reimbursement of costs in the manner and format described herein. FAILURE TO SUBMIT INVOICES/VOUCHERS IN ACCORDANCE WITH THESE INSTRUCTIONS MAY RESULT IN REJECTION OF THE INVOICE/VOUCHER AS IMPROPER.

**Standard Forms:** Reimbursement requests shall be submitted on the payee's letterhead, invoice/voucher, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal--Continuation Sheet."

**Electronic Invoice/Voucher Submissions:** The preferred method of submitting invoices/vouchers is electronically to the U.S. Department of the Interior's National Business Center, via email to: [NRCPayments\\_NBCDenver@NBC.gov](mailto:NRCPayments_NBCDenver@NBC.gov).

**Hard-Copy Invoice/Voucher Submissions:** If you submit a hard-copy of the invoice/voucher, a signed original and supporting documentation shall be submitted to the following address:

Department of the Interior  
National Business Center  
Attn: Fiscal Services Branch - D2770  
7301 West Mansfield Avenue  
Denver, CO 80235-2230

**Purchase of Capital Property:** *(\$50,000 or more with life of one year or longer)*

Contractors must report to the Contracting Officer, electronically, any capital property acquired with contract funds having an initial cost of \$50,000 or more, in accordance with procedures set forth in NRC Management Directive (MD) 13.1, IV, C – "Reporting Requirements" (revised 2/16/2011).

**Agency Payment Office:** Payment will continue to be made by the office designated in the contract in Block 12 of the Standard Form 26, or Block 25 of the Standard Form 33, whichever is applicable.

**Frequency:** The contractor shall submit requests for reimbursement once each month, unless otherwise authorized by the Contracting Officer.

**Format:** Invoices/Vouchers shall be submitted in the format depicted on the attached sample form entitled "Invoice/Voucher for Purchases and Services Other Than Personal". Alternate formats are permissible only if they address all requirements of the Billing Instructions. The instructions for preparation and itemization of the invoice/voucher are included with the sample form.

**Task Order Contracts:** The contractor must submit a separate invoice/voucher for each individual task order with detailed cost information. This includes all applicable cost elements and other items discussed in paragraphs (a) through (s) of the attached instructions. In

**BILLING INSTRUCTIONS FOR  
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addition, the invoice/voucher must specify the contract number, and the NRC-assigned task/delivery order number.

**Billing of Costs after Expiration of Contract:** If costs are incurred during the contract period and invoiced after the contract has expired, you must cite the period during which these costs were incurred. To be considered a proper expiration invoice/voucher, the contractor shall clearly mark it "EXPIRATION INVOICE" or "EXPIRATION VOUCHER".

Final invoices/vouchers shall be marked "FINAL INVOICE" or "FINAL VOUCHER".

**Currency:** Invoices/Vouchers must be expressed in U.S. Dollars.

**Supersession:** These instructions supersede previous Billing Instructions for Cost Reimbursement Type Contracts (June 2008).

**BILLING INSTRUCTIONS FOR  
COST REIMBURSEMENT TYPE CONTRACTS (JULY 2011)**

**INVOICE/VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL  
(SAMPLE FORMAT - COVER SHEET)**

**1. Official Agency Billing Office**

Department of the Interior  
National Business Center  
Attn: Fiscal Services Branch - D2770  
7301 West Mansfield Avenue  
Denver, CO 80235-2230

**2. Invoice/Voucher Information**

- a. Payee's DUNS Number or DUNS+4. The Payee shall include the Payee's Data Universal Number (DUNS) or DUNS+4 number that identifies the Payee's name and address. The DUNS+4 number is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the Payee to identify alternative Electronic Funds Transfer (EFT) accounts for the same parent concern.
- b. Payee's Name and Address. Show the name of the Payee as it appears in the contract and its correct address. If the Payee assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Payee shall require as a condition of any such assignment, that the assignee shall register separately in the Central Contractor Registration (CCR) database at <http://www.ccr.gov> and shall be paid by EFT in accordance with the terms of this contract. See Federal Acquisition Regulation 52.232-33(g) Payment by Electronic Funds Transfer - Central Contractor Registration (October 2003).
- c. Contract Number. Insert the NRC contract number (including Enterprise-wide Contract (EWC)), GSA Federal Supply Schedule (FSS), Governmentwide Agency Contract (GWAC) number, or Multiple Agency Contract (MAC) number, as applicable.
- d. Task Order Number. Insert the task/delivery order number (If Applicable). **Do not include more than one task order per invoice or the invoice may be rejected as improper.**
- e. Invoice/Voucher. The appropriate sequential number of the invoice/voucher, beginning with 001 should be designated. Contractors may also include an individual internal accounting number, if desired, in addition to the 3-digit sequential number.
- f. Date of Invoice/Voucher. Insert the date the invoice/voucher is prepared.
- g. Billing Period. Insert the beginning and ending dates (day, month, year) of the period during which costs were incurred and for which reimbursement is requested.
- h. Description of Deliverables. Provide a brief description of supplies or services, quantity, unit cost, and total cost.



## CONTRACTOR SPENDING PLAN (CSP)

(TO BE COMPLETED AS A PART OF THE OFFEROR'S COST PROPOSAL FOR EACH COST REIMBURSEMENT CONTRACT OR INDIVIDUAL TASK ORDER OR FOR ANY CONTRACT OR TASK ORDER MODIFICATION WHICH EXCEEDS \$100,000 AND HAS A PERFORMANCE PERIOD EXCEEDING 6 MONTHS)

Solicitation No.: NRC-HQ-11-R-04-0001

Contract No.: Period of Performance: From: June 1, 2012 To: May 31, 2016

Offeror/Contractor Name: The Regents of the University of California; University of California, San Diego

Total Estimated Costs (including fixed fee,  
if any) of the Proposed Contract/Task Order/  
Modification (to a contract or task order) at  
the time of proposal submission. Does not  
include options. \$ 1,056,687

Provide cost details by month for the total contract/task order/or task order modification

Cost Elements	<u>1st Month</u>	<u>2nd Month</u>	<u>3rd Month</u>	<u>4th Month</u>	<u>5th Month</u>	<u>6th Month</u>	<u>7th Month</u>	<u>8th Month</u>	<u>9th Month</u>
Direct Costs	\$ 37,876.02	\$ 56,942.09	\$ 21,964.65	\$ 17,898.07	\$ 15,785.84	\$ 15,785.84	\$ 15,785.84	\$ 20,147.90	\$ 15,784.93
Indirect Costs	\$ 13,846.27	\$ 8,972.87	\$ 5,857.79	\$ 2,499.59	\$ 1,348.43	\$ 1,348.43	\$ 1,348.43	\$ 1,348.43	\$ 1,347.93
Total Estimated Costs including fixed fee if any	\$ 51,722.29	\$ 65,914.96	\$ 27,822.44	\$ 20,397.66	\$ 17,134.27	\$ 17,134.27	\$ 17,134.27	\$ 21,496.33	\$ 17,132.85
Projected Completion	<u>5%</u>	<u>11%</u>	<u>14%</u>	<u>16%</u>	<u>17%</u>	<u>19%</u>	<u>21%</u>	<u>23%</u>	<u>24%</u>

Cost Elements	<u>10th Month</u>	<u>11th Month</u>	<u>12th Month</u>	<u>13th Month</u>	<u>14th Month</u>	<u>15th Month</u>	<u>16th Month</u>	<u>17th Month</u>	<u>18th Month</u>
Direct Costs	\$ 15,784.93	\$ 17,897.15	\$ 16,427.50	\$ 60,572.17	\$ 46,592.92	\$ 22,588.45	\$ 20,766.67	\$ 20,766.67	\$ 20,766.67
Indirect Costs	\$ 1,347.93	\$ 2,499.09	\$ 1,698.13	\$ 11,043.88	\$ 7,780.43	\$ 1,379.03	\$ 1,380.09	\$ 1,380.09	\$ 1,380.09
Total Estimated Costs including fixed fee if any	\$ 17,132.85	\$ 20,396.25	\$ 18,125.63	\$ 71,616.05	\$ 54,373.35	\$ 23,967.48	\$ 22,146.76	\$ 22,146.76	\$ 22,146.76
Projected Completion	<u>26%</u>	<u>28%</u>	<u>29%</u>	<u>36%</u>	<u>41%</u>	<u>44%</u>	<u>46%</u>	<u>48%</u>	<u>50%</u>

Cost Elements	<u>19th Month</u>	<u>20th Month</u>	<u>21st Month</u>	<u>22nd Month</u>	<u>23rd Month</u>	<u>24th Month</u>	<u>25th Month</u>	<u>26th Month</u>	<u>27th Month</u>
Direct Costs	\$ 24,893.89	\$ 25,128.73	\$ 20,766.67	\$ 20,766.67	\$ 22,877.98	\$ 22,819.56	\$ 33,895.20	\$ 25,851.88	\$ 8,872.19
Indirect Costs	\$ 1,379.59	\$ 1,380.09	\$ 1,380.09	\$ 1,380.09	\$ 1,379.59	\$ 1,752.35	\$ 5,963.83	\$ 6,286.74	\$ 1,314.60
Total Estimated Costs including fixed fee if any	\$ 26,273.47	\$ 26,508.82	\$ 22,146.76	\$ 22,146.76	\$ 24,257.57	\$ 24,571.91	\$ 39,859.03	\$ 32,138.62	\$ 10,186.79
Projected Completion	<u>50%</u>	<u>55%</u>	<u>57%</u>	<u>59%</u>	<u>61%</u>	<u>64%</u>	<u>68%</u>	<u>71%</u>	<u>72%</u>

Cost Elements	<u>28th Month</u>	<u>29th Month</u>	<u>30th Month</u>	<u>31st Month</u>	<u>32nd Month</u>	<u>33rd Month</u>	<u>34th Month</u>	<u>35th Month</u>	<u>36th Month</u>
Direct Costs	\$ 11,408.60	\$ 11,408.60	\$ 11,409.52	\$ 15,771.57	\$ 11,409.52	\$ 11,409.52	\$ 11,409.52	\$ 13,521.74	\$ 12,118.78
Indirect Costs	\$ 1,315.55	\$ 1,315.55	\$ 1,316.06	\$ 1,316.06	\$ 1,316.06	\$ 1,316.06	\$ 1,316.06	\$ 1,316.06	\$ 1,706.15
Total Estimated Costs including fixed fee if any	\$ 12,724.15	\$ 12,724.15	\$ 12,725.57	\$ 17,087.63	\$ 12,725.57	\$ 12,725.57	\$ 12,725.57	\$ 14,837.80	\$ 13,824.94
Projected Completion	<u>73%</u>	<u>74%</u>	<u>75%</u>	<u>77%</u>	<u>78%</u>	<u>79%</u>	<u>80%</u>	<u>82%</u>	<u>83%</u>

Cost Elements	<u>37th Month</u>	<u>38th Month</u>	<u>39th Month</u>	<u>40th Month</u>	<u>41st Month</u>	<u>42nd Month</u>	<u>43rd Month</u>	<u>44th Month</u>	<u>45th Month</u>
Direct Costs	\$ 31,794.14	\$ 25,832.90	\$ 6,235.67	\$ 9,026.49	\$ 9,026.49	\$ 9,026.49	\$ 11,138.72	\$ 13,388.55	\$ 9,026.49
Indirect Costs	\$ 6,077.08	\$ 6,406.55	\$ 1,334.78	\$ 1,336.40	\$ 1,336.40	\$ 1,336.40	\$ 1,336.40	\$ 1,336.40	\$ 1,336.40
Total Estimated Costs including fixed fee if any	\$ 37,871.22	\$ 32,239.46	\$ 7,570.45	\$ 10,362.90	\$ 10,362.90	\$ 10,362.90	\$ 12,475.12	\$ 14,724.95	\$ 10,362.90
Projected Completion	<u>87%</u>	<u>90%</u>	<u>90%</u>	<u>91%</u>	<u>92%</u>	<u>93%</u>	<u>95%</u>	<u>96%</u>	<u>97%</u>

Cost Elements	<u>46th Month</u>	<u>47th Month</u>	<u>48th Month</u>
Direct Costs	\$ 9,026.49	\$ 9,026.49	\$ 9,758.11
Indirect Costs	\$ 1,336.40	\$ 1,336.40	\$ 1,738.79
Total Estimated Costs including fixed fee if any	\$ 10,362.90	\$ 10,362.90	\$11,496.90
Projected Completion	<u>98%</u>	<u>99%</u>	<u>100%</u>

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