

AWARD/CONTRACT		1. THIS CONTRACT IS RATED ORDER UNDER DPAS (15 CFR 350)		RATING N/A		PAGE OF PAGES 1 42	
2. CONTRACT NO. (Proc. Inst. Ident.) NRC-04-07-094		3. EFFECTIVE DATE 08-01-2007		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. RS-RES-06-114/RES-07-094			

5. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: H. (Eddie) Colón, Jr. Mail Stop T-7-I-2 Washington, DC 20555		CODE 3100	6. ADMINISTERED BY (If other than Item 5) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop T-7-I-2 Washington, DC 20555		CODE 3100
--	--	---------------------	--	--	---------------------

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP Code) PURDUE UNIVERSITY 401 S GRANT ST WEST LAFAYETTE IN 479072024		8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)	
		9. DISCOUNT FOR PROMPT PAYMENT N/A	

CODE DUNS #: 072051394		FACILITY CODE	
11. SHIP TO/MARK FOR U.S. Nuclear Regulatory Commission Washington DC 20555		12. PAYMENT WILL BE MADE BY U.S. Nuclear Regulatory Commission Payment Team, Mail Stop T-9-H-4 Attn: (insert contract or order number) Washington DC 20555	

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 76015111205 N6164 252A 31X0200.760 OBLIGATE: \$50,000.00 (FFS Commitment No. RES-C07-221)	
--	--	---	--

15A. ITEM NO.	15B. SUPPLIES/SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	The Contractor shall provide the U.S. Nuclear Regulatory Commission (NRC) with the services described under Section C. "Statement of Work" in accordance with the terms and conditions of this contract. SEE SECTION B. FOR SCHEDULE OF SERVICES PROJECT TITLE: "Thermal-Hydraulic Experimental and Model Development Support for TRACE Code" TYPE OF CONTRACT: Cost-Reimbursement PERIOD OF PERFORMANCE: August 1, 2007 - July 31, 2012				

15G. TOTAL AMOUNT OF CONTRACT	\$2,752,811.00
--------------------------------------	-----------------------

16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
	A	SOLICITATION/CONTRACT FORM			I	CONTRACT CLAUSES	
	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
	C	DESCRIPTION/SPECS./WORK STATEMENT			J	LIST OF ATTACHMENTS	
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
	E	INSPECTION AND ACCEPTANCE			K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	F	DELIVERIES OR PERFORMANCE			L	INSTRS., CONDS., AND NOTICES TO OFFER	
	G	CONTRACT ADMINISTRATION DATA			M	EVALUATION FACTORS FOR AWARD	
	H	SPECIAL CONTRACT REQUIREMENTS					

17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return Two (2) copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications as are attached or incorporated by reference herein. (Attachments are listed herein.)		18. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any condition sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.	
---	--	---	--

19A. NAME AND TITLE OF SIGNER (Type or print) Director, SPS Larry E. Pherson	20A. NAME OF CONTRACTING OFFICER Heriberto Colón, Jr.
---	---

19B. NAME OF CONTRACTOR BY	19C. DATE SIGNED 07/13/2007	20B. UNITED STATES OF AMERICA BY	20C. DATE SIGNED 7/10/2007
--------------------------------------	---------------------------------------	--	--------------------------------------

Table of Contents

PART I - THE SCHEDULE	A-1
SECTION A - SOLICITATION/CONTRACT FORM	A-1
SF 26 AWARD/CONTRACT	A-1
PART I - THE SCHEDULE	B-1
SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS	B-1
B.1 PROJECT TITLE	B-1
B.2 BRIEF DESCRIPTION OF WORK (MAR 1987) ALTERNATE 1 (JUN 1988)	B-1
B.3 CONSIDERATION AND OBLIGATION--TASK ORDERS (AUG 1989) ALTERNATE 1 (JUN 1991)	B-1
SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK	C-1
SECTION D - PACKAGING AND MARKING	D-1
D.1 PACKAGING AND MARKING (MAR 1987)	D-1
SECTION E - INSPECTION AND ACCEPTANCE	E-1
E.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE	E-1
E.2 PLACE OF INSPECTION AND ACCEPTANCE (MAR 1987)	E-1
E.3 QUALITY ASSURANCE	E-1
SECTION F - DELIVERIES OR PERFORMANCE	F-1
F.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE	F-1
F.2 2052.211-70 PREPARATION OF TECHNICAL REPORTS (JAN 1993)	F-1
F.3 2052.211-71 TECHNICAL PROGRESS REPORT (JAN 1993)	F-1
F.4 NRCAR 2052.211-72 FINANCIAL STATUS REPORT (OCT 1999)	F-2
F.5 PLACE OF DELIVERY--REPORTS (JUN 1988)	F-2
F.6 DURATION OF CONTRACT PERIOD (MAR 1987) ALTERNATE 4 (JUN 1988)	F-3
SECTION G - CONTRACT ADMINISTRATION DATA	G-1
G.1 PROJECT OFFICER AUTHORITY (FEB 2004)	G-1
G.2 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT -ALTERNATE 1 (OCT 1999)	G-3
G.3 2052.216-71 INDIRECT COST RATES -ALTERNATE 1 (JAN 1993)	G-3
G.4 2052.216-72 TASK ORDER PROCEDURES (OCT 1999)	G-4
G.5 2052.216-73 ACCELERATED TASK ORDER PROCEDURES (JAN 1993)	G-4
SECTION H - SPECIAL CONTRACT REQUIREMENTS	H-1
H.1 2052.209-72 CONTRACTOR ORGANIZATIONAL CONFLICTS OF INTEREST (JAN 1993)	H-1
H.2 2052.215-70 KEY PERSONNEL (JAN 1993)	H-3
H.3 2052.235-70 PUBLICATION OF RESEARCH RESULTS (OCT 1999)	H-4
H.4 UPDATED STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS	H-5
H.5 2052.235-71 SAFETY, HEALTH, AND FIRE PROTECTION (JAN 1993)	H-5
H.6 2052.242-70 RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL VIEWS (DPVS) (OCT 1999)	H-6
H.7 GOVERNMENT FURNISHED EQUIPMENT/PROPERTY - NONE PROVIDED (JUN 1988)	H-6
H.8 SEAT BELTS	H-6

H.9 2052.242-71 PROCEDURES FOR RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL VIEWS (DPVS) (OCT 1999)	H-6
H.10 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS	H-8
H.11 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS	H-8

PART II - CONTRACT CLAUSESI-1

SECTION I - CONTRACT CLAUSESI-1

I.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE.....	I-1
I.2 52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (SEP 2006) ALTERNATE II (OCT 2001).....	I-3
I.3 52.216-7 ALLOWABLE COST AND PAYMENT (DEC 2002)	I-7
I.4 52.216-18 ORDERING (OCT 1995).....	I-11
I.5 52.216-22 INDEFINITE QUANTITY (OCT 1995).....	I-11
I.6 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)	I-11

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS.....J-1

SECTION J - LIST OF ATTACHMENTSJ-1

PART I - THE SCHEDULE**SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS****B.1 PROJECT TITLE**

The title of this project is as follows:

“Thermal-Hydraulic Experimental and Model Development Support for TRACE Code”

B.2 BRIEF DESCRIPTION OF WORK (MAR 1987) ALTERNATE 1 (JUN 1988)

(a) Brief description of work:

The contractor shall provide the NRC with support in acquiring data and developing and implementing new or improved physical models in the TRACE code.

(b) Orders will be issued for work required by the NRC in accordance with 52.216-18 - Ordering. Only Contracting Officers of the NRC or other individuals specifically authorized under this contract may authorize the initiation of work under this contract. The provisions of this contract shall govern all orders issued hereunder.

B.3 CONSIDERATION AND OBLIGATION--TASK ORDERS (AUG 1989) ALTERNATE 1 (JUN 1991)

(a) The Maximum Ordering Limitation (MOL) for products and services ordered, delivered and accepted under this contract is \$2,752,811.00. The Contracting Officer may place orders with the contractor during the contract period provided the aggregate amount of such orders does not exceed the MOL.

(b) The guaranteed minimum obligated by the Government under this contract is \$50,000.00.

(c) A total estimated cost as well as any fee, if any, will be negotiated for each task order and will be incorporated as a ceiling in the resultant task order. The Contractor shall comply with the provisions of 52.232-20 - Limitation of Cost for fully funded task orders and 52.232-22 - Limitation of Funds for incrementally funded task orders, issued hereunder.

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

Thermal-Hydraulic Experimental and Model Development Support for the TRACE Code

I. BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Regulatory Research (RES) is maintaining and developing the TRAC/RELAP Advanced Computational Engine (TRACE) code, which is a modern thermal-hydraulic system analysis tool. Uses of the TRACE code include analyses of transients in operating reactors, analyses to support resolution of generic issues, evaluation of emergency procedures and accident management strategies, confirmation of licensees' analyses, training exercises for NRC staff, and supporting analyses for the certification of advanced reactor designs.

TRACE is subject to continual development and testing due to its reliance upon empirically based constitutive models. The need for development arises in two ways: a) assessment results for an existing code model indicate that the model has either a bias or uncertainty that affect the degree of realism and/or conservatism of the simulation, or b) a code model required for an important phenomenon, process, or system is not available. An example of the former is that the assessment of interfacial drag in rod bundles at low pressure conditions indicated that the TRACE model has a bias towards under-prediction of the core inventory. This bias results in an overly conservative calculation for boil-off transients where the code would predict an early uncover and higher than actual peak clad temperatures.

The processes of modifying an existing model or developing a new model include the following:

- identifying physical requirements for the new model consistent with existing code structure and numerical scheme
- specifying required model accuracy or behavior
- identifying data available for devising the new model, or acquiring appropriate experimental data if the available database is inadequate
- developing analytical relationships that describe relevant physical phenomena
- encoding the new model analytical relationships
- identifying or acquiring data to be used in assessing the encoded model
- testing that the encoded model meets its requirements and that code functionality has not been adversely impacted by the modification.

The current contract seeks experimental assistance for the TRACE code and expands the scope to include model development and implementation. It represents the third contract that provides NRC staff with assistance in conducting the requisite experiments necessary for the advancement of the TRACE code, as described under bullets three and six.

Previous contracts have been referred to as thermal-hydraulic institute (THI) contracts. The first THI contract was designed to support the consolidation of thermal-hydraulic codes into TRACE. The work scope focused on separate effect experiments to develop models that make it possible for a single code to simulate the broad range of problems that were previously handled separately by different codes. Experimental programs in support of TRACE development have continued throughout subsequent contracts.

As in previous THI contracts, task orders that deal with the acquisition of specific sets of data, development of physical models and subsequent model implementation will be issued as the NRC identifies model

development or improvement needs. Work to be performed under this contract is essential to the agency meeting its safety and efficiency strategic goals.

II. OBJECTIVE

The objective of this contract is to obtain contractor support in acquiring data and developing and implementing new or improved physical models in the TRACE code.

As areas that require contractor support are identified by the staff, the NRC will issue individual task order statements of work that specify objectives, scope, deliverables, schedule and other requirements. Task orders may be issued for code-related activities that fall within the following broad categories:

- acquiring experimental data for model development or testing,
- development of new or improved constitutive models and correlations,
- implementation of the developed models within either the TRACE code or a thermal-hydraulics pilot code, and
- consulting and peer-review for physical model development and testing.

The contractor shall provide the personnel, facilities, and equipment required to accomplish the objective(s) of each task order.

III. SCOPE

The contractor shall provide centralized program support and all encompassing administrative, clerical, documentation, and related tasks. The contractor shall furnish the necessary personnel, incidental materials, contractor facilities, travel, and other services required to perform tasking under this statement of work. The contractor shall provide all necessary supervision, management, and administrative support to accomplish each task as specified in each task order. Support services in this effort include:

- Task order management
- Acquiring experimental data for model development or testing
- Development of constitutive models and correlations
- Model implementation and testing
- Consulting and peer-review for physical model development and testing

The contractor's activities will primarily support the Code Development Branch (CDB) in the New Reactors and Computational Analysis Directorate (NRCA) of the Division of Risk Assessment and Special Projects (DRASP) within RES. Other RES organizations will be involved/consulted as appropriate during the issuance and performance of individual task orders.

As part of each task order, the contractor shall prepare a task order management plan describing the technical approach, organizational resources, and management controls to be employed to meet the cost, performance and schedule requirements throughout task order execution.

The contractor shall prepare all technical reports specified in individual task orders in a format suitable for publication as a NUREG/CR (See Sections H.3 and H.4). The contractor shall provide drafts of all reports to NRC staff for approval prior to final publication.

Specific task areas

The NRC may issue task orders under this contract for work in the following areas:

1. Acquiring Experimental Data for Model Development or Testing

The contractor shall provide assistance with planning, designing, constructing and deploying reduced-scale, separate effects experiments for model development and testing. The NRC will specify requirements in individual task orders issued under this contract, which may include experimental data to improve models for the analysis of operating reactors, such as the following:

- BWR separate effects experiments
 - top down quenching
 - two-phase pressure drop
 - void fraction in rod bundles
- PWR SBLOCA experiments
 - hot-leg stratified flow and counter-current flow (CCFL)
 - reflux condensation with and without non-condensable gases
 - loop seal clearing
- PWR LBLOCA experiments
 - post critical heat flux heat transfer under reflood conditions
 - blowdown heat transfer and rewet in high-pressure, high-to-moderate flow and low quality conditions
 - determination of quench, or rewet, temperature for particular conditions
 - downcomer and cold-leg condensation
 - upper plenum de-entrainment
 - steam generator heat transfer in transition boiling with highly dispersed flow
 - downcomer interfacial drag

These may also include experimental data to improve the accuracy of models for the simulation of the proposed Economic Simplified Boiling Water Reactor (ESBWR) transients, such as:

- void fraction in large-diameter channels
- two-phase instabilities in a simple natural circulation loop
- condensation with non-condensable gas in the laminar-turbulent transition region

Other advanced reactor designs that may be submitted for licensing review during this contract may also give rise to needs for data generation and model development that would be addressed via individual task orders. Such areas for experimentation include:

- two-phase flow and heat transfer in horizontal rod bundles
- helical steam generator performance
- heat transfer in finned condensers with a non-condensable gas
- heat transfer and hydrodynamics of pebble beds

In addition, to improve the fundamental model for two-phase flow, under previous contracts the NRC has been pursuing the development of the requisite models for interfacial area transport. This experimental work is expected to continue under this contract, and the developed models shall be implemented into either the TRACE code or a pilot code with a similar numerical representation of two-phase flow. Specific areas for experimentation include the following:

- transition from slug or churn-turbulent flow to annular/mist flow,
- counter-current flow,
- cold-leg to downcomer transition,
- vertical elbows,
- tees, and

- area changes

To simulate high pressure and high temperature conditions, necessary for some of the potential tasks listed above, the usage of simulant fluids such as refrigerants will be acceptable.

The contractor shall consult with NRC staff and shall obtain approval from NRC Project Officer regarding all key features of the experimental setup, including type and placement of instrumentation and controls. The contractor shall propose data acquisition and reduction procedures in accordance with task order objective(s). The NRC Project Officer must approve the data collection plan prior to implementation.

The contractor shall observe quality assurance guidelines of Section E.3 "QUALITY ASSURANCE." The contractor shall document every aspect of facility design, and produce an as-built facility description. The contractor shall further issue revisions of the as-built facility description report as modifications are implemented. All activities related to the data obtained by a facility (e.g., instrumentation characteristics, calibration procedures, conditioning for initial conditions, imposition of boundary conditions, data acquisition, and data reduction) have to be documented with sufficient detail for complete reproducibility.

2. Development of Constitutive Models and Correlations

In concert with tasks to develop experimental data, the contractor shall develop the necessary constitutive models and correlations to model the targeted phenomena within the framework of a two-fluid model. As needed, the NRC will issue the specific statement of work including scope, deliverables, and delivery schedules with each individual task order.

The contractor shall observe quality assurance guidelines of Section E.3 "QUALITY ASSURANCE." The contractor shall provide both the reduced data and the data reduction algorithms used in this model development activity in an electronic format to be specified by the NRC.

3. Model Implementation and Testing

As directed by the NRC, the contractor shall implement the developed physical models and correlations within either the TRACE code or a pilot code. For physical models that do not require substantial changes to the TRACE field equations or numerical solution, the contractor should expect to be required to implement the model directly into the TRACE code. In other cases, for example, where the model implementation would require the addition of a new set of field equations, a pilot code may be used to illustrate the correct integration of the constitutive model within a two-fluid numerical framework. If the latter approach is followed, subject to the approval of the NRC Project Officer, the pilot code will either be provided by the NRC or developed by the contractor. In either case, a complete set of test problems will be developed to demonstrate proper implementation and quantification of modeling accuracy.

For models to be implemented in TRACE, all code development activities must follow principles described in NUREG-1737 and adhere to the Programming Guidelines and Design Philosophies as outlined on the TRACE Development website. The contractor shall prepare a Software Requirements Document (SRD) (using an established NRC Framemaker template), Test Plan, and Software Design and Implementation Document (SDID) before implementing new models or features and submitting them to NRC for approval. Upon approval of the SRD and SDID, the contractor shall implement the changes. The results of the programming effort shall be documented in a Completion Report. The contractor has the freedom to combine these documents where appropriate and with NRC approval. What is important is that the relevant topics belonging to each document be addressed and formally communicated in some fashion. Similar, though less formal documentation, will also be required for models implemented into a pilot code.

The contractor shall consult with NRC staff and shall obtain approval from NRC Project Officer regarding all key aspects of the issued task. The contractor shall propose a task plan in accordance with the task order objective(s). The NRC Project Officer must approve the task plan prior to implementation.

The contractor shall observe quality assurance guidelines of Section E.3 "QUALITY ASSURANCE." The contractor shall document every aspect of task performance with sufficient detail for complete reproducibility.

4. Consulting and peer-review for physical model development and testing

The contractor shall provide consulting and peer-review services for all aspects of experimental, model development and testing work related to the TRACE code. As needed, the NRC will issue the specific statement of work, including scope, deliverables, and delivery schedules, with each individual task order.

The contractor shall consult with NRC staff and shall obtain approval from NRC Project Officer regarding all key aspects of the issued task. The contractor shall propose a task plan in accordance with the task order objective(s). NRC Project Officer must approve the task plan prior to implementation.

The contractor shall observe quality assurance guidelines of Section E.3 "QUALITY ASSURANCE." The contractor shall document every aspect of task performance with sufficient detail for complete reproducibility.

IV. REPORTING REQUIREMENTS

1. Monthly letter status report (MLSR)

A MLSR is to be submitted in electronic format via e-mail to the NRC Project Officer by the 20th of the month following the month to be reported with copies provided to the following:

U.S. Nuclear Regulatory Commission
Office of Regulatory Research
Division of Risk Assessment and Special Projects (DRASP)
Division Management Analyst
Mail Stop T-10E32
11545 Rockville Pike
Rockville, MD 20852

In addition, the contractor shall mail a hard copy of each MLSR to the Contracting Officer and NRC Project Officer as required under Section F.5 Delivery of Reports.

At a minimum, the MLSR will identify the title of the project, the job code, the principal investigator, the period of performance, the reporting period and, for every task order, include the key investigator, each month's technical progress, monthly spending, total spending to date, and the remaining funds. The MLSR will contain information as shown in Exhibit 10 of NRC Management Directive 11.7. Any administrative or technical difficulties that may affect the schedule or costs of the project shall be immediately brought to the attention of the NRC project officer. The monthly status report shall include information on technical activities, accomplishments, problems, personnel, travel, financial expenditures (months-to-date and task-to-date) for each task order. The monthly status report will be required within 60 days after issuance of a task order and every monthly reporting period thereafter.

2. Annual Progress Letter Reports

The contractor shall submit an annual progress letter report within 30 days of the close of the fiscal year. The annual progress report shall summarize all efforts on the tasks conducted during the corresponding period, including the status of each ongoing task.

3. Financial Status Reports

The contractor shall provide a monthly Financial Status Report (See Section F.4).

4. Topical Reports

The contractor shall submit topical reports at the conclusion of research tasks. The content of each report shall be broadly described within the statement of work of each individual task order. The details on format, technical level and completeness will be jointly agreed upon by the NRC project officer and the principal investigator. Topical reports shall be self-contained, and shall be suitable for publication as a NUREG/CR report. Topical reports shall include an executive summary that summarizes the research results with regard to the project objectives as defined in the statement of work for each task order issued. (See Sections H.3 and H.4)

5. Presentations at professional meetings and publications in peer-reviewed journals

Presentations of accomplished research results at professional meetings and publication of this technical work in peer-reviewed professional journals are expected. A copy of all written and oral presentations, including technical papers and abstracts to be submitted for publication in technical journals, related to or funded by this project, will be transmitted to the NRC project officer prior to presentation or submittal for publication. The contractor shall abide by the following reporting requirements: (See Sections H.3 and H.4)

V. DELIVERABLES AND DELIVERY SCHEDULE

DELIVERABLE	DELIVERY SCHEDULE
Monthly Letter Status Report (MLSR)	Monthly (by the 20 th of each month following the end of the reporting period)
Technical Progress Report	Monthly (15 days after the end of the reporting period)
Financial Status Report	Monthly (15 days after the end of the reporting period)
Annual Progress Reports	Annually (30 days after September 30 th - the end of <u>each</u> Fiscal Year)
Topical Reports	By the expiration date of the Period of Performance of each task order issued under this contract

The NRC may specify additional deliverables and delivery schedules with the issuance of each task order.

VI. MEETINGS AND TRAVEL REQUIREMENTS

It is anticipated that six (6) yearly trips of two-day duration for two persons to attend meetings needed for consultation with NRC staff or for presentation of the work to technical conferences or meetings at **(LOCATIONS TO BE DETERMINED)**. Travel requirements will be specified with the issuance of each task order.

The contractor shall present the technical progress of the project at NRC headquarters on an annual basis, and make additional trips to NRC related contractor meetings and professional technical symposia as requested by the NRC project officer. For planning purposes, the contractor shall estimate three annual visits to NRC Headquarters and three annual trips to technical workshops or professional meetings (**LOCATIONS TO BE DETERMINED**).

Any additional domestic travel to be charged against project funds requires prior approval by the NRC project officer. All foreign travel related to and/or funded by the project must be approved in writing by the NRC project officer and his management chain through the EDO.

VII. NRC-FURNISHED MATERIAL

Any NRC-furnished materials will be specified, as necessary, with the issuance of individual task orders.

VIII. RELATED RES PROJECTS

The contractor shall work with the NRC project officer to coordinate research studies with closely-related RES projects.

SECTION D - PACKAGING AND MARKING**D.1 PACKAGING AND MARKING (MAR 1987)**

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 Interstate Commerce Commission Regulations, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation. On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

SECTION E - INSPECTION AND ACCEPTANCE

E.1 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

E.2 PLACE OF INSPECTION AND ACCEPTANCE (MAR 1987)

Inspection and acceptance of the deliverable items to be furnished hereunder shall be made by the NRC Project Officer at the destination.

E.3 QUALITY ASSURANCE

Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554) directs the Office of Management and Budget (OMB) to issue government-wide guidelines (FR Vol. 67, No. 36, pp. 8452-8460) that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies." NRC Information Quality Guidelines are provided in FR Vol. 67, No. 190, pp. 61695-61699.

The Contractor shall cite contractor quality assurance procedures used in the conduct of this work that provide for compliance with OMB and NRC guidelines.

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 (75% of overall score)
 - Justification of major assumptions (12%)
 - Soundness of technical approach and results (52%)
 - Uncertainties and sensitivities addressed (11%)

- Documentation of research results and methods is adequate (25% of overall score)

Clarity of presentation (16%)

Identification of major assumptions (9%)

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 Officer and technical monitor will review all research products with these criteria in mind.

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

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, "NUREG-Series Publications." Management Directive 3.7 is not applicable to any Contractor Spending Plan (CSP) and any Financial Status Report that may be included in this contract. (See Section J. List of Attachments).

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, 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 NRCAR 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 information 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.5 PLACE OF DELIVERY--REPORTS (JUN 1988)

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

(a) **PROJECT OFFICER** (1 copy)

U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop: T-10-K-8
11545 Rockville Pike
Rockville Pike, MD 20852

(b) **CONTRACTING OFFICER** (1 copy)

U.S. Nuclear Regulatory Commission
Division of Contracts
Mail Stop: T-7-I-2
11545 Rockville Pike
Rockville Pike, MD 20852

F.6 DURATION OF CONTRACT PERIOD (MAR 1987) ALTERNATE 4 (JUN 1988)

The ordering period for this contract shall commence on August 1, 2007 and will expire July 31, 2012. Any orders issued during this period shall be completed within the time specified in the order, unless otherwise specified herein. (See 52.216-18 - Ordering.)

SECTION G - CONTRACT ADMINISTRATION DATA**G.1 PROJECT OFFICER AUTHORITY (NOV 2006)**

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

Name: **Joseph M. Kelly**

Address: U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Mail Stop: T-10-K8
11545 Rockville Pike Rockville, MD 20852
Telephone Number: 301-415-**6852**

(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 (See Section J. List of Attachments).
 - (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 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT -ALTERNATE 1 (OCT 1999)

(a) Total expenditure for travel may not exceed \$49,650.00 without the prior approval of the contracting officer.

(b) 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 prior to the commencement of travel.






(c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and which 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 FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.

(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 1 (JAN 1993)

The contractor is reimbursed for allowable indirect costs in accordance with the following predetermined rates:

INDIRECT COST POOL	RATE	BASE	PERIOD
PURDUE UNIVERSITY Facilities & Administrative (F&A)		On-campus	Effective date through contract expiration
PENN STATE UNIVERSITY Facilities & Administrative (F&A)		On-campus	Effective date through contract expiration
OHIO STATE UNIVERSITY Facilities & Administrative (F&A)		On-campus	Effective date through contract expiration
OREGON STATE UNIVERSITY Facilities & Administrative (F&A)		On-campus	Effective date through contract expiration
UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA) Facilities & Administrative (F&A)		On-campus	Effective date through contract expiration

G.4 2052.216-72 TASK ORDER PROCEDURES (OCT 1999)

(a) Task order request for proposal. When a requirement within the scope of work for this contract is identified, the contracting officer shall transmit to the contractor a Task Order Request for Proposal (TORFP) which may include the following, as appropriate:

- (1) Scope of work/meetings/travel and deliverables;
- (2) Reporting requirements;
- (3) Period of performance - place of performance;
- (4) Applicable special provisions;
- (5) Technical skills required; and
- (6) Estimated level of effort.

(b) Task order technical proposal. By the date specified in the TORFP, the contractor shall deliver to the contracting officer a written or verbal (as specified in the TORFP technical proposal submittal instructions) technical proposal that provides the technical information required by the TORFP.

(c) Cost proposal. The contractor's cost proposal for each task order must be fully supported by cost and pricing data adequate to establish the reasonableness of the proposed amounts. When the contractor's estimated cost for the proposed task order exceeds \$100,000 and the period of performance exceeds six months, the contractor may be required to submit a Contractor Spending Plan (CSP) as part of its cost proposal. The TORP indicates if a CSP is required.

(d) Task order award. The contractor shall perform all work described in definitized task orders issued by the contracting officer. Definitized task orders include the following:

- (1) Statement of work/meetings/travel and deliverables;
- (2) Reporting requirements;
- (3) Period of performance;
- (4) Key personnel;
- (5) Applicable special provisions; and
- (6) Total task order amount including any fixed fee.

G.5 2052.216-73 ACCELERATED TASK ORDER PROCEDURES (JAN 1993)

(a) The NRC may require the contractor to begin work before receiving a definitized task order from the contracting officer. Accordingly, when the contracting officer verbally authorizes the work, the contractor shall proceed with performance of the task order subject to the monetary limitation established for the task order by the contracting officer.

(b) When this accelerated procedure is employed by the NRC, the contractor agrees to begin promptly negotiating with the contracting officer the terms of the definitive task order and agrees to submit a cost proposal with supporting cost or pricing data. If agreement on a definitized task order is not reached by the target date mutually agreed upon by the contractor and contracting officer, the contracting officer may determine a reasonable price and/or fee in accordance with Subpart 15.8 and Part 31 of the FAR, subject to contractor appeal as provided in 52.233-1, Disputes. In any event, the contractor shall proceed with completion of the task order, subject only to the monetary limitation established by the contracting officer and the terms and conditions of the basic contract.

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 2009.570-2 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:

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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 **"NUREG-Series Publications"** (See Section J. List of Attachments) regarding publication in refereed scientific and engineering journals or dissemination to the public of any information, oral or written, concerning the work performed under this contract. Failure to comply with this clause shall be grounds for termination of this contract.

(b) The principal investigator(s)/contractor may publish the results of this work in refereed 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 thirty (30) days after receipt of a proposed publication. However, in those cases where the information to be published is (1) subject to Commission approval, (2) has not been ruled upon, or (3) disapproved by the Commission, the NRC reserves the right to disapprove or delay the publication. Further, if the NRC disagrees with the proposed publication for any reason, it reserves the right to require that any publication not identify the NRC's sponsorship of the work and that any associated publication costs shall be borne by the contractor.

H.4 UPDATED 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 the NRC project officer in both electronic and camera-ready copy.

All format guidance, as specified in NUREG-0650, Revision 2 (See Section J. List of Attachments), 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 officer for the publication of the assigned designator when the final manuscript is sent to the printer.

For the electronic manuscript, prepare the text in MS 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)

Word (.doc)

Microsoft® PowerPoint® (.ppt)

Microsoft Excel (.xls)

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 chose 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 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.

H.5 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.6 2052.242-70 RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL VIEWS (DPVS) (OCT 1999)

(a) The Nuclear Regulatory Commission's (NRC) policy is to support the contractor's expression of professional health and safety related concerns associated with the contractor's work for NRC that may differ from a prevailing NRC staff view, disagree with an NRC decision or policy position, or take issue with proposed or established agency practices. An occasion may arise when an NRC contractor, contractor's personnel, or subcontractor personnel believes that a conscientious expression of a competent judgment is required to document such concerns on matters directly associated with its performance of the contract. The NRC's policy is to support these instances as Differing Professional Views (DPVs).

(b) The procedure that will be used provides for the expression and resolution of differing professional views (DPVs) of health and safety related concerns associated with the mission of the agency by NRC contractors, contractor personnel or subcontractor personnel on matters directly associated with its performance of the contract. This procedure may be found in Attachments to this document. The contractor shall provide a copy of the NRC DPV procedure to all of its employees performing under this contract and to all subcontractors who shall, in turn, provide a copy of the procedure to its employees. The prime contractor or subcontractor shall submit all DPV's received but need not endorse them.

H.7 GOVERNMENT FURNISHED EQUIPMENT/PROPERTY - NONE PROVIDED (JUN 1988)

The Government will not provide any equipment/property under this contract.

H.8 SEAT BELTS

Contractors, subcontractors, and grantees, are encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles.

H.9 2052.242-71 PROCEDURES FOR RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL VIEWS (DPVS) (OCT 1999)

(a) The following procedure provides for the expression and resolution of differing professional views (DPVs) of health and safety related concerns of NRC contractors and contractor personnel on matters connected to the subject of the contract. Subcontractor DPVs must be submitted through the prime contractor. The prime contractor or subcontractor shall submit all DPV's received but need not endorse them.

(b) The NRC may authorize up to eight reimbursable hours for the contractor to document, in writing, a DPV by the contractor, the contractor's personnel, or subcontractor personnel. The contractor shall not be entitled to any compensation for effort on a DPV which exceeds the specified eight hour limit.

(c) Before incurring costs to document a DPV, the contractor shall first determine whether there are sufficient funds obligated under the contract which are available to cover the costs of writing a DPV. If there are insufficient obligated funds under the contract, the contractor shall first request the NRC contracting officer for additional funding to cover the costs of preparing the DPV and authorization to proceed.

(d) Contract funds shall not be authorized to document an allegation where the use of this NRC contractor DPV process is inappropriate. Examples of such instances are: allegations of wrongdoing which should be addressed directly to the NRC Office of the Inspector General (OIG), issues submitted anonymously, or issues raised which have already been considered, addressed, or rejected, absent significant new information. This procedure does not provide anonymity. Individuals desiring anonymity should contact the NRC OIG or submit the information under NRC's Allegation Program, as appropriate.

(e) When required, the contractor shall initiate the DPV process by submitting a written statement directly to the NRC Office Director or Regional Administrator responsible for the contract, with a copy to the Contracting Officer, Division of Contracts and Property Management, Office of Administration. Each DPV submitted will be evaluated on its own merits.

(f) The DPV, while being brief, must contain the following as it relates to the subject matter of the contract:

(1) A summary of the prevailing NRC view, existing NRC decision or stated position, or the proposed or established NRC practice.

(2) A description of the submitter's views and how they differ from any of the above items.

(3) The rationale for the submitter's views, including an assessment based on risk, safety and cost benefit considerations of the consequences should the submitter's position not be adopted by NRC.

(g) The Office Director or Regional Administrator will immediately forward the submittal to the NRC DPV Review Panel and acknowledge receipt of the DPV, ordinarily within five (5) calendar days of receipt.

(h) The panel will normally review the DPV within seven calendar days of receipt to determine whether enough information has been supplied to undertake a detailed review of the issue. Typically, within 30 calendar days of receipt of the necessary information to begin a review, the panel will provide a written report of its findings to the Office Director or Regional Administrator and to the Contracting Officer, which includes a recommended course of action.

(i) The Office Director or Regional Administrator will consider the DPV Review Panel's report, make a decision on the DPV and provide a written decision to the contractor and the Contracting Officer normally within seven calendar days after receipt of the panel's recommendation.

(j) Subsequent to the decision made regarding the DPV Review Panel's report, a summary of the issue and its disposition will be included in the NRC Weekly Information Report submitted by the Office Director. The DPV file will be retained in the Office or Region for a minimum of one year thereafter. For purposes of the contract, the DPV shall be considered a deliverable under the contract. Based upon the Office Director or Regional Administrator's report, the matter will be closed.

H.10 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS

Annual and final evaluations of contractor performance under this contract will be prepared in accordance with FAR 42.15, "Contractor Performance Information," normally at 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 Project Officer's 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. The contractor may concur without comment, submit additional information, or request a meeting to discuss the performance evaluation. The Contracting Officer may request the contractor's Project Manager to attend a meeting to discuss the performance evaluation.

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 "For Official Use Only," 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(a) and 42.1503(c). 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.11 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States Immigration and Naturalization (INS) laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Alien Registration Receipt Card Form 1-151 or must present other evidence from the Immigration and Naturalization Services that employment will not affect his/her immigration status. The INS Office of Business Liaison (OBL) provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on the INS website, <http://www.ins.usdoj.gov/graphics/services/employerinfo/index.htm#obl>.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

(End of Clause)

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	JUL 2004
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	JUL 1995
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	SEP 2005
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER	AUG 2000
52.204-7	CENTRAL CONTRACTOR REGISTRATION	JUL 2006
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	SEP 2006
52.215-2	AUDIT AND RECORDS--NEGOTIATION ALTERNATE II (APR 1998)	JUN 1999
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT 1997
52.215-14	INTEGRITY OF UNIT PRICES	OCT 1997
52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS (JAN 2004)	OCT 2004
52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (PRB)	JUL 2005
52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT 1997
52.216-15	PREDETERMINED INDIRECT COST RATES	APR 1998
52.219-4	NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS	JUL 2005

52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	MAY 2004
52.219-16	LIQUIDATED DAMAGES-SMALL BUSINESS SUBCONTRACTING PLAN	JAN 1999
52.219-25	SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM--DISADVANTAGED STATUS AND REPORTING	OCT 1999
52.222-3	CONVICT LABOR	JUN 2003
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB 1999
52.222-26	EQUAL OPPORTUNITY	APR 2002
52.222-35	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	SEP 2006
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN 1998
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	SEP 2006
52.223-6	DRUG-FREE WORKPLACE	MAY 2001
52.225-1	BUY AMERICAN ACT--SUPPLIES	JUN 2003
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	FEB 2006
52.227-1	AUTHORIZATION AND CONSENT ALTERNATE I (APR 1984)	JUL 1995
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	AUG 1996
52.227-11	PATENT RIGHTS -- RETENTION BY THE CONTRACTOR (SHORT FORM)	JUN 1997
52.227-14	RIGHTS IN DATA--GENERAL	JUN 1987
52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR 1996
52.230-5	COST ACCOUNTING STANDARDS--EDUCATIONAL INSTITUTION	APR 1996
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS	APR 2005
52.232-9	LIMITATION ON WITHHOLDING OF PAYMENTS	APR 1984
52.232-20	LIMITATION OF COST	APR 1984
52.232-22	LIMITATION OF FUNDS	APR 1984
52.232-23	ASSIGNMENT OF CLAIMS	JAN 1986
52.232-25	PROMPT PAYMENT	OCT 2003
52.232-33	PAYMENT BY ELECTRONIC FUNDS--CENTRAL CONTRACTOR REGISTRATION	OCT 2003
52.233-3	PROTEST AFTER AWARD ALTERNATE I (JUN 1985)	AUG 1996
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
52.242-4	CERTIFICATION OF FINAL INDIRECT COSTS	JAN 1997
52.242-13	BANKRUPTCY	JUL 1995
52.243-2	CHANGES--COST REIMBURSEMENT ALTERNATE V (APR 1984)	AUG 1987
52.244-2A	SUBCONTRACTS ALTERNATE I (JAN 2006)	JAN 2006
52.244-5	COMPETITION IN SUBCONTRACTING	DEC 1996

52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS	SEP 2006
52.245-5	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) ALTERNATE 1 (JUL 1985)	JUL 1985
52.249-5	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (EDUCATIONAL AND OTHER NONPROFIT INSTITUTIONS)	SEP 1996
52.249-14	EXCUSABLE DELAYS	APR 1984
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

I.2 52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (SEP 2006) ALTERNATE II (OCT 2001)

(a) This clause does not apply to small business concerns.

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

"Commercial item" means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

"Commercial plan" means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

"Individual contract plan" means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

"Master plan" means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

"Subcontract" means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) Proposals submitted in response to this solicitation shall include a subcontracting plan that separately addresses subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate a subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of -

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns.

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in (1) above.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with--

- (i) Small business concerns;
- (ii) Veteran-owned small business concerns;
- (iii) HUBZone small business concerns;
- (iv) Small disadvantaged business concerns; and
- (v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, and small disadvantaged business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled "Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of \$550,000 (\$1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns;

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than \$100,000, indicating--

- (A) Whether small business concerns were solicited and, if not, why not;
- (B) Whether veteran-owned small business concerns were solicited and, if not, why not;
- (C) Whether HUBZone small business concerns were solicited and, if not, why not;
- (D) Whether small disadvantaged business concerns were solicited and, if not, why not;
- (E) Whether women-owned small business concerns were solicited and, if not, why not; and
- (F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

- (A) Trade associations;
- (B) Business development organizations;
- (C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and
- (D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

- (A) Workshops, seminars, training, etc.; and
- (B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all "make-or-buy" decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Confirm that a subcontractor representing itself as a HUBZone small business concern is identified as a certified HUBZone small business concern by accessing the Central Contractor Registration (CCR) database or by contacting SBA.

(5) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran- owned small business, HUBZone small, small disadvantaged, or women- owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided-- (1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

I.3 52.216-7 ALLOWABLE COST AND PAYMENT (DEC 2002)

(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 the 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) below, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) below.

(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.

(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.

(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 52.216-18 ORDERING (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from August 1, 2007 through July 31, 2007.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

I.5 52.216-22 INDEFINITE QUANTITY (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after 6 months after contract expiration.

I.6 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):

<http://www.arnet.gov/far>

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

ATTACHMENT NUMBER	DESCRIPTION
1.	Billing Instructions - Cost Reimbursement Contracts
2.	Contractor Spending Plan Instructions
3.	48 CFR 2009.5, Organizational Conflict of Interest can be found at the following URL on the NRC public website: http://www.nrc.gov/about-nrc/contracting/48cfr-ch20.html
4.	NRC Management Directive 3.7 be found at the following URL on the NRC public website: http://www.nrc.gov/reading-rm/doc-collections/management-directives/volumes/vol-3.html
5.	NRC Management Directive 3.9 can be found at the following URL on the NRC public website: http://www.nrc.gov/reading-rm/doc-collections/management-directives/volumes/vol-3.html
6.	Management Directive 12.3 can be found at the following URL on the NRC public website: http://www.nrc.gov/reading-rm/doc-collections/management-directives/volumes/vol-12.html
7.	NUREG-0650, Revision 2 can be found at the following URL's on the NRC public website: http://www.nrc.gov/reading-rm/doc-collections/nuregs/pubs/ http://adamswebsearch2.nrc.gov/idmws/doccontent.dll?library=PU_ADAMS^PBNTAD01&ID=041120063
8.	Small Business, Small Disadvantage, and Women-Owned Business Subcontracting Plan

Contract No. NRC-04-07-094

ATTACHMENT NO. 1 -

Billing Instructions - Cost Reimbursement Contracts

BILLING INSTRUCTIONS FOR
COST REIMBURSEMENT TYPE CONTRACTS (October 2003)

General: The contractor is responsible during performance and through final payment of this contract for the accuracy and completeness of the 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 vouchers/invoices for reimbursement of costs in the manner and format described herein. **FAILURE TO SUBMIT VOUCHERS/INVOICES IN ACCORDANCE WITH THESE INSTRUCTIONS WILL RESULT IN REJECTION OF THE VOUCHER/INVOICE AS IMPROPER.**

Number of Copies: An original and three copies, including supporting documentation shall be submitted. A copy of all supporting documents must be attached to each copy of your voucher/invoice. Failure to submit all the required copies will result in rejection of the voucher/invoice as improper.

Designated Agency Billing Office: Vouchers/invoices shall be submitted to the following address:

U.S. Nuclear Regulatory Commission
Division of Contracts
Mail Stop T-7-I-2
Washington, DC 20555

HAND DELIVERY OF VOUCHERS/INVOICES IS DISCOURAGED AND WILL NOT EXPEDITE PROCESSING BY NRC. However, should you choose to deliver vouchers/invoices by hand, including delivery by any express mail services or special delivery services which use a courier or other person to deliver the voucher/invoice in person to the NRC, such vouchers/invoices must be addressed to the above Designated Agency Billing Office and will only be accepted at the following location:

U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike - Mail Room
Rockville, MD 20852

HAND-CARRIED SUBMISSIONS WILL NOT BE ACCEPTED AT OTHER THAN THE ABOVE ADDRESS.

Note that the official receipt date for hand-delivered vouchers/invoices will be the date it is received by the official agency billing office in the Division of Contracts.

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

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

Format: Claims should be submitted in the format depicted on the attached sample form entitled "Voucher/Invoice for Purchases and Services Other than Personal" (see **Attachment 1**). The sample format is provided for guidance only. The format is not required for submission of a voucher/invoice. Alternate formats are permissible provided all requirements of the billing instructions are addressed. The instructions for preparation and itemization of the voucher/invoice are included with the sample form.

Task Ordering Contracts: If the contractor bills for more than one task order under a voucher/invoice, detailed cost information for each individual task order shall be submitted, together with a cumulative summary of all charges billed on the voucher/invoice. This includes all applicable cost elements discussed in paragraphs (a) through (n) of the attached instructions.

Fee Recovery Billings: Pursuant to the provisions of 10 CFR Part 170 and 171 on license fees, the NRC must recover the cost of work performed. Accordingly, the contractor must provide the total amount of funds billed during the period, fiscal year to date and the cumulative total for each task or task assignment by facility or report. The fee recovery billing reports shall be on a separate page, and shall be in the format provided in **Attachment 2**. The billing period for fee recovery costs should be from the first day of each calendar month to the last day of the same month. Each separate fee billing report must be attached to the monthly invoice and cover the same period as the invoice.

Each report will contain a docket number or other unique identifier. The NRC will provide a unique identifier for all work performed. Costs should be reported as whole number to the nearest cent. For work that involves more than one facility at the same site, each facility should be listed separately and the costs should be split appropriately between the facilities. Common costs, as defined below, shall be identified as a separate line item in the fee recovery billing report each month.

Common costs are those costs that are not licensee unique and associated with the performance of an overall program that benefit all similar licensees covered under that program or that are required to satisfactorily carry out the program. Common costs include costs associated with the following: preparatory or start-up efforts to interpret and reach agreement on methodology, approach, acceptance criteria, regulatory position, or technical reporting requirements; efforts associated with the "lead plant" concept that might be involved during the first one or two plant reviews; meetings and discussions involving the above efforts to provide orientation, background knowledge or guidance during the course of a program; any technical effort applied to a docket or other unique identifier; and project management. Common costs must be reporting monthly for each docket or unique identifier. Common costs must be computed based on the proportion of direct costs incurred against each docket or unique identifier for the billing period.

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

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

Currency: Billings may be expressed in the currency normally used by the contractor in maintaining his accounting records; payments will be made in that currency. However, the U.S. dollar equivalent for all vouchers/invoices paid under the contract may not exceed the total U.S. dollars authorized in the contract.

Supersession: These instructions supersede any previous billing instructions.

INVOICE/VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL

(SAMPLE FORMAT)

1. Official Agency Billing Office

U.S. Nuclear Regulatory Commission
Division of Contracts MS: T-7-I-2
Washington, DC 20555-0001

2. 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.
Task Order No. Insert the task order number (If Applicable).
- d. Voucher/Invoice. The appropriate sequential number of the voucher/invoice, 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.
- e. Date of Voucher/Invoice. Insert the date the voucher/invoice is prepared.
- f. Billing period. Insert the beginning and ending dates (day, month, year) of the period during which costs were incurred and for which reimbursement is claimed.
- g. 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:

Labor Category	Hrs. Billed	Rate	Total	Cumulative Hrs.Billed
----------------	-------------	------	-------	-----------------------
 - (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) Capitalized Non Expendable Equipment. 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) the item number for the specific piece of equipment listed in the property schedule of the contract; or (b) the Contracting Officer's approval letter if the equipment is not covered by the property schedule.
 - (4) Non-capitalized Equipment, Materials, and Supplies. These are equipment other than that described in (3) above, plus consumable materials, supplies. List by category. List items valued at \$500 or more separately. Provide the item number for each piece of equipment valued at \$500 or more.

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

- (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.
- h. **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 claimed.
- i. **Fixed Fee.** If the contract provides for a fixed fee, it must be claimed as provided for by the contract. Cite the formula or method of computation. Include this information as it applies to individual task orders as well. The contractor may bill for fixed fee only up to 85% of total fee.
- j. **Total Amount Billed.** Insert the total amounts claimed for the current and cumulative periods.
- k. **Adjustments.** For cumulative amount, include outstanding suspensions.
- l. **Grand Totals.**

Further itemization of vouchers/invoices shall only be required for items having specific limitations set forth in the contract.

3. Sample Voucher Information

This voucher represents reimbursable costs for the billing period for the billing period from ____ through ____.

		<u>Amount Billed</u>	
		<u>Current Period</u>	<u>Cumulative</u>
(a)	<u>Direct Costs</u>		
	(1) Direct labor*.....		
	(2) Fringe benefits		
	(%, if computed as percentage).....		
(3)	Capitalized nonexpendable equipment (\$50,000 or more - see instructions)*.....		
(4)	Non-capitalized equipment, materials, and supplies.....		
(5)	Premium pay (NRC approved overtime).....		
(6)	Consultants*.....		
(7)	Travel*.....		
(8)	Subcontracts*.....		
(9)	Other costs*.....		

Total Direct Costs

- (b) Indirect Costs
 (A) Overhead ___ % of _____ (Indicate Base).....
 (B) General & Administrative Expense
 ___ % of Cost Elements Nos.
 Total Direct & Indirect Costs
- (c) Fixed-Fee (Cite Formula):
 (d) Total Amount Billed.....
 (e) Adjustments.....
 (f) Grand Totals.....
- * (Requires Supporting Information -- See Sample below)

SAMPLE SUPPORTING INFORMATION

1) Direct Labor - \$2400

Labor Category	Hours Billed	Rate	Total	Cumulative Hrs. Billed
Senior Engineer I	100	\$14.00	\$1400	975
Engineer	50	\$10.00	\$500	465
Computer Analyst	100	\$5.00	\$500	320
			<u>\$2400</u>	

3) Capitalized Non-Expendable Equipment

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

4) Non-capitalized Equipment, Materials, and Supplies

10 Radon tubes @ \$110.00 = \$1100.00
 6 Pairs Electrostatic gloves @ \$150.00 = \$900.00
\$2000.00

5) Premium Pay

Walter Murphy - 10 hours @ \$10.00 Per Hour = \$100
 (This was approved by NRC in letter dated 3/6/95).

6) Consultants' Fee

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

7) Travel

Start Date	Destination	Costs
3/1/89	Wash., DC	\$200

FEE RECOVERY BILLING REPORT

FIN:

Facility Name or Report Title:

TAC or Inspection Report Number:
(or other unique identifier)

Docket Number (if applicable):

Cost Categories	Period Amt.	Period Cost Incurred	Fiscal Year To Date Costs	Total Cumulative Costs
Labor				
Materials				
Subcontractor/ Consultant				
Travel				
Other (specify)				
Common Costs				
Total				
Remarks:				

Contract No. NRC-04-07-094

ATTACHMENT NO. 2 -
Contractor Spending Plan Instructions

CONTRACTOR SPENDING PLAN - INSTRUCTIONS

The Contractor Spending Plan (CSP) is an important tool for projecting and tracking contract costs and progress each task under the contract.

Applicability

The Nuclear Regulatory Commission (NRC) requires that the CSP be completed for cost reimbursement contracts when the award amount is expected to exceed \$100,000 and the period of performance is expected to exceed 6 months. For task order type contracts, a CSP is required when an individual cost reimbursement task order is expected to exceed the above thresholds. When contract or task order modification increases the contract or task order amount of a cost reimbursement contract or task order to over \$100,000 and the period of performance from the effective date of the modification to the contract or task order expiration exceeds 6 months, a CSP is required for all contract work to be performed after the effective date of the modification.

Submission

1. A CSP is required:
 - a. as part of the cost proposal for a cost reimbursement contract or individual task order, or modification to a contract or task order which meets the above thresholds;
 - b. as part of the Final Proposal Revision (if requested) as a result of negotiations;
2. Updated CSP information is required on a monthly basis or as approved by the CO as part of the "Financial Status Report" (Ref: Section F.(fillin), "Financial Status Report").

Format

The attached CSP sample format may be duplicated and used by the Contractor, or modified to permit more accurate reporting or to meet other needs of the contractor. For instance, the sample format provides spaces to report projected costs for 12 months, but the contractor may wish to alter the sample format for shorter or longer contract/task order periods. The contractor may also wish to alter the sample format for ease of typing or automated production. So long as complete information is provided on actual and projected costs or accomplishments, changes to the format to improve relevance to the circumstances are encouraged.

It is up to the discretion of the offeror to determine the appropriate level of cost detail to be presented based on the complexity of the effort. This plan reflects only the minimum requirements for submission of cost details which will be considered for completeness, reasonableness, and as a measure of effective management of the effort. The Contracting Officer reserves the right to request additional cost information, if deemed necessary.

Contract No. NRC-04-07-094

ATTACHMENTS NO. 3 - 7 -

(Refer to links contained under Section J, Page J-1)

PAGE INTENTIONALLY LEFT BLANK

(Refer to links contained under Section J, Page J-1)

Contract No. NRC-04-07-094

ATTACHMENT NO. 8 -

*Small Business, Small Disadvantage, and Women-Owned
Business Subcontracting Plan*

SMALL BUSINESS SUBCONTRACTING PLAN

Date: May 31, 2007

SUBCONTRACTOR: PURDUE UNIVERSITY

ADDRESS: 302 Wood St.

West Lafayette, Indiana 47907-2108

SOLICITATION OR SUBCONTRACT NUMBER: SOLICITATION NO. RS-RES-06-114

ITEM/SERVICE: "Thermal Hydraulic Experimental and Mode Development Support for TRACE Code"

The following, together with any attachments, is hereby submitted as a Subcontracting Plan to satisfy the applicable requirements of FAR 52.219-9 and DFAR 219.7

1. (a) The following percentage goals (expressed in terms of a percentage of total planned lower-tier subcontracting dollars) will be applicable to any subcontract awarded as a result of this solicitation:
 - (i) Small Business Concerns: 4.05% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are small business concerns.
 - (ii) Veteran-Owned Small Business Concerns: 0.00% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are veteran-owned small business concerns.
 - (iii) Service-Disabled Veteran-Owned Small Business Concerns: 0.00% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are service-disabled veteran-owned small business concerns.
 - (iv) HUBZone Small Business Concerns: 0.00% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are HUBZone small business concerns.
 - (v) Small Disadvantaged Business Concerns: 1.31% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are small business concerns owned and controlled by socially and economically disadvantaged individuals.
 - (vi) Women-Owned Small Business Concerns: 0.00% of total planned subcontracting dollars under this subcontract will go to lower-tier subcontractors who are women-owned small business concerns.
- (b) The following dollar values correspond to the percentage goals shown in (a) above.
 - (i) Total dollars planned to be subcontracted to Small Business Concerns: \$64,054.00.
 - (ii) Total dollars planned to be subcontracted to Veteran-Owned Small Business Concerns: \$0.00
 - (iii) Total dollars planned to be subcontracted to Service-Disabled Veteran-Owned Small Business Concerns: \$0.00
 - (iv) Total dollars planned to be subcontracted to HUBZone Small Business Concerns: \$0.00
 - (v) Total dollars planned to be subcontracted to Small Disadvantaged Business Concerns: \$ 20,800.00
 - (vi) Total dollars planned to be subcontracted to Women-Owned Small Business Concerns: \$0.00.
- (c) The total estimated dollar value of all planned lower-tier subcontracting (to all types of businesses) under this subcontract is \$ 1,582,781.00.

- (d) The following principal products and or services will be subcontracted under this subcontract, and the distribution among small and small disadvantaged business is as follows:

Products/services planned to be subcontracted to:

Small Business Concerns are identified by:	*
Veteran-Owned Small Business Concerns by:	**
Service-Disabled Veteran-Owned Small Business Concerns by:	***
HUBZone Small Business Concerns by:	****
Small Disadvantaged Business Concerns by:	*****
Women-Owned Small Business Concerns by:	*****

* Scientific Equipment (to include Compressed Air System Refurbishments, Lighting Equipment, etc.), Printing and Publication Services
**

***** Scientific Equipment (to include Lighting Equipment, etc.), Printing and Publication Services

- (e) The following method was used in developing lower-tier subcontract goals (e.g., what source lists were used to obtain Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns sources.) Subcontract should indicate herein if indirect and overhead costs are used in establishing goals. If used, explain the method used in determining the proportionate share of indirect and overhead cost incurred with (i) Small Business Concerns, (ii) Veteran-Owned Small Business Concerns, (iii) Service-Disabled Veteran-Owned Small Business Concerns (iv) HUBZone Small Business Concerns, (v) Small Disadvantaged Business Concerns and (vi) Women-Owned Small Business Concerns lower-tier subcontractors.

Estimates based on buyers' knowledge of Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns dealing in the items identified above.

Indirect and overhead costs were not used in establishing goals.

2. The following individual will administer the lower-tier subcontracting program:

Name: Larry E. Pherson

Address: Purdue University

1063 Hovde Hall

West Lafayette, IN 47907-1063

Telephone Number: (765) 494-1063

Title: Director, Sponsored Program Services

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

- (a) Obtaining Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women Owned-Small Business Concerns sources from all applicable agencies such as Small Business Administration.

- (b) Assuring inclusion of firms considered to be Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns in all solicitations where appropriate.
- (c) Attending or arranging for attendance at Business Opportunity Workshops, Minority Business Enterprise Seminars, Trade Fairs, etc.
- (d) Conducting or arranging for conduct of motivational training for purchasing personnel pursuant to the intent of Public Law 95-507.
- (e) Monitoring attainment of proposed goals.
- (f) Reviewing solicitations to remove statements, clauses, etc. which may tend to prohibit Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns participation.
- (g) Additions to (or deletion from) the duties specified above are as follows: (Corporate duties may be described):

3. The following efforts will be taken to assure that Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns have an equitable opportunity to compete for lower-tier subcontracts:

- (a) Outreach efforts will be made as follows:
 - (i) Contacts with Minority and Small Business Trade Associations.
 - (ii) Contacts with business development organizations.
 - (iii) Attendance at Small and Minority Business procurement conferences and trade fairs.
- (b) The following internal efforts will be made to guide and encourage buyers:
 - (iv) Workshops, seminars and training programs will be conducted.
 - (v) Activities will be monitored to evaluate compliance with this subcontracting plan.
- (c) Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns, source lists, guides, and other data identifying Small Business, Veteran-Owned Small Business, Service-Disabled Veteran-Owned Small Business, HUBZone Small Business, Small Disadvantaged Business, and Women-Owned Small Business vendors will be maintained by authorized buyers in soliciting lower-tier subcontracts.
- (d) Additions to (or deletions from) the above-listed efforts are as follows:

4. The offeror (subcontractor) agrees that the clause entitled "Utilization of Small Business Concerns" will be included in all lower-tier subcontracts which offer further subcontracting opportunities, and all subcontractors (except small business) who receive subcontracts in excess of \$550,000 will be required to adopt a subcontracting plan similar to this one. The following procedures will be followed in reviewing, approving, and monitoring such plans:

5. The offeror (subcontractor) agrees to submit such periodic reports and cooperate in any studies or surveys as may be required by DOD or the Small Business Administration in order to determine the extent of compliance by the bidder with the subcontracting plan.

6. The offeror (subcontractor) agrees to maintain at least the following types of records to document compliance with this subcontracting plan.

(a) Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns, source lists, guides, and other data identifying Small Business, Veteran-Owned Small Business, Service-Disabled Veteran-Owned Small Business, HUBZone Small Business, Small Disadvantaged Business, and Women-Owned Small Business vendors.

(b) Organizations contacted for Small Business Concerns, Veteran-Owned Small Business Concerns, Service-Disabled Veteran-Owned Small Business Concerns, HUBZone Small Business Concerns, Small Disadvantaged Business Concerns, and Women-Owned Small Business Concerns sources.

(c) On a contract-by-contract basis, records on all lower-tier subcontract solicitations over \$100,000 indicating on each solicitation:

(i) whether small business was solicited, and if not, why not:

(ii) whether veteran-owned small business was solicited, and if not, why not:

(iii) whether service-disabled veteran-owned small business was solicited, and if not, why not:

(iv) whether HUBZone small business was solicited, and if not, why not:

(v) whether small disadvantaged business was solicited, and if not, why not:

(vi) whether women-owned small business was solicited, and if not, why not:

(vii) reasons for failure of solicited small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business to receive the lower-tier subcontract award.

(d) Records to support other outreach efforts:

(i) whether small business was solicited, and if not, why not:

(ii) whether veteran-owned small business was solicited, and if not, why not:

(iii) whether service-disabled veteran-owned small business was solicited, and if not, why not:

(iv) whether HUBZone small business was solicited, and if not, why not:

(v) whether small disadvantaged business was solicited, and if not, why not:

(vi) whether women-owned small business was solicited, and if not, why not:

- (e) Records to support internal activities to guide and encourage buyers: Workshops, seminars, training programs, etc. Monitoring activities to evaluate compliance.
- (f) On a contract-by-contract basis, records to support award data submitted to the Government to include name and address of lower tier subcontractor.

OFFEROR/SUBCONTRACTOR: PURDUE UNIVERSITY

SIGNATURE: Kenneth W. Suter

TYPED NAME AND TITLE: Kenneth W. Suter

Contract Analyst

DATE: May 31, 2007

ACCEPTANCE OF PLAN:

SIGNATURE: [Signature]

TYPED NAME AND TITLE: Angela M. Smith, Jr.
Contracting Officer

DATE: JUN 26 2007