

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 30

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 04/30/2015		2. CONTRACT NO. (If any) NRC-HQ-50-14-E-0001		6. SHIP TO:	
3. ORDER NO. NRC-HQ-60-15-T-0001		4. REQUISITION/REFERENCE NO. RES-15-0182		a. NAME OF CONSIGNEE US NUCLEAR REGULATORY COMMISSION-	
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 ATTN ARACELIS PEREZ-ORTIZ WASHINGTON DC 20555-0001				b. STREET ADDRESS MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY	
				c. CITY ROCKVILLE	d. STATE MD
				e. ZIP CODE 20852	
7. TO:				f. SHIP VIA	
a. NAME OF CONTRACTOR S W R I				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY	
c. STREET ADDRESS 6220 CULEBRA RD				REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
d. CITY SAN ANTONIO				e. STATE TX	f. ZIP CODE 782385166
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE OFFICE OF NUCLEAR MATERIAL	

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT	
<input type="checkbox"/> a. SMALL	<input checked="" type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> d. WOMEN-OWNED	<input type="checkbox"/> e. HUBZone	
<input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED	<input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM	<input type="checkbox"/> h. EDWOSB			
13. PLACE OF				14. GOVERNMENT B/L NO.	
a. INSPECTION Destination		b. ACCEPTANCE Destination		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
				16. DISCOUNT TERMS 30	

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	The Contractor shall provide services in accordance with the Statement of Work entitled "Technical Assistance for Revision to NUREG-2117, "Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies." Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME US NUCLEAR REGULATORY COMMISSION						17(i) GRAND TOTAL
	b. STREET ADDRESS (or P.O. Box) ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A						
	c. CITY ROCKVILLE						
d. STATE MD							
e. ZIP CODE 20852-2738							
						\$0.00	
						\$302,999.00	

22. UNITED STATES OF AMERICA BY (Signature)		04/30/2015		23. NAME (Typed) MONIQUE B. WILLIAMS TITLE: CONTRACTING/ORDERING OFFICER	
		Monique B. Williams			

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION NOT USABLE

OPTIONAL FORM 347 (Rev. 2/2012)
Prescribed by GSA/FAR 48 CFR 53.213(f)

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

MAY 01 2015

ANM002

**ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION**

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER

CONTRACT NO

04/30/2015

NRC-HQ-50-14-E-0001

ORDER NO.

NRC-HQ-60-15-T-0001

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>Task Order Base and All Options: \$302,999.00 Task Order Exercised Amount: \$264,014.00 Task Order Obligation Amount: \$75,000.00 Period of Performance: 05/01/2015 to 04/30/2017</p> <p>NRC Contracting Officer's Representative: Meralis Plaza-Toledo, 301-415-4111</p> <p>Accounting Info: 2015-X0200-FEEBASED-60-60D001-11-6-213-1058-251A</p>					
TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))					\$0.00	

CONTRACTOR ACCEPTANCE OF TASK ORDER NRC-HQ-60-15-T-0001(34)

Acceptance of Task Order No: NRC-HQ-60-15-T-0001(34) should be made by having an official, authorized to bind your organization, execute two copies of this document in the space provided and return one copy to the Contracting Officer. You should retain the other copy for your records.

Accepted Task Order No. NRC-HQ-60-15-T-0001(34):



Name R. B. Kalmbach

Executive Director, Contracts

Title

April 29, 2015

Date

SECTION B - Supplies or Services/Prices

NRCB010 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is: Technical Assistance for Revision to NUREG-2117, "Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies"

(b) Summary work description: The overall objective of this contract is to obtain expert technical assistance for the revision of NUREG-2117. Specifically, updates to the NUREG should include improved SSHAC Level 2 process definition, updates to the guidance for Level 3 and Level 4 processes, and recommendations for use of SSHAC for non-seismic hazards and risk assessments. The results of the guidance update are to be published as a new revision to NUREG-2117.

(End of Clause)

PRICE/COST SCHEDULE

CLIN NO.	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL CPFF
00001	Review of NUREG-2117 as described in the SOW.			
10001	*Optional Task 6: Potential Application of SSHAC Framework to Site Response			\$
Total				\$302,999.00

*Optional CLIN 10001 may be exercised by the Contracting Officer via written notification to the Contractor.

NRCB040A CONSIDERATION AND OBLIGATION—COST-PLUS-FIXED-FEE ALTERNATE I

(a) The total estimated cost to the Government for full performance of this contract is **\$264,014.00** of which the sum of represents the estimated reimbursable costs, and of which represents the fixed-fee.

(b) There shall be no adjustment in the amount of the Contractor's fixed fee.

(c) The amount currently obligated by the Government with respect to this contract is **\$75,000.00**, of which the sum of represents the estimated reimbursable costs, and of which represents the fixed-fee.

(d) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.

(e) In accordance with FAR 52.216-8 - Fixed Fee, it is the policy of the NRC to withhold payment of fee after payment of percent of the fee has been paid in order to protect the Government's interest. The amount of fixed-fee withheld from the contractor will not exceed percent of the total fee or \$ whichever is less. Accordingly, the maximum amount of fixed-fee that may be held in reserve is

(End of Clause)

SECTION C - Description/Specifications

STATEMENT OF WORK

Project Title: Technical Assistance for Revision to NUREG-2117, *“Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies”*

1.0 BACKGROUND

In 1997, the U.S. Nuclear Regulatory Commission (NRC) issued NUREG/CR-6372 entitled, Recommendations for Probabilistic Seismic Hazard Analysis: Guidance on Uncertainty and the Use of Experts. The document was the culmination of 4 years of deliberations by the Senior Seismic Hazard Analysis Committee (SSHAC) regarding the manner in which the uncertainties in probabilistic seismic hazard analysis (PSHA) should be addressed using expert judgment. The document describes a formal process for structuring and conducting expert assessments that has come to be known as a “SSHAC process,” and the recommendations made in the report are referred to as the SSHAC guidelines.

NUREG-2117 was written to complement the SSHAC guidelines report. NUREG-2117 serves two primary purposes: (1) it provides additional levels of detail on topics related to the implementation of SSHAC processes beyond those provided in the original SSHAC report, particularly for Level 3 studies, and (2) it provides additional guidance on the implementation of Level 3 and 4 studies in light of experience gained from past SSHAC projects. Over the past 15 years, several SSHAC Level 3 and 4 studies have been conducted, thus leading to an expanded “database” of experience in the intricacies of carrying out the SSHAC process in actual projects.

The recommendations given in the original SSHAC report regarding methodology were made largely in the abstract without the benefit of significant experience in many areas that would allow for specific guidance. As a result, they provide a very useful framework but are generally at a very high level. NUREG-2117 fills in that framework with details (necessarily) missing in the original SSHAC guidelines. In addition, the SSHAC guidelines devoted most effort to discussing SSHAC Level 4 studies and provided very little guidance regarding the specific approaches that would be appropriate for Level 3 studies. For this reason, NUREG-2117 focused a significant amount of effort on developing and describing the appropriate methods and approaches for a Level 3 study.

Since the time of its issuance, the guidance in NUREG-2117 has been used for seismic hazard studies at all of the nuclear power plant sites in the United States, and has provided a framework for seismic hazard studies for U.S. Department of Energy nuclear facilities, nuclear facilities in other countries (e.g., South Africa, Switzerland), and major dams in Canada. Further, the SSHAC guidelines are now being contemplated by the NRC and Federal Energy Regulatory Commission (FERC) for application to flooding hazards (e.g., riverine flooding, tsunami) and dam failures. These implementations include extensive Level 3 SSHAC studies. NUREG-2117 greatly improved the SSHAC methodology and provided a more consistent regulatory framework. From subsequent applications of the guidance has come a wealth of experience that demonstrates the fundamental value and importance of the SSHAC process. At the same time, the real-world experience has provided lessons learned that necessitate both updating and revision of the guidance provided in the NUREG, and additions to and amplification of guidance in areas that were not afforded detailed attention in NUREG-2117. Based on these lessons learned, updates are needed to NUREG-2117 in order to enhance the efficiency and

effectiveness of this guidance.

2.0 OBJECTIVE

The overall objective of this contract is to obtain expert technical assistance for the revision of NUREG-2117. Specifically, updates to the NUREG should include improved SSHAC Level 2 process definition, updates to the guidance for Level 3 and Level 4 processes, and recommendations for use of SSHAC for non-seismic hazards and risk assessments. The results of the guidance update are to be published as a new revision to NUREG-2117.

3.0 SCOPE OF WORK

The tasks included in this statement of work (SOW) will require considerable interactions and teamwork between the NRC Contracting Officer's Representative (COR) and the contractor. The contractor shall provide technical assistance with the production of NUREG-2117, "Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies." The final versions of this guidance documents are to be published as a new revision to NUREG-2117.

For each task of this contract, the contractor shall organize a workshop and several writing sessions. The workshops may include inputs from many of the project managers for recent PSHA studies, technical integrators or technical facilitators, and participatory peer-review panelists (PPRP). The outcome of each of the workshops will be a set of recommended changes to the NUREG. Prior to each of the workshops to support Tasks 1-4 below, the contractor shall develop a questionnaire to elicit feedback from the participants. This product will be provided to the NRC COR for review prior to the workshops.

It is expected that large parts of the existing document will remain untouched, particularly those that deal with the regulatory history of the development of expert elicitation approaches and the SSHAC guidelines, the fundamental theoretical underpinnings of the SSHAC approach, and the essential steps involved in SSHAC Level 3 and 4 processes. Rather, this work scope will focus on specific areas of the document that require additions to provide guidance in areas previously considered only in a general way (e.g., the SSHAC Level 2 approach), updates to implementation approaches that either require modification or amplification in light of experience (e.g., timing of workshops), and guidance for subjects not considered in previous guidance (e.g., SSHAC application to hazards other than seismic). In addition, a review of the entire document will be done to ensure that there is consistency between the modified sections of the document and those portions that are not revised.

In addition, the contractor shall provide document production services to produce the camera-ready NUREG in NRC-approved format, including technical editing and final formatting.

The scope of work is described in the following tasks:

Task 1: Specification of the SSHAC Level 2/1 processes

In addition to the Level 2 "refinements" that are currently being conducted, it is likely that current Level 3 studies (including the Central and Eastern U.S. Seismic Source Characterization Model and the Next Generation Attenuation-East Model) will be updated in the future using a Level 2 process. Therefore, further guidance and specification of the essential steps in a SSHAC Level 2 process need to be provided. Issues that shall be addressed in the revision include:

- Ways that the technical integration team demonstrates and documents that they have identified and evaluated all data, models, and methods during the evaluation stage
- Use of workshops (required or encouraged) designed to demonstrate comprehensive evaluation and integration processes
- Role of the PPRP, including when they interact with the project, and what written products are expected from them
- Description of the tangible differences in the products and regulatory assurance of a Level 2 and 3 study, from the standpoint of the sponsors and the regulators
- Consideration of whether site response analyses should be done using a Level 2 process
- Description of the minimum acceptable attributes for a Level 1 study

Task 2: Updating Criteria

This task entails the review and revision of the criteria for updating a SSHAC study, as discussed in Chapter 6 of NUREG-2117. The current criteria for evaluating an existing hazard study lead to a decision to accept, refine, or replace the existing study. Given the completion of Level 3 studies at all of the currently operating nuclear power plant (NPP) sites, the “updating” issue will then become the most important decision to be made and will affect the scope of the hazard studies that occur in the near future. Key issues that shall be addressed in this task include the following:

- Whether the alternatives for evaluating an existing PSHA (accept, refine, replace) should include the option of “revise”
- How existing studies should be evaluated relative to new data, models, and methods
- The strategy for assessing whether changes are significant, and whether quantitative definitions of “significant” should be provided
- Review and consideration of the 25% hazard precision estimate discussed in Chapter 9 of NUREG-2115 as a measure of when something is significant or not
- Address the issue of whether or not a local “refinement” of a regional study is considered an update to the regional study; in the sense that a comparison is made between the hazard from the regional study and the hazard from the refined study

Task 3: Detailed Guidance Updates to Level 3 and 4 Processes

This task includes revision and improvement of the guidance for Level 3 and 4 studies based on experience from recent practice and problems. Issues that shall be addressed include the following:

- Discussion on the participation of the PPRP at Workshop 3 (as defined in NUREG-2117 for SSHAC Level 3 and 4 processes). This has proven to be very useful and the written feedback given after that workshop can greatly assist in finalizing the models
- Discussion of how the time from the end of SSHAC Workshop 3 to the receipt of the Draft Report is too long for the PPRP, because they don’t know how the preliminary models have been revised and finalized until they get the report, so they need a briefing at the time that the Hazard Input Document is finalized
- Additional guidance to better specify the crucial role of the PPRP, their role, at what point can they conclude that a project is inadequate, and details of the products that they are expected to develop at key times during the project

- The role of the Project Manager shall be more specifically defined
- Recommendations shall be provided regarding how mature the Technical Integration teams' models need to be in order to have an effective Workshop 3, particularly with regard to model changes that may be made and the applicability of hazard feedback

Task 4: Use of SSHAC for Non-seismic Hazard and Risk Assessments

Although the current document mentions other hazards, the concepts are not developed and examples are not given. The SSHAC process holds great promise for assessing all kinds of hazards that require expert judgment, including probabilistic flood, volcanic and tsunami hazard analysis as well as other inputs to a risk analysis. This discussion shall include the following:

- Examples of applications that have been conducted for non-seismic applications (e.g., volcanic hazard, percolation flux, tsunami).
- Description of the elements of the SSHAC process that would be unchanged and those that would require tailoring for the hazard being assessed
- Provide description of an example for flood hazard analysis: aleatory model, epistemic uncertainties, topics to be addressed in workshops, etc.
- Discuss consistency with risk-informed approach and need for full documentation and peer review

Task 5: Incorporation of Task 1-4/6 Results into NUREG Revision

This task involves compiling the information developed in Tasks 1-4, performing a review of the existing NUREG document to correct or clarify passages that are unclear or ambiguous, and developing a final draft NUREG. The contractor shall provide document production services to produce the camera-ready NUREG in NRC-approved format, including technical editing and final formatting.

Optional Task 6: Potential Application of SSHAC Framework to Site Response

The current version of NUREG-2117 does not explore the application of the SSHAC Guidelines to the assessment of site response analysis for facility specific studies. Current PSHA studies include seismic source and ground motion attenuation characterization but not site response analysis.

- Based on discussions with participants and users of the current PSHA studies, provide an assessment of the feasibility of applying the SSHAC process to facility-specific site response analyses. This assessment should include insights gained during the course of the Workshops conducted for Tasks 1-4.

Should this optional task be exercised, it will be implemented similarly to the prior tasks and will include an organized workshop and several writing sessions. The outcome of the workshops will be a set of recommended changes to the NUREG. This optional task is included should the CNWRA and NRC team decide that an additional workshop or workshops is needed to fully address these emergent topics. The option will be exercised at the discretion and approval of the NRC COR.

4.0 DELIVERABLES AND REPORTING REQUIREMENTS

The contractor shall provide deliverables in Microsoft® Word format, unless other software is approved in writing by the NRC COR. Deliverables shall be provided in both electronic format and hard copy. The electronic versions of the deliverables shall be delivered to the NRC COR. Unless the contract is otherwise bilaterally modified by the parties, the contractor shall submit deliverables by the draft due dates in the deliverable table below. The NRC COR will provide a revised schedule of activities, deliverables, and milestones for the project as the project progresses.

Unless otherwise specified below, for all tasks, the contractor shall provide all deliverables as draft products. The NRC COR will review all draft deliverables (and coordinate any internal NRC staff review, if needed) and provide comments back to the contractor. The contractor shall revise the draft deliverable based on the comments provided by the NRC COR, and, within 30 business days, deliver the final version of the deliverable, unless otherwise specified in the deliverable table. When mutually agreed upon between the contractor and the NRC COR, the contractor may submit preliminary or partial drafts to ensure the contractor understands of the particular work requirement.

TASK	SCHEDULE
Task 1: Specification of SSHAC Level 2/1 Process 1.1 Prior to the workshop the contractor shall develop a questionnaire to elicit feedback from the participants on this topic (described above) and develop list of potential participants. These items will be provided to the NRC COR for review prior to the workshop. NRC review (comments to contractor within 15 days) 1.2 Conduct workshop 1.3 Summarize workshop findings and provide draft summary to NRC COR for review. NRC review (comments to contractor within 15 days)	45 days after award 60 days after award 30 days after workshop
Task 2: Updating Criteria 2.1 Prior to the workshop the contractor shall develop a questionnaire to elicit feedback from the participants on this topic (described above) and develop list of potential participants. These items will be provided to the NRC COR for review prior to the workshop. NRC review (comments to contractor within 15 days) 2.2 Conduct workshop 2.3 Summarize workshop findings and provide draft summary to NRC COR for review NRC review (comments to contractor within 15 days)	July 1, 2015 August 30, 2015 30 days after workshop

Optional Task 6: Potential Application of SSHAC Framework to Site Response	
6.1: Develop questionnaire to elicit feedback from subject matter experts on the application of NUREG-2117 to facility-specific site response analyses. Provide draft questionnaire to NRC COR for review (NRC comments within 30 days)	TBD
6.2: Conduct workshop	TBD
6.3: Summarize workshop findings and provide draft summary to NRC COR for review NRC review (comments to contractor within 15 days)	TBD

The contractor shall provide all data produced under this contract to the NRC COR at the conclusion of the contract. All data first produced in performance of this contract are subject to FAR clause 52.227-14, Rights in Data—General (Dec 2007), which is hereby incorporated by reference.

5.0 APPLICABLE DOCUMENTS AND STANDARDS

Mandatory Documents and Standards:

- 1) NUREG-0650, Preparing NUREG-Series Publications, Revision 2
<http://pbadupws.nrc.gov/docs/ML0410/ML041050294.pdf>
- 2) NUREG-1379, NRC Editorial Style Guide
<http://pbadupws.nrc.gov/docs/ML0932/ML093280744.pdf>

6.0 MEETINGS AND TRAVEL

One, 1-day orientation/planning meeting at NRC headquarters located in Rockville, Maryland.

Four, 2-day workshops are anticipated (one workshop for each task 1-4, at minimum) located in Walnut Creek, California.

One, 3-day finalization writing session at NRC headquarters in Rockville, Maryland following completion of the four tasks.

Optional Task 6: One, 2-day workshop located in Walnut Creek, CA (if exercised).

The contractor shall request and obtain approval from the COR before incurring any travel costs.

7.0 NRC FURNISHED MATERIALS

The NRC COR will furnish the following materials to the contractor. Upon request, other background information and reference materials will be provided to the contractor, if available.

The NRC shall furnish a final MS Word version of the existing NUREG-2117 document.

8.0 LICENSE FEE

N/A

SECTION D - Packaging and Marking

NRCD020 BRANDING

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

Work Supported by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation, under Contract/order number NRC-HQ-50-14-E-0001/ NRC-HQ-60-15-T-0001(34).

(End of Clause)

NRCD010 PACKAGING AND MARKING

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

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

(c) Additional packaging and/or marking requirements are as follows: None.

(End of Clause)

SECTION E - Inspection and Acceptance

CONTRACTING OFFICER'S REPRESENTATIVE (COR) AUTHORITY

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

Name: Meralis Plaza-Toledo
Address: Mail Stop: TWFN 7F3
Washington, DC 20555
Telephone Number: 301-415-4111
E-mail: Meralis.Plaza-Toledo@nrc.gov

(b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. The term technical direction is defined to include the following:

(1) Technical direction to the contractor which shifts work emphasis between areas of work or tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work or changes to specific travel identified in the Statement of Work), fills in details, or otherwise serves to accomplish the contractual statement of work.

(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, approve 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 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 that 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 to the instruction or direction 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.

(End of Clause)

SECTION F - Deliveries or Performance

NRCF032 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)

This order shall commence on May 1, 2015, and will expire on April 30, 2017.

(End of Clause)

NRCF010 PLACE OF DELIVERY-REPORTS

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

- a. Name: Meralis Plaza-Toledo (1 Electronic Copy)
- b. Contracting Officer's Representative (COR)
- c. Address: Meralis.Plaza-Toledo@nrc.gov (1 hard copy)

- d. Name: Aracelis Pérez-Ortiz (1 Electronic Copy)
- e. Contract Specialist (CS)
- f. Address: Aracelis.Perez-Ortiz@nrc.gov (1 hard copy)

(End of Clause)

SECTION G - Contract Administration Data

NRCG030 ELECTRONIC PAYMENT (SEP 2014)

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

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal – Continuation Sheet." The preferred method of submitting invoices is electronically to: NRCPayments@nrc.gov.

(End of Clause)

SECTION H - Special Contract Requirements

2052.215-70 KEY PERSONNEL (JAN 1993)

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

<u>Name</u>	<u>Title</u>
Miriam Juckett	Program Manager
Dr. John A. Stamatakis	Principal Investigator (Subject Matter Expert)

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.

(End of Clause)

2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT (OCT 1999) - ALTERNATE I (OCT 1999)

(a) Total expenditure for travel may not exceed **\$13,052** 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 travel costs incurred that are directly related to this contract and are allowable subject to the limitations prescribed in FAR 31.205-46.

(d) It is the responsibility of the contractor to notify the contracting officer in accordance with the 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, must 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.

(End of Clause)

NRCH480 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS

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

(End of Clause)

NRCH470 GREEN PURCHASING (SEP 2013)

(a) In furtherance of the sustainable acquisition goals included in Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," products and services acquired under this contract/order shall be energy-efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, recycled content, and non-toxic or less toxic alternatives, to the maximum extent practicable in meeting NRC contractual requirements.

(b) See NRC's Green Purchasing Plan (GPP) at:
<http://pbadupws.nrc.gov/docs/ML1219/ML12191A130.pdf> and the General Service

Administration's (GSA) Green Procurement Compilation at:
<http://www.gsa.gov/portal/content/198257>.

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

(End of Clause)

NRCH410 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES

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

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

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

(End of Clause)

NRCH400 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS

Review and Approval of Reports

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

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports, summaries, data, and related documents that the contractor/grantee intends to release,

display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified Non-Safeguards Information (SUNSI) and Safeguards Information (SGI). The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes SUNSI or SGI is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/grantee shall clearly mark SUNSI and SGI, to include for example, OUO-Allegation Information or OUO-Security Related Information on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 Safeguards Information) in maintaining these records and documents. The contractor/grantee shall ensure that SUNSI and SGI is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified Non-Safeguards and Safeguards Information policies, and NRC Management Directives and Handbooks 12.5, 12.6 and 12.7.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee.

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

(End of Clause)

SECTION I - Contract Clauses

52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

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

(End of clause)

SECTION J - List of Documents, Exhibits and Other Attachments

BILLING INSTRUCTIONS FOR COST-REIMBURSEMENT TYPE CONTRACTS (MAY 2013)

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

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

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

Electronic Invoice/Voucher Submissions: The preferred method of submitting invoices/vouchers is electronically to the U.S. Nuclear Regulatory Commission, via email to: NRCPayments@nrc.gov.

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

NRC Payments
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mailstop O3-E17A
Rockville, MD 20852-2738

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

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

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

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

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

instructions for preparation and itemization of the invoice/voucher are included with the sample form.

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

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

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

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

Supersession: These instructions supersede previous Billing Instructions for Cost-Reimbursement Type Contracts (July 2011).

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

1. Official Agency Billing Office

NRC Payments
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mailstop O3-E17A
Rockville, MD 20852-2738

2. Invoice/Voucher Information

- a. Payee's DUNS Number or DUNS+4. The Payee shall include the Payee's Data Universal Number (DUNS) or DUNS+4 number that identifies the Payee's name and address. The DUNS+4 number is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the Payee to identify alternative Electronic Funds Transfer (EFT) accounts for the same parent concern.
- b. Taxpayer Identification Number. The Payee shall include the Payee's taxpayer identification number (TIN) used by the Internal Revenue Service (IRS) in the administration of tax laws. (See IRS Web site: [http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Employer-ID-Numbers-\(EINs\)\)](http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Employer-ID-Numbers-(EINs)))).
- c. 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 System for Award Management (SAM) database at <http://sam.gov> and shall be paid by EFT in accordance with the terms of this contract. See Federal Acquisition Regulation (FAR) 52.232-33(g) Payment by Electronic Funds Transfer - Central Contractor Registration (October 2003).
- d. Contract Number. Insert the NRC contract number (including Enterprise-wide Contract (EWC)), GSA Federal Supply Schedule (FSS), Governmentwide Agency Contract (GWAC) number, or Multiple Agency Contract (MAC) number, as applicable.
- e. Task Order Number. Insert the task/delivery order number (If Applicable). **Do not include more than one task order per invoice or the invoice may be rejected as improper.**
- f. Invoice/Voucher. The appropriate sequential number of the invoice/voucher, beginning with 001 should be designated. Contractors may also include an individual internal accounting number, if desired, in addition to the 3-digit sequential number.
- g. Date of Invoice/Voucher. Insert the date the invoice/voucher is prepared.
- h. Billing Period. Insert the beginning and ending dates (day, month, year) of the period during which costs were incurred and for which reimbursement is requested.

i. Description of Deliverables. Provide a brief description of supplies or services, quantity, unit cost, and total cost.

j. Work Completed. Provide a general summary description of the services performed or products submitted for the invoice period and specify the section or Contract Line Item Number (CLIN) or SubCLIN in the contract pertaining to the required deliverable(s).

k. Shipping. Insert weight and zone of shipment, if shipped by parcel post.

l. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.

m. Instructions. Include instructions to consignee to notify the Contracting Officer of receipt of shipment.

n. For Indefinite Delivery contracts, the final invoice/voucher shall be marked "FINAL INVOICE" or "FINAL VOUCHER".

o. Direct Costs. Insert the amount billed for the following cost elements, adjustments, suspensions, and total amounts, for both the current billing period and for the cumulative period (from contract inception to end date of this billing period).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

t. Grand Totals.

3. Sample Invoice/Voucher Information

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

This invoice/voucher represents reimbursable costs for the billing period from _____ through _____

		<u>Amount Billed</u>	
		<u>Current Period</u>	<u>Cumulative</u>
(a)	<u>Direct Costs</u>		
(1)	Direct labor	\$ _____	\$ _____
(2)	Fringe benefits (% of direct labor)	\$ _____	\$ _____
(3)	Government property (\$50,000 or more)	\$ _____	\$ _____
(4)	Government property, Materials, and Supplies (under \$50,000 per item)	\$ _____	\$ _____
(5)	Premium pay (NRC approved overtime)	\$ _____	\$ _____
(6)	Consultants Fee	\$ _____	\$ _____
(7)	Travel	\$ _____	\$ _____
(8)	Subcontracts	\$ _____	\$ _____
(9)	Other costs	\$ _____	\$ _____
Total Direct Costs:		\$ _____	\$ _____
(b)	<u>Indirect Costs</u> (provide the rate information applicable to your firm)		
(10)	Overhead _____ % of _____ (Indicate Base)	\$ _____	\$ _____
(11)	General and Administrative (G&A) _____ % of _____ (Indicate Base)	\$ _____	\$ _____
Total Indirect Costs:		\$ _____	\$ _____
(c)	<u>Fixed-Fee:</u>		
(12)	Fixed-Fee Calculations:		
i.	Total negotiated contract fixed-fee percent _____ and amount \$ _____		
ii.	85% allowable fee amount \$ _____		
iii.	Cumulative fee billed on prior invoices \$ _____		
iv.	Fee due this invoice (not to exceed 85% of fee earned based upon negotiated contract fee percentage) \$ _____		
<u>Note:</u> The fee balance withheld by NRC may <u>not</u> exceed \$100,000.			
Total Fixed-Fee:		\$ _____	\$ _____
(d)	Total Amount Billed	\$ _____	\$ _____

(e)	Adjustments (+/-)	\$ _____	\$ _____
(f)	Grand Total	\$ _____	\$ _____

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

SAMPLE SUPPORTING INFORMATION

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

Cost Elements:

1) **Direct Labor - \$2,400**

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

2) **Fringe Benefits - \$480**

Fringe @ 20% of Direct Salaries

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

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

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

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

10 Radon tubes @ \$110.00	=	\$1,100
6 Pairs Electrostatic gloves @ \$150.00	=	<u>\$ 900</u>
		\$2,000

5) **Premium Pay - \$150**

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

6) Consultants' Fee - \$100

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

7) Travel - \$2,640

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

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

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

8) Subcontracting - \$30,000

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

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

9) Other Costs - \$5,100

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

10) Overhead Expense - \$41,148

Overhead @ 40% of Total Direct Costs

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

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

12) Fixed-Fee - \$8,218

Fixed-Fee applied to Total Costs @ 5%

Fixed-Fee Calculations:

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

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