

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

1. DATE OF ORDER 06/02/2015	2. CONTRACT NO. (If any) NRC-HQ-50-14-E-0001	6. SHIP TO:	
3. ORDER NO. NRC-HQ-20-15-T-0012		4. REQUISITION/REFERENCE NO. NRR-15-0180	
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP 3WFN-05-C64MP ATTN HUGO O ALCANTARA 301-287-0844 WASHINGTON DC 20555-0001		a. NAME OF CONSIGNEE US NUCLEAR REGULATORY COMMISSION-	
		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:		Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
		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
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11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT	
<input type="checkbox"/> a. SMALL	<input 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.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 09/04/2015		16. DISCOUNT TERMS 30	
a. INSPECTION Destination	b. ACCEPTANCE Destination						

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)
	NRC-HQ-20-15-T-0012, Task Order 37 The Contractor shall provide services in accordance with Section C, Statement of Objectives entitled "Technical Assistance for Independent Cost Estimation". Continued ...					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)	
21. MAIL INVOICE TO:						17(i) GRAND TOTAL	
a. NAME		US NUCLEAR REGULATORY COMMISSION					\$0.00
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			\$78,088.00	

22. UNITED STATES OF AMERICA BY (Signature) 		23. NAME (Typed) SHARLENE M. MCCUBBIN TITLE: CONTRACTING/ORDERING OFFICER	
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**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.

ORDER NO.

06/02/2015

NRC-HQ-50-14-E-0001

NRC-HQ-20-15-T-0012

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>NRC Contracting Officers Representative: Stewart Schneider, Stewart.Schneider@nrc.gov, 301-415-4123.</p> <p>Task Order Obligations: \$46,929.22 Task Order Ceiling: \$78,088.00 Accounting Info: 2015-X0200-FEEBASED-20-20D006-11-7-183-1061-252A</p>					
TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))					\$0.00	

SECTION B - Supplies or Services/Prices

NRCB010 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is "Technical Assistance for Independent Cost Estimation"

(b) Summary work description: The contracting services are needed to develop an independent cost estimate that NRC staff can compare with their independent cost estimate for the same proposed regulatory action. Where there are significant differences in the two independent cost estimates, NRC will compare methodologies, input data, and other factors to better understand and, if possible, reconcile observed differences in the contractor and NRC estimates. As a result of this comparison, NRC seeks to improve its estimates of the financial aspects of proposed rules and other regulatory actions. This activity stems from a General Accounting Organization (GAO) recommendation that NRC align its cost estimating procedures with GAO cost estimating best practices.

PRICE/COST SCHEDULE

CLIN NO.	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL GPF
00001	Technical evaluation report that contains the final independent cost estimate.	[REDACTED]	[REDACTED]	[REDACTED]
Total		[REDACTED]	[REDACTED]	\$78,088.00

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 \$78,088.00. The sum of [REDACTED] represents the estimated reimbursable costs, and [REDACTED] 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 \$46,929.22, of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] 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 [REDACTED] 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 [REDACTED] percent of the total fee or [REDACTED], whichever is less. Accordingly, the maximum amount of fixed-fee that may be held in reserve is [REDACTED]

Section C: Statement of Objectives

Title: Technical Assistance for Independent Cost Estimation

Cost Center:

Business Line: 117183

NRC Requisition Office: NRR

NRC COR: Stewart Schneider, Stewart.Schneider@nrc.gov

Alternate NRC COR: Glenna Lappert, Glenna.Lappert@nrc.gov

Type of Contract/Order: Cost Plus – Fixed Fee

1.0 PURPOSE

The contracting services are needed to develop an independent cost estimate that NRC staff can compare with their independent cost estimate for the same proposed regulatory action. Where there are significant differences in the two independent cost estimates, NRC will compare methodologies, input data, and other factors to better understand and, if possible, reconcile observed differences in the contractor and NRC estimates. As a result of this comparison, NRC seeks to improve its estimates of the financial aspects of proposed rules and other regulatory actions. This activity stems from a General Accounting Organization (GAO) recommendation that NRC align its cost estimating procedures with GAO cost estimating best practices.

2.0 BACKGROUND

In its role as the independent nuclear regulatory agency of the United States, the Nuclear Regulatory Commission (NRC) is charged with protecting public health and safety, promoting common defense and security, and protecting the environment. When the Commissioners believe that a modification to a nuclear power plant is necessary to ensure that the facility provides adequate protection to public health and safety or is in accord with the common defense and security, it can order licensed operators to modify or make additions to a reactor or aspects of a plant's facilities without consideration of economic costs. Alternatively, if NRC determines that there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from a modification and that the costs of implementation for that facility are justified in view of this increased protection, NRC may order licensed operators to modify a reactor or aspect of the facility, among other actions. Specifically, in making this determination, NRC conducts a regulatory analysis focusing on an estimation and evaluation of costs and benefits.

In December 2014, the United States Government Accountability Office (GAO) published

GAO-15-98, "Nuclear Regulatory Commission—NRC Needs to Improve Its Cost Estimates by Incorporating More Best Practices." GAO-15-98 examines the extent to which NRC's cost estimating procedures support the development of reliable cost estimates and relates it to specific best practices identified in GAO-09-3SP, "GAO Cost Estimating and Managing Capital Program Costs" (March 2009). Consequently, GAO recommended that NRC align its cost estimating procedures with relevant cost estimating best practices in GAO-09-3SP and ensure that future cost estimates are prepared in accordance with relevant cost estimating best practices.

In response to GAO's recommendation, the Center for Nuclear Waste Regulatory Analyses (CNWRA) is being tasked to develop an independent cost estimation (ICE) for a proposed regulatory action that NRC staff will compare with their ICE for the same proposed action. The action chosen is the proposed rule to amend Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a, "Codes and Standards," to incorporate by reference the latest revisions of three regulatory guides (RGs) approving new and revised Code Cases published by the American Society of Mechanical Engineers (ASME).

Description of the Proposed Rule

The NRC staff reviews ASME Boiler and Pressure Vessel (BPV) and Operation and Maintenance (OM) code cases, determines the acceptability of each Code Case, and publishes its findings in RGs. The RGs are revised periodically as new code cases are published by the ASME. The NRC incorporates by reference the RGs listing acceptable and conditionally acceptable ASME Code Cases in 10 CFR 50.55a. Currently, RG 1.84, Revision 36, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III"; RG 1.147, Revision 17, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1"; and RG 1.192, Revision 1, "Operation and Maintenance Code Case Acceptability, ASME OM Code," are incorporated into the NRC's regulations in 10 CFR 50.55a, "Codes and standards." The proposed rule updates the incorporation by reference with the latest revisions of NRC RG 1.84, RG 1.147, and RG 1.192. This rulemaking continues the NRC's practice of incorporating by reference the RGs listing the most current set of NRC-approved ASME code cases.

3.0 SCOPE

The scope of acquisition defined by this statement of objective is to acquire contractor technical assistance to develop an independent cost estimate to support fulfillment of NRC's regulatory responsibilities. More specifically, NRC seeks to improve its estimates of the financial aspects of proposed rules and other regulatory actions. The evaluation needs to consider both the immediate action and future costs associated with changes from current practices by industry. The evaluation also needs to consider the life cycle of the actions. Because of this broad scope, the independent cost estimate will need to consider a wide range of costs, including but not limited to: engineering design, development and procurement, hardware, software, operations and maintenance, training plant/facility staff, fitness for duty, and other aspects of ensuring human reliability, inspections, and repairs. Additionally, the contractor shall perform

the independent cost estimate to be consistent with the best practices in GAO-09-3SP. The benefits associated with the proposed rule are not to be assessed.

4.0 OBJECTIVES

Critical Objectives

The contractor shall develop an independent cost estimate for the proposed rulemaking, "Approval of American Society of Mechanical Engineers' Code Cases," that NRC staff could compare with their independent cost estimate for the same proposed rulemaking.

5.0 CONSTRAINTS

The contractor should follow the guidance provided in GAO-09-3SP and GAO-15-98 to develop the independent cost estimate for the proposed rulemaking, "Approval of American Society of Mechanical Engineers' Code Cases." Additional documents and standards to be used as background material are identified in section 6 of this statement of objective.

6.0 APPLICABLE DOCUMENTS AND STANDARDS

The following documents and standards are to be used as background materials to prepare the independent cost estimate:

Federal Register notice for the proposed rulemaking, "Approval of American Society of Mechanical Engineers' Code Cases."

Regulatory analysis guidance documents

- NUREG/BR-0058, Regulatory Analysis Guidelines of the US NRC
- NUREG/BR-0184, NRC Regulatory Analysis Technical Evaluation Handbook

Recent regulatory analysis Commission papers

- SECY-12-0110, Consideration of Economic Consequences within the US NRC's Regulatory Framework
- SECY-14-0002, Plan for Updating the US NRC's Cost-Benefit Guidance
- SECY-14-0087, Qualitative Consideration of Factors in the Development of Regulatory Analyses and Backfit Analyses
- SECY-14-0143, Regulatory Gap Analysis of the NRC's Cost-Benefit Guidance and Practices

Example regulatory analyses

- SECY-12-0157, Consideration of Additional Requirements for Containment Venting Systems for Boiling Water Reactors with Mark I and Mark II Containments (ADAMS ML12345A030)
- SECY-14-0129, Final rule: Cyber Security Event Notifications (10 CFR Part 73) (RIN 3150-AJ37) – regulatory analysis
- Additional examples are listed in Enclosure 1 to SECY-14-0087

Regulatory analysis audit documents

- GAO-09-3SP, GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs
- GAO-15-98, Nuclear Regulatory Commission: NRC Needs to Improve its Cost Estimates by Incorporating More Best Practices

Cumulative Effects of Regulation: Improve Regulatory Analysis Process

- SRM-SECY-12-0137, Staff Requirements – SECY-12-0137 – Implementation of the Cumulative Effects of Regulation Process Changes
- COMSECY-14-0014, Cumulative Effects of Regulation and Risk Prioritization Initiative: Update on Recent Activities and Recommendations for Path Forward
- ML14028A452, NEI Slides for January 28, 2014 Public Meeting on CER, Cumulative Impact Case Study Analysis and Recommendations
- ML14028A455, NEI Cumulative Impact Case Study Analysis and Recommendations

7.0 TECHNICAL AND SPECIAL QUALIFICATIONS REQUIRED OF CONTRACTOR

The following labor categories are required:

- The Contractor shall provide a responsible project manager (PM), who shall possess, at a minimum, a bachelor's degree in engineering or science, and be knowledgeable in the discipline of cost estimating. This individual shall also be considered as key personnel under the contract and serve as primary contact. As a minimum the Contractor's PM shall have the following responsibilities:
 - (1) Responsibility to provide oversight for all task orders placed under this contract;
 - (2) Responsibility to provide oversight for the efforts of any Contractor team that is assembled for this task order;
 - (3) Responsibility to perform other project management duties that are necessary for the successful completion of this task order and overall contract requirements;
 - (4) Responsibility to ensure the quality and schedule of the deliverable so that all information and data are accurate and reliable; and
 - (5) Responsibility to interface closely with the NRC Contracting Officer's Representative.

- Nuclear power plant knowledge and experience as it pertains to inspection and inspection processes in the following areas of expertise: (Note: Individual(s) should also have knowledge and experience of independent cost estimates associated with such systems.)
 - Non-destructive evaluation
 - Non-destructive testing
 - Remote monitoring systems
 - Risk assessment and failure modes and effects
 - Robotic and remote systems
 - Fracture mechanics

- Senior level nuclear power plant knowledge and experience as it pertains to following areas of expertise: (Note: Individual(s) should also have knowledge and experience of independent cost estimates associated with such systems.)
 - Fitness for duty
 - Human reliability
 - Reliability engineering
 - Risk assessment

- Senior level nuclear power plant knowledge and experience as it pertains to life cycle cost estimation methodology in the following areas of expertise:
 - Cost analysis using life cycle costing and estimation
 - Cost analysis of embedded systems

- Senior level nuclear power plant knowledge and experience as it pertains to NRC regulatory requirements, and design review inspection processes in the following areas of expertise: (Note: Individual(s) should also have knowledge and experience of independent cost estimates associated with regulations and related processes.)
 - Nuclear engineering
 - Nuclear safety systems
 - Operator reactor design
 - Systems engineering

8.0 DELIVERABLES AND DELIVERY SCHEDULE

Technical Reporting Requirements

At the completion of the task, submit a technical evaluation report that contains the final independent cost estimate. (Note: No interim-draft reports are to be provided to the NRC staff comment.) The final report should be organized into the following sections:

- Executive Summary
- Background
- Scope of the ICE
 - Overview of the approach
 - Assumptions
 - Data
- Independent Cost Estimate Summary
 - Overview
 - Summary of Results
 - Overall Risk Assessment (risk analysis, contingency analysis, uncertainty analysis)
 - Cost Estimating Methodology
 - Key Costs and Drivers
 - Basis of Estimate
- Conclusions
- Report Appendices
 - ICE Team Members, Assignments, and Biographical Summary
 - Cost Calculations
 - Etc.

The contractor shall provide the final independent cost estimate in both hard copy and electronic formats unless directed by the NRC Contracting Officer's Representative. The electronic format shall be provided using a Microsoft-based product (e.g., Outlook, Word, Excel, PowerPoint) unless specifically approved by the NRC Contracting Officer's Representative.

Monthly Letter Status Reporting (MLSR) Requirements

MLSRs will be prepared in accordance with the base EWC contract.

Schedule

Provide the technical evaluation report that contains the final independent cost estimate no later than 12 weeks from the date of the kick-off meeting.

9.0 MEETINGS AND TRAVEL

Kick-Off Meeting

- Hold meeting within 2 business days after contract award.
- Meeting may be conducted by telephone.

Subsequent Meetings

- Conducted via telephone, once per week for 15 minutes.
- Duration and frequency may be modified as directed by the NRC Contracting Officer's Representative.

Travel

- There is no contractor required travel.

10.0 NRC-FURNISHED PROPERTY/MATERIALS

The NRC Contracting Officer's Representative will provide data as required.

The NRC will furnish documents and information not readily available to the contractor.

NRC will work to provide COR-approved contractor personnel with the following access:

- Special access to Agencywide Documents Access and Management System (ADAMS)
- Unescorted access to NRC HQ facilities
- Access to NRC email

11.0 SECURITY

All work done under this task order is UNCLASSIFIED.

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-55-14-T-0022.

(End of Clause)

NRC010 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

2052.215-71 PROJECT OFFICER AUTHORITY (OCT 1999)

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

Name: Stewart Schneider
Address: Mail Stop: OWFN 12-D-20
Washington, DC 20555
Telephone Number: 301-415-4123
Stewart.Schneider@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 June 8, 2015 and will expire on September 25, 2015.

(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: Stewart Schneider (1 Electronic Copy)
- b. Contracting Officer's Representative (COR)
- c. Address: Stewart.Schneider@nrc.gov (1 hard copy)

- d. Name: Sharlene McCubbin (1 Electronic Copy)
- e. Contract Specialist (CS)
- f. Address: Sharlene.McCubbin@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>
Mr. Lane Howard	Program Manager
Dr. Sitakanta Monanty	Principal Investigator
Ms. Melissa Poerner	Senior Research Engineer
Mr. George Adams	Senior Research Engineer
Mr. Robert Fosdick	Principal Engineer
Dr. Jay Fisher	Program Director, Mechanical Engineering Division

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)

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)

SECTION I - Contract Clauses

NOT APPLICABLE

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>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) \$ _____		
	Note: 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	\$ 500	320
			\$2,400	1,760 hrs.

2) Fringe Benefits - \$480

Fringe @ 20% of Direct Salaries

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

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

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

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

10 Radon tubes @ \$110.00 = \$1,100
6 Pairs Electrostatic gloves @ \$150.00 = \$ 900
\$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 = \$20,000
\$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 (+/-)	- \$8,218
Grand Total	\$166,802