

AWARD/CONTRACT		1. THIS CONTRACT IS RATED ORDER UNDER DPAS (15 CFR 700)		RATING N/A	PAGE OF PAGES 1
2. CONTRACT NO. (Proc. Inst. Ident.) NRC-HQ-12-C-04-0069		3. EFFECTIVE DATE July 2, 2012		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. RES-12-170	
5. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Valerie Whipple Mail Stop: TWB-01-B10M Washington, DC 20555		CODE 3100	6. ADMINISTERED BY (If other than Item 5) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555 CODE 3100		

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State and ZIP Code) SOUTHWEST RESEARCH INSTITUTE S W R I 6220 CULEBRA RD SAN ANTONIO TX 782385166		8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)	
		9. DISCOUNT FOR PROMPT PAYMENT NET 30	
		10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN	

CODE	FACILITY CODE	11. SHIP TO/MARK FOR U.S. Nuclear Regulatory Commission Washington DC 20555	12. PAYMENT WILL BE MADE BY Department of Interior / NBC NRCPayments@nbc.gov Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue Denver CO 80235-2230 PHONE: FAX:
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13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)() <input checked="" type="checkbox"/> 41 U.S.C. 253(c)(2) ()		14. ACCOUNTING AND APPROPRIATION DATA B&R: 2012-60-11-6-154 JC: V6301 BOC: 252A APPN: 31X0200 RFPA: RES-12-170 FAIMIS: 121985 \$260,572	
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15A. ITEM NO.	15B. SUPPLIES/SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	The Contractor shall performed the work described in the attached Statement of Work dated July 2, 2012. The Period of Performance is July 9, 2012 - March 31, 2013. Contract Type: CPFF Contract Ceiling: \$324,308 Contract Funding: \$260,572 DUNS: 007936842 NAICS: 541990 PSC: 499				\$324,308

15G. TOTAL AMOUNT OF CONTRACT

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

17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)		18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)	
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19A. NAME AND TITLE OF SIGNER (Type or print) R.B. Kalmbach, Executive Director, Contracts		20A. NAME OF CONTRACTING OFFICER Valerie Whipple Contracting Officer	
19B. NAME OF CONTRACTOR BY	19C. DATE SIGNED 7/5/2012	20B. UNITED STATES OF AMERICA BY	20C. DATE SIGNED 7/6/12

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GUNSI REVIEW COMPLETE

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

TEMPLATE - ADM002

JUL 16 2012

ADM002

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

(a) The title of this project is: **Modeling of Containment Liner Corrosion**

(b) Summary work description:

The objectives of this contract are to (1) construct a mathematical model for containment liner corrosion resulting from a foreign object at the steel liner-concrete interface to determine the evolution of the damage morphology, and (2) calculate the containment leakage rates for the expected degraded area. The scope of work is divided into four (4) tasks that include corrosion model development and calibration, analyses factors that influence corrosion rates and penetration size, leak rate calculations and reporting.

B.2 CONSIDERATION AND OBLIGATION--COST-PLUS-FIXED-FEE (AUG 2011) ALTERNATE I (AUG 2011)

(a) The total estimated cost to the Government for full performance of this contract is **\$324,308**, of which the sum of \$ [REDACTED] represents the estimated reimbursable costs, and of which \$ [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 **\$260,572**, 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 85 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 15 percent of the total fee or \$100,000, whichever is less. Accordingly, the maximum amount of fixed-fee that may be held in reserve is \$ [REDACTED]

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

See Attachment 1.

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

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

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

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

D.2 BRANDING (AUG 2011)

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

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

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

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

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

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

NUMBER	TITLE	DATE
52.246-5	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1) INSPECTION OF SERVICES--COST-REIMBURSEMENT	APR 1984

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

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

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

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

All technical reports required by Section C and all Technical Progress Reports required by Section F are to be prepared in accordance with Management Directive 3.7, "NUREG-Series Publication." Management Directive 3.7 is not applicable to any Contractor Spending Plan (CSP) and any Financial Status Report that may be included in this contract. (See List of Attachments).

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

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

- (a) A listing of the efforts completed during the period, and milestones reached or, if missed, an explanation provided;
- (b) Any problems or delays encountered or anticipated and recommendations for resolution. If the recommended resolution involves a contract modification, e.g., change in work requirements, level of effort (cost) or schedule delay, the contractor shall submit a separate letter to the contracting officer identifying the required change and estimated cost impact.
- (c) A summary of progress to date; and
- (d) Plans for the next reporting period.

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

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

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

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

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

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

F.5 PLACE OF DELIVERY--REPORTS (AUG 2011)

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

Electronic copies:

- (a) Greg Oberson Greg.Oberson@nrc.gov
- (b) Mirela Gavrilas Mirela.Gavrilas@nrc.gov
- (c) Darrell Dunn Darrell.Dunn@nrc.gov
- (d) Paul Klein Paul.Klein@nrc.gov
- (e) Valerie Whipple Valerie.Whipple@nrc.gov

F.6 PERIOD OF PERFORMANCE (AUG 2011)

This contract shall commence on **July 9, 2012** and will expire on **March 31, 2013**.

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

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

Name: Gregory Oberson, Contracting Officer's Representative (COR)

Address: U.S. Nuclear Regulatory Commission
Mail Stop: CSB/ C5A24M
Washington, DC 20555
Greg.Oberson@nrc.gov

Telephone Number: 301-251-7675

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

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

(2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

(3) Review and, where required by the contract, approval of technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.

(c) Technical direction must be within the general statement of work stated in the contract. The project officer does not have the authority to and may not issue any technical direction which:

(1) Constitutes an assignment of work outside the general scope of the contract.

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

(3) In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.

(4) Changes any of the expressed terms, conditions, or specifications of the contract.

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

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

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

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

(f) If, in the opinion of the contractor, any instruction or direction issued by the project officer is within one of the categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

(g) Any unauthorized commitment or direction issued by the project officer may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.

(h) A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto is subject to 52.233-1 -Disputes.

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

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

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

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

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

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

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

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

G.2 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT -ALTERNATE 1 (OCT 1999)

- (a) Total expenditure for travel may not exceed **\$3,428** without the prior approval of the contracting officer.
- (b) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days prior to the commencement of travel.
- (c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and which are allowable subject to the limitations prescribed in FAR 31.205-46.
- (d) It is the responsibility of the contractor to notify the contracting officer in accordance with the FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.
- (e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

G.3 2052.216-71 INDIRECT COST RATES (JAN 1993)

- (a) Pending the establishment of final indirect rates which must be negotiated based on audit of actual costs, the contractor shall be reimbursed for allowable indirect costs as follows:

INDIRECT COST POOL	PROVISIONAL RATE	CEILING RATE	BASE	PERIOD
CNWRA FRINGE BENEFITS	██████	██████	████████████████████	DOA – until revised
CWNRA O/H	██████		████████████████████	DOA – until revised
CNWRA G&A	██████		████████████████████	DOA – until revised
CNWRA COMBINED O/H AND G&A	██████	██████	████████████████████	DOA – until revised
SWRI FRINGE BENEFITS*	██████	██████	████████████████████	DOA – until revised
SWRI O/H*	██████		████████████████████	DOA – until revised
SWRI G&A*	██████		████████████████████	DOA – until revised
SWRI COMBINED O/H AND G&A*	██████	██████	████████████████████	DOA – until revised

*NOTE: In the event that SwRI Regular staff are utilized under this contract.

- (b) The contracting officer may adjust these rates as appropriate during the term of the contract upon acceptance of any revisions proposed by the contractor. It is the contractor's responsibility to notify the contracting officer in accordance with FAR 52.232-20, Limitation of Cost, or FAR 52.232-22, Limitation of Funds, as applicable, if these changes affect performance of work within the established cost or funding limitations.

- (c) In the event that the indirect rate developed by the cognizant audit activity on the basis of actual allowable costs is less than the ceiling rate, the rate established by the cognizant audits must apply. However, the Government shall not be obligated to pay any additional amounts for indirect costs above the ceiling rate set forth above for the applicable period.

G.4 ELECTRONIC PAYMENT (AUG 2011)

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

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

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

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

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

(1) Is not placed in a conflicting role because of current or planned interests (financial, contractual, organizational, or otherwise) which relate to the work under this contract; and

(2) Does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(b) Scope. The restrictions described apply to performance or participation by the contractor, as defined in 48 CFR 2009.570-2 in the activities covered by this clause.

(c) Work for others.

(1) Notwithstanding any other provision of this contract, during the term of this contract, the contractor agrees to forego entering into consulting or other contractual arrangements with any firm or organization the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The contractor shall ensure that all employees under this contract abide by the provision of this clause. If the contractor has reason to believe, with respect to itself or any employee, that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the contractor shall obtain the written approval of the contracting officer before the execution of such contractual arrangement.

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

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

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

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

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

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

(d) Disclosure after award.

(1) The contractor warrants that to the best of its knowledge and belief, and except as otherwise set forth in this contract, that it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.

(2) The contractor agrees that if, after award, it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the contracting officer. This statement must include a description of the action which the contractor has taken or proposes to take to avoid or mitigate such conflicts. The NRC may, however, terminate the contract if termination is in the best interest of the Government.

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

(e) Access to and use of information.

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

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

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

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

(iv) Release the information without prior written approval by the contracting officer unless the information has previously been released to the public by the NRC.

(2) In addition, the contractor agrees that, to the extent it receives or is given access to proprietary data, data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), or other confidential or privileged technical, business, or financial information under this contract, the contractor shall treat the information in accordance with restrictions placed on use of the information.

(3) Subject to patent and security provisions of this contract, the contractor shall have the right to use technical data it produces under this contract for private purposes provided that all requirements of this contract have been met.

(f) Subcontracts. Except as provided in 48 CFR 2009.570-2, the contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms contract, contractor, and contracting officer, must be appropriately modified to preserve the Government's rights.

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

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

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

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

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

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

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

<u>Key Personnel</u>	<u>Title</u>
[REDACTED]	Program Manager
[REDACTED]	Principal Investigator
[REDACTED]	Chemical Engineer
[REDACTED]	Mechanical Engineer
[REDACTED]	Sr. Research Engineer

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

(b) If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the contractor shall immediately notify the contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

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

(d) If the contracting officer determines that suitable and timely replacement of key personnel who have been reassigned, terminated, or have otherwise become unavailable for the contract work is not reasonably forthcoming, or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the contracting officer for default or for the convenience of the Government, as appropriate. If the contracting officer finds the contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss, or damage.

H.3 2052.242-70 RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL OPINIONS (AUG 2007)

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

(b) The procedure that will be used provides for the expression and resolution of differing professional opinions (DPOs) of health and safety-related concerns associated with the mission of the agency by NRC contractors, contractor personnel or subcontractor personnel on matters directly associated with its performance of the contract. This procedure is found in Clause 2052.242 71 of this document. The contractor shall provide a copy of the NRC DPO procedure to all of its employees performing under this contract and to all subcontractors who shall, in turn, provide a copy of the procedure to its employees. The prime contractor or subcontractor shall submit all DPOs received but need not endorse them.

H.4 2052.242-71 PROCEDURES FOR RESOLVING NRC CONTRACTOR DIFFERING PROFESSIONAL OPINIONS (OCT 1999)

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

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

(c) The contractor shall notify the contracting officer before incurring costs to document a DPO. The contractor shall not begin any work on the DPO before receiving a modification to the contract from the NRC contracting officer.

The contractor shall first determine whether there are sufficient funds obligated under the contract which are available to cover the costs of writing a DPO. If there are insufficient obligated funds under the contract, the contractor shall request additional funding from the NRC contracting officer to cover the costs of preparing the DPO. If there are sufficient obligated funds under the contract, the contractor shall notify the contracting officer so that a modification can be issued that specifies the amount of funding required for the DPO.

(d) Contract funds shall not be authorized to document a differing perspective in the following examples where the use of this NRC contractor DPO process is inappropriate:

(1) Issues involving allegations of wrongdoing that should be appropriately addressed directly to the NRC Office of the Inspector General (OIG);

(2) Issues submitted anonymously. However, safety significant issues that are submitted anonymously should be addressed under NRC's Allegation Program which can be found at: http://www.nrc.gov/about-nrc/regulatory/allegations_resp.html

(3) Issues that are deemed to be frivolous or otherwise not in accordance with the guidance included in NRC Management Directive (MD) 10.159, "The NRC Differing Professional Opinions Program," which can be found at: http://www.nrc.gov/reading_rm/doc_collections/management_directives/volumes/vol_10.html

(4) Issues that have already been considered, addressed, or rejected by the NRC under these procedures, absent significant new information;

(5) Issues that are considered premature because they are still under staff review by the NRC.

(e) This procedure does not provide anonymity, nor does it provide for confidential submittal (as addressed in MD 10.159). Individuals desiring anonymity or confidentiality should contact the NRC OIG or submit the information under NRC's Allegation Program, as appropriate.

(f) Prior to submitting a DPO, the contractor or the contractor's employees are encouraged to engage in informal discussions with appropriate NRC personnel (which may include NRC staff directly involved with the issues that are the subject of concerns and the NRC Project Officer.) The contractor hereby agrees that the contractor authorizes its employees to engage in informal discussions with the appropriate NRC personnel for purposes of this clause. If the informal discussions do not resolve the contractor or the contractor's employees' concerns, the contractor shall notify the contracting officer so that a modification to the contract can be issued that authorizes the expenditure of funds for the DPO.

The contractor may initiate the DPO process by submitting a written statement directly to the NRC Differing Professional Opinions Program Manager (DPOPM), Office of Enforcement, with a copy to the Contracting Officer, Division of Contracts, Office of Administration. Each DPO submitted will be evaluated on its own merits. (Refer to (c) above before incurring any costs to initiate the DPO process.)

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

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

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

(3) The rationale for the submitter's views, including an assessment of the consequences should the submitter's position not be adopted by NRC.

(4) References to, or copies of, relevant documents.

(h) The DPOPM will screen the DPO and notify the submitter and the contractor if the DPO is accepted. Returned DPOs will identify the reason for return.

(i) The DPOPM will forward the DPO to the Office Director or Regional Administrator responsible for the contract for disposition.

(j) The Office Director or Regional Administrator will establish an ad hoc panel of NRC employees to review the DPO.

(k) The panel will interview the submitter to ensure that the panel understands the issues and to define the scope of the review. The panel will gather information, review documents, and conduct interviews to support a thorough review. The panel will provide a written report of its findings to the Office Director or Regional Administrator and to the Contracting Officer, which includes a recommended course of action.

(l) The Office Director or Regional Administrator will consider the DPO panel's report, make a decision on the DPO and provide a written decision to the contractor and the Contracting Officer. The DPO is considered final and closed when the DPO Decision is issued.

(m) A summary of the issue and its disposition will be included in the NRC Weekly Information Report.

(n) DPOs will be dispositioned in accordance with the time frames identified in MD 10.159.

(o) The DPOPM will track follow up actions and notify the contractor of any schedule revisions.

(p) The availability of DPO records will reflect the submitter's wishes (e.g., whether the records should or should not be made public and whether the submitter's identity is redacted) and be consistent with NRC practices for making records available to the public.

(q) For purposes of the contract, the DPO shall be considered a deliverable under the contract.

H.5 LICENSE FEE RECOVERY COSTS (AUG 2011)

Included as an attachment are Billing Instructions for license fee recovery costs. A fee recovery report must be submitted by the contractor in conjunction with its monthly invoice.

H.6 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS (AUG 2011)

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States immigration laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Permanent Resident Form I-551 (Green Card), or must present other evidence from the U.S. Department of Homeland Security/U.S. Citizenship and Immigration Services that employment will not affect his/her immigration status. The U.S. Citizenship and Immigration Services provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on their website, <http://www.uscis.gov/portal/site/uscis>.

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

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

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

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

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

H.8 GREEN PURCHASING (JUN 2011)

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

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

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

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

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

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

(b) It is also brought to your attention that the contracting officer is the only individual who can legally obligate funds or commit the NRC to the expenditure of public funds in connection with this procurement. This means that unless provided in a contract document or specifically authorized by the contracting officer, NRC technical personnel may not

issue contract modifications, give formal contractual commitments, or otherwise bind, commit, or obligate the NRC contractually. Informal unauthorized commitments, which do not obligate the NRC and do not entitle the contractor to payment, may include:

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

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

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

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.204-7	CENTRAL CONTRACTOR REGISTRATION	FEB 2012
52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT 1997
52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS	OCT 2010
52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (PRB)	JUL 2005
52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT 1997
52.216-8	FIXED-FEE	JUN 2011
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB 1999
52.222-26	EQUAL OPPORTUNITY	MAR 2007
52.222-35	EQUAL OPPORTUNITY FOR VETERANS	SEP 2010
52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	OCT 2010
52.222-37	EMPLOYMENT REPORTS ON VETERANS	SEP 2010
52.222-50	COMBATING TRAFFICKING IN PERSONS	FEB 2009
52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG 2011
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN 2008
52.227-11	PATENT RIGHTS--OWNERSHIP BY THE CONTRACTOR	DEC 2007
52.227-14	RIGHTS IN DATA--GENERAL	DEC 2007
52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR 1996
52.232-18	AVAILABILITY OF FUNDS	APR 1984
52.232-22	LIMITATION OF FUNDS	APR 1984
52.230-2	COST ACCOUNTING STANDARDS	MAY 2012
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS	JUN 2010
52.232-23	ASSIGNMENT OF CLAIMS ALTERNATE I (APR 1984)	JAN 1986
52.232-25	PROMPT PAYMENT ALTERNATE I (FEB 2002)	OCT 2008
52.232-33	PAYMENT BY ELECTRONIC FUNDS--CENTRAL CONTRACTOR REGISTRATION	OCT 2003

52.233-1	DISPUTES	JUL 2002
52.233-3	PROTEST AFTER AWARD ALTERNATE I (JUN 1985)	AUG 1996
52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT 2004
52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR 1984
52.242-2	PRODUCTION PROGRESS REPORTS	APR 1991
52.242-4	CERTIFICATION OF FINAL INDIRECT COSTS	JAN 1997
52.243-2	CHANGES--COST REIMBURSEMENT ALTERNATE I (APR 1984)	AUG 1987
52.244-2	SUBCONTRACTS ALTERNATE I (JUNE 2007)	OCT 2010
52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	DEC 2010
52.245-1	GOVERNMENT PROPERTY ALTERNATE II (APR 2012)	APR 2012
52.245-9	USE AND CHARGES	APR 2012
52.249-6	TERMINATION (COST-REIMBURSEMENT)	MAY 2004
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

I.2 52.216-7 ALLOWABLE COST AND PAYMENT (JUN 2011)

(a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) Subpart 31.7 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

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

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

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

(b) Reimbursing costs.

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

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

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

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

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

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

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

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

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

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

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

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

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

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

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

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

(d) Final indirect cost rates.

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

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data.

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

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

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

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

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

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

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

(F) Facilities capital cost of money factors computation.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(K) Federal and State income tax returns.

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

(M) Minutes from board of directors meetings.

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

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

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

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

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

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

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

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

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

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

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

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

(1) Shall be the anticipated final rates; and

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

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

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

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

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

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

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

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

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of

the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

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

I.3 52.249-14 EXCUSABLE DELAYS (APR 1984)

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

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

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

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

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

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

I.4 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

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

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

**ATTACHMENT
NUMBER**

TITLE

J-1	STATEMENT OF WORK/SPECIFICATION
J-2	BILLING INSTRUCTIONS
J-3	CONTRACTOR SPENDING PLAN
J-4	WEBSITE FOR MANAGEMENT DIRECTIVE 3.7: http://www.nrc.gov/reading-rm/doc-collections/management-directives/volumes/vol-3.ht

Statement of Work for Modeling of Containment Liner Corrosion

JOB CODE: V6301

B&R NUMBER: 20116016154

ISSUING OFFICE: RES

FEE RECOVERABLE: No

TAC NUMBER: TBD

DOCKET NUMBER: Not applicable

NRC TECHNICAL ASSISTANCE

PROJECT OFFICER (PO): Greg Oberson, (301) 251-7675

1.0 Introduction

This statement of work (SOW) describes activities to be performed in support of the Office of Nuclear Regulatory Research (RES) for the analyses of containment liner corrosion.

2.0 Background

The containment structure of a commercial nuclear power plant is a barrier designed to prevent the release of radionuclides in the event of a severe accident that compromises the fuel cladding, and reactor containment vessel or the primary coolant system boundary. Of the 104 currently operating commercial nuclear power plants in the U.S., 66 plants have containment designs that include either a pre-stressed or reinforced concrete containment building with a steel liner that acts as a leak resistant membrane to reduce the release of radioactive material.

There have been three incidents of through-wall corrosion of containment liners at U.S. nuclear power plants where corrosion was initiated from the outside surface of the liner. In all three cases, foreign material embedded in the concrete, was in contact with the steel containment liner. After through-wall corrosion of the liner was discovered by visual inspection, repair of the structure was conducted including removal and replacement of the affected liner plate sections and the adjacent concrete. Each plant completed a successful containment leak rate test prior to returning to service. Operational experience has been summarized by the staff in a publically available report (ADAMS ML112070867).

In September 2010, the staff contracted with Sandia National Laboratory to assemble a panel of experts to review the applicable operating plant history and determine the mechanism for containment liner corrosion. The experts were selected based on their expertise in containment design and construction, concrete degradation, corrosion in concrete and non-destructive inspection. The expert panel concluded that the operative mechanism was macrocell accelerated localized corrosion. The panel performed limited scoping calculations to compare expected corrosion rates with actual plant experience. While these initial calculations provided support to the proposed mechanism and were in general agreement with operating experience, it was recognized that rough estimates were necessary for many parameters. In addition, the calculations performed were limited to the determination of the time for liner penetration by corrosion. The expert panel report is also publically available (ADAMS ML112150012).

3.0 Objectives

The objectives of this work are:

1. construct a mathematical model for containment liner corrosion resulting from a foreign object at the steel liner-concrete interface to determine the evolution of the damage morphology, and
2. calculate the containment leakage rates for the expected degraded area.

4.0 Level of Effort

The conduct of this project will require specialized knowledge of various technical disciplines including corrosion in concrete, corrosion modeling, gas phase flow and transport modeling. The level of effort for this technical assistance request is estimated to be 2000 hours

5.0 Period of Performance

The period of performance for this project is from July 1, 2012 to March 30, 2013.

6.0 Scope of Work

The scope of work is divided into 4 tasks that include corrosion model development and calibration, analyses factors that influence corrosion rates and penetration size, leak rate calculations and reporting. Descriptions of these tasks are provided in the following subsections.

6.1 Task 1: Corrosion model development and benchmarking

This task will include the development of a mathematical model for containment liner corrosion occurring at the liner-concrete interface. The model shall include the ability to evaluate a range of relevant parameters such as concrete properties (e.g., water content, conductivity) anodic and cathodic liner surface area, the surface area of the rebar in the concrete, and the geometry of the active corrosion site (e.g., crevice area). The effects of oxygen transport through the concrete also should be modeled including transport through cracks in the concrete to the outer layers of rebar. Reasonable ranges of parameter values should be identified based on known physical properties of concrete, transport rates, and containment design.

The mathematical model shall be benchmarked using documented cases of containment liner corrosion (ML 112070867) including the corrosion rates and the affected area. Parameter ranges that are necessary to correlate with the known cases of containment liner corrosion shall be compared to the anticipated reasonable ranges of parameter values to assess the applicability of the model. The final model predictions shall correlate well with the known cases of containment liner corrosion when individual model parameters are within the most plausible ranges.

6.2 Task 2: Analysis of factors that influence containment liner corrosion

After benchmarking is complete, the model shall be used to determine the extent to which the modeled parameters influence corrosion of the liner. The model shall be used to assess the evolution of the morphology of corrosion damage to the containment liner using parameter ranges determined in Task 1. This will include reasonable assumptions on the size of foreign materials in contact with the liner and penetration of the liner by corrosion or rupture of the corrosion damaged liner as a result of containment pressurization.

The effects of liner bulges and voids in the concrete adjacent to the liner shall also be evaluated to determine if corrosion can initiate and propagate at a bulged location. In these cases, the liner will not be in direct contact with the concrete. The contractor shall ascertain if water in contact with the liner but not the concrete has a different pH, conductivity, dissolved oxygen concentration or buffer capacity compared to water that is equilibrated with the concrete, and how any differences affect the initiation and progress of corrosion. The contractor shall also examine the case when the cathodic surface area is limited by liner bulges or voids of significant cross section.

6.3 Task 3: Leak rate calculations

The contractor shall use the range of through-wall penetration area that could occur assuming a definitive time without detection of corrosion damage by visual exam (e.g., two operating cycles) as input to the calculation of post-accident leakage. The contractor shall carefully document and justify all simplifying assumptions necessary to calculate the leak rate of the containment structure. The contractor shall also document and justify all assumptions and parameters ranges used in the calculation. Parameters ranges used shall be selected to cover the plausible range of conditions such as the presence or absence of corrosion product in at the corrosion site, corrosion next to or far removed from a containment building penetration, and the presence of liner bulges where the liner is physically separated from the concrete. Parameter ranges shall also consider the effects of the concrete structure that could contain defects such as cracks, voids and delaminations.

7.0 Meetings and Travel

A project kickoff meeting will be held at the contractor site prior to the initiation of the project tasks. The NRC project manager will travel to the contractor for the kickoff meeting. Additional NRC staff will participate in the kickoff meeting via video conference.

Monthly discussions on the progress of each task will be conducted via video teleconferencing and/or web meeting capabilities. The monthly discussions will be scheduled by the NRC project manager after receipt of each monthly progress report.

Two (2) technical staff shall travel to NRC headquarters one (1) time for a project review of duration one (1) day. The program review will be scheduled by the NRC project manager. The Project review will include all tasks.

To the extent practicable, other meetings shall be conducted using video teleconferencing and/or web meeting capabilities. No foreign travel is expected.

8.0 Monthly Letter Status Reports

The contractor will prepare a monthly letter status report that documents the progress on all tasks and provides details of project spending. A copy of the Monthly Letter Status Report (MLSR) is to be submitted to the following mailboxes:

RESDEMLSR.Resource@nrc.gov

9.0 NRC Furnished Materials

NRC does not anticipate the need to furnish any materials to the contractor for the performance

of this project.

10.0 Product/Deliverables Schedule

The deliverables shall be technical letter reports (TLR) documenting the model construction, parameters, benchmarking, and analysis of factors on corrosion rates and penetration size leak rates as shown in Table 1. These reports shall document all assumptions and justifications for parameter ranges. Draft of these reports shall be provided for NRC review and comment according to the schedule in Table 1. The staff will review each draft report and provide comments within 30 days from receipt of the draft. After NRC comments are received the contractor will incorporate all necessary changes and submit the final report.

Table 1. Project Schedule and Deliverable Description

Task	Deliverable Description	Draft Date (months after award)	Final Date (months after award)
1	TLR documenting corrosion model development and benchmarking; CD with executables and input decks	3	5
2	TLR documenting the analyses of factors that influence containment liner corrosion, including effect of parameters on corrosion rate containment liner penetration area, and impact of containment liner bulges and concrete voids on containment liner corrosion; CD with executables and input decks	5	7
3	TLR documenting leak rate calculations, including leak rate evaluation as a function of corrosion penetration size and evaluation of the effects of corrosion product plugging; CD with executables and input decks	7	9

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

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

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

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

Electronic Invoice/Voucher Submissions: The preferred method of submitting invoices/vouchers is electronically to the U.S. Department of the Interior's National Business Center, via email to: NRCPayments_NBCDenver@NBC.gov.

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

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

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

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

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

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

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

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

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 (June 2008).

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

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

1. Official Agency Billing Office

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

2. Invoice/Voucher Information

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

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

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

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

<u>Labor</u> <u>Category</u>	<u>Hours</u> <u>Billed</u>	<u>Rate</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).

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

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

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

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

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

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

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

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

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

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

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

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

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

s. Grand Totals.

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

3. Sample Invoice/Voucher Information

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

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

		<u>Amount Billed</u>	
		<u>Current Period</u>	<u>Cumulative</u>
(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> <i>(provide the rate information applicable to your firm)</i>		
(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 <i>(not to exceed 85% of fee earned based upon negotiated contract fee percentage)</i> \$ _____		
<u>Note:</u> The fee balance withheld by NRC may <u>not</u> exceed \$100,000.			
Total Fixed-Fee:		\$ _____	\$ _____

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

(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 = \$ 900

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

\$2,000

5) Premium Pay - \$150

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

6) Consultants' Fee - \$100

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

7) Travel - \$2,640

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

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

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

8) Subcontracting - \$30,000

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

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

9) Other Costs - \$5,100

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

10) Overhead Expense - \$41,148

Overhead @ 40% of Total Direct Costs

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

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

12) Fixed-Fee - \$8,218

Fixed-Fee applied to Total Costs @ 5%

CONTRACTOR SPENDING PLAN – INSTRUCTIONS

Attachment 3

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

Applicability

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

Submission

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

Format

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

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

