

2. CONTRACT NUMBER NRC-HQ-13-C-04-0031	3. SOLICITATION NUMBER NRC-HQ-13-R-04-0043	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER RES-13-132
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7. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Mail Stop: TWB-01-B10M Washington, DC 20555	CODE 3100	8. ADDRESS OFFER TO (If other than Item 7)
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SOLICITATION

9. Sealed offers in original and _____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until _____ (Hour) local time _____ (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All Offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME William Adams	B. TELEPHONE (NO COLLECT CALLS) AREA CODE NUMBER EXT. 301-492-3641	C. E-MAIL ADDRESS
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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)
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13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)
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14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR DUNS: 092982854 APPLIED PROGRAMMING TECHNOLOGY INC 240 MARKET ST STE 208 BLOOMSBURG PA 178151716	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) <i>Kenneth R Jones President</i>	
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AWARD (To be completed by Government)

15B. TELEPHONE NUMBER AREA CODE NUMBER EXT. 570 387 5000 201	<input type="checkbox"/>	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE	17. SIGNATURE <i>Kenneth R Jones</i>	18. OFFER DATE 3/11/13
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19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION BBR: 2013-60-11-6-174; JC: V6297; BOC: 252A; APP: 31X0200 OBLIGATED AMOUNT: \$100,000.; NAICS: 541511; FAIRMIS: 131251
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22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(a) () <input checked="" type="checkbox"/> 41 U.S.C. 253(c) (5) ()	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ITEM DUNS: 092982854	25. PAYMENT WILL BE MADE BY Department of Interior / NBC NRCPayments NBCDenver@NBC.gov Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue Denver CO 80235-2230 PHONE: _____ FAX: _____
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24. ADMINISTERED BY (If other than Item 7) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	CODE 3100	26. NAME OF CONTRACTING OFFICER (Type or print) William A. Adams Contracting Officer	27. UNITED STATES OF AMERICA <i>William A. Adams</i> (Signature of Contracting Officer)	28. AWARD DATE 3/11/13
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IMPORTANT - Award will be made on this Form, or on Standard Form 28, or by other authorized official written notice.

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

MAY 17 2013

ADM002

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B.1 PRICE/COST SCHEDULE

<u>CLIN</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Amount</u>
CLIN 0001	Contractor Performance of Contract Requirements	Lot	1	\$454,400.00

Period of performance: 03/11/2013 through 03/10/2014

Base Year Labor Category Rate/Hour

Software Architect	[REDACTED]
Software Engineer II	[REDACTED]
Software Engineer I	[REDACTED]
Software Developer II	[REDACTED]
Software Engineer III	[REDACTED]

OTHER COSTS:

Travel costs for trips to Rockville MD (reimbursable in accordance with FAR 31.205-46)

<u>CLIN</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Amount</u>
CLIN 1001	Contractor Performance of Contract Requirements	Lot	1	454,398.40

Period of performance: 03/11/2014 through 03/10/2015

Option Year 1 Labor Category Rate/Hour

Software Architect	[REDACTED]
Software Engineer II	[REDACTED]
Software Engineer I	[REDACTED]
Software Developer II	[REDACTED]
Software Engineer III	[REDACTED]

OTHER COSTS:

Travel costs for trips to Rockville MD (reimbursable in accordance with FAR 31.205-46)

<u>CLIN</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Amount</u>
CLIN 2001	Contractor Performance of Contract Requirements	Lot	1	\$454,414.80

Period of performance: 03/11/2015 through 03/10/2016

Option Year 2 Labor Category Rate/Hour

Software Architect	[REDACTED]
Software Engineer II	[REDACTED]
Software Engineer I	[REDACTED]
Software Developer II	[REDACTED]
Software Engineer III	[REDACTED]

OTHER COSTS:

Travel costs for trips to Rockville MD (reimbursable in accordance with FAR 31.205-46)

<u>CLIN</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Amount</u>
CLIN 3001	Contractor Performance of Contract Requirements	Lot	1	\$443,011.20

Period of performance: 03/11/2016 through 03/10/2017

Option Year 3 Labor Category Rate/Hour

Software Architect	[REDACTED]
Software Engineer II	[REDACTED]
Software Engineer I	[REDACTED]
Software Developer II	[REDACTED]
Software Engineer III	[REDACTED]

OTHER COSTS:

Travel costs for trips to Rockville MD (reimbursable in accordance with FAR 31.205-46)

<u>CLIN</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Amount</u>
CLIN 4001	Contractor Performance of Contract Requirements	Lot	1	\$431,697.20

Period of performance: 03/11/2017 through 03/10/2018

Option Year 4 Labor Category Rate/Hour

Software Architect	[REDACTED]
Software Engineer II	[REDACTED]
Software Engineer I	[REDACTED]
Software Developer II	[REDACTED]
Software Engineer III	[REDACTED]

OTHER COSTS:

Travel costs for trips to Rockville MD (reimbursable in accordance with FAR 31.205-46)

B.2 BRIEF PROJECT TITLE AND WORK DESCRIPTION (AUG 2011)

(a) The title of this project is: Advanced Code Design II SNAP Maintenance and Development

(b) Summary work description:

This requirement is to support new and existing code develop efforts by providing an Agency standard for two common aspects of Agency analytic codes-(1) the user-interface and (2) the database-interface. To keep Agency software up-to-date with the current state-of-the-art analytical procedure it is critical that codes continue to be refactored as requirements are better understood. The standardized graphic user interfaces and data-interchange interfaces provided through the SNAP program enable the scientific and analytic code-development staff to focus their time on actual analytical work

A RES-developed code that is to be specifically covered under this contract is the Symbolic Nuclear Analysis Package (SNAP). SNAP is a graphical user interface system designed to support NRC nuclear analysis codes. SNAP includes

preprocessor and postprocessor components allowing code-specific models to be built, exported, submitted to the analysis code, then receiving the output from the analysis code and displaying the results in a user-friendly fashion. SNAP is written primarily in Java, although some aspects of the postprocessor component are written in C. SNAP is designed to be object oriented and extensible. Currently, SNAP supports the following NRC-developed analytical codes: TRACE, RELAP5, CONTAIN, MELCOR (1.8.6 and 2.1), FRAPCON, and FRAPTRAN. TRACE and RELAP5 are system-level thermal hydraulic codes. MELCOR is a system-level severe accident code.

B.3 BRANDING (AUG 2012)

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

Work Supported by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Regulatory Research (RES), under Contract/order number NRC-HQ-13-C-04-0031.

52.246-6

INSPECTION-TIME-AND-MATERIALS AND
LABOR-HOUR

MAY 2001

SECTION F - DELIVERIES OR PERFORMANCE**F.1 52.242-15 STOP-WORK ORDER (AUG 1989)**

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work order is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either -

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if-

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

F.2 2052.211-71 TECHNICAL PROGRESS REPORT (JAN 1993)

The contractor shall provide a monthly Technical Progress Report to the COR 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 COR, the contract period of performance, and the period covered by the report. Each report must include the following for each discrete task:

(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.

52.247-48

F.O.B. DESTINATION—EVIDENCE OF SHIPMENT

FEB 1999

F.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.

F.4 DELIVERY SCHEDULE

SEE SOW

SECTION G - CONTRACT ADMINISTRATION DATA**G.1 2052.215-71 Contracting Officer Representative (COR)**

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

Name: Chester Gingrich

Address: 11555 Rockville Pike
Mailstop CSB-3A19
Rockville, MD 20852

Telephone Number: 301-251-7535 or 301-503-8846
Email: chester.gingrich@nrc.gov

(b) Performance of the work under this contract is subject to the technical direction of the NRC COR. 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 COR 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 COR or must be confirmed by the COR 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 COR in the manner prescribed by this clause and within the COR's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the COR 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 COR 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 COR 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 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 SECURITY REQUIREMENTS FOR BUILDING ACCESS APPROVAL (AUG 2011)

The Contractor shall ensure that all its employees, subcontractor employees or consultants who are assigned to perform the work herein for contract performance for periods of more than 30 calendar days at NRC facilities, are approved by the NRC for unescorted NRC building access.

The Contractor shall conduct a preliminary federal facilities security screening interview or review for each of its employees, subcontractor employees, and consultants and submit to the NRC only the names of candidates for contract performance that have a reasonable probability of obtaining approval necessary for access to NRC's federal facilities. The Contractor shall pre-screen its applicants for the following:

(a) felony arrest in the last seven (7) years; (b) alcohol related arrest within the last five (5) years; (c) record of any military courts-martial convictions in the past ten (10) years; (d) illegal use of narcotics or other controlled substances possession in the past year, or illegal purchase, production, transfer, or distribution of narcotics or other controlled substances in the last seven (7) years; and (e) delinquency on any federal debts or bankruptcy in the last seven (7) years.

The Contractor shall make a written record of its pre-screening interview or review (including any information to mitigate the responses to items listed in (a) - (e)), and have the applicant verify the pre-screening record or review, sign and date it. Two (2) copies of the pre-screening signed record or review shall be supplied to the Division of Facilities and Security, Personnel Security Branch (DFS/PSB) with the Contractor employee's completed building access application package.

The Contractor shall further ensure that its employees, any subcontractor employees and consultants complete all building access security applications required by this clause within fourteen (14) calendar days of notification by DFS/PSB of initiation of the application process. Timely receipt of properly completed records of the Contractor's signed pre-screening record or review and building access security applications (submitted for candidates that have a reasonable probability of obtaining the level of access authorization necessary for access to NRC's facilities) is a contract requirement. Failure of the Contractor to comply with this contract administration requirement may be a basis to cancel the award, or terminate the contract for default, or offset from the contract's invoiced cost or price the NRC's incurred costs or delays as a result of inadequate pre-screening by the Contractor. In the event of cancellation or termination, the NRC may select another firm for contract award.

A Contractor, subcontractor employee or consultant shall not have access to NRC facilities until he/she is approved by DFS/PSB. Temporary access may be approved based on a favorable NRC review and discretionary determination of their building access security forms. Final building access will be approved based on favorably adjudicated checks by the Government. However, temporary access approval will be revoked and the Contractor's employee may subsequently be denied access in the event the employee's investigation cannot be favorably determined by the NRC. Such employee will not be authorized to work under any NRC contract requiring building access without the approval of DFS/PSB. When an individual receives final access, the individual will be subject to a review or reinvestigation every five (5) or ten (10) years, depending on their job responsibilities at the NRC.

The Government shall have and exercise full and complete control and discretion over granting, denying, withholding, or terminating building access approvals for individuals performing work under this contract. Individuals performing work under this contract at NRC facilities for a period of more than 30 calendar days shall be required to complete and submit to the Contractor representative an acceptable OPM Standard Form 85 (Questionnaire for Non-Sensitive Positions), and two (2) FD 258 (Fingerprint Charts). Non-U.S. citizens must provide official documentation to the

DFS/PSB, as proof of their legal residency. This documentation can be a Permanent Resident Card, Temporary Work Visa, Employment Authorization Card, or other official documentation issued by the U.S. Citizenship and Immigration Services. Any applicant with less than five (5) years residency in the U.S. will not be approved for building access. The Contractor shall submit the documents to the NRC Contracting Officer's Representative (COR) who will give them to DFS/PSB.

DFS/PSB may, among other things, grant or deny temporary unescorted building access approval to an individual based upon its review of the information contained in the OPM Standard Form 85 and the Contractor's pre-screening record. Also, in the exercise of its authority, the Government may, among other things, grant or deny permanent building access approval based on the results of its review or investigation. This submittal requirement also applies to the officers of the firm who, for any reason, may visit the NRC work sites for an extended period of time during the term of the contract. In the event that DFS/PSB are unable to grant a temporary or permanent building access approval, to any individual performing work under this contract, the Contractor is responsible for assigning another individual to perform the necessary function without any delay in the contract's performance schedule, or without adverse impact to any other terms or conditions of the contract. The Contractor is responsible for informing those affected by this procedure of the required building access approval process (i.e., temporary and permanent determinations), and the possibility that individuals may be required to wait until permanent building access approvals are granted before beginning work in NRC's buildings.

CANCELLATION OR TERMINATION OF BUILDING ACCESS/ REQUEST

The Contractor shall immediately notify the PO when a Contractor or subcontractor employee or consultant's need for NRC building access approval is withdrawn or the need by the Contractor employee's for building access terminates. The PO will immediately notify DFS/PSB (via e-mail) when a Contractor employee no longer requires building access. The Contractor shall be required to return any NRC issued badges to the Contracting Officer's Representative (COR) for return to DFS/PSB (Facilities Security Branch) within three (3) days after their termination.

*** The Word segment 'NRC CLAUSE SECURITY REQUIREMENTS FOR BUILDING ACCESS APPROVAL.DOCX' could not be inserted ***

H.2 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.

The contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of its employees and of members of the public, including NRC employees and contractor personnel, and to minimize danger from all hazards to life and property. The contractor shall comply with all applicable health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission and the Department of Labor. If the contractor fails to comply with these regulations or requirements, the contracting office may, without prejudice to any other legal or contractual rights of the Commission, issue an order stopping all or any part of the work. Thereafter, a start work order for resumption of work may be issued at the discretion of the contracting officer. The contractor may not make a claim for an extension of time or for compensation or damages by reason of, or in connection with, this type of work stoppage.

H.4 INFORMATION TECHNOLOGY (IT) SECURITY REQUIREMENTS - GENERAL (JULY 2011)

INFORMATION TECHNOLOGY (IT) SECURITY REQUIREMENTS - GENERAL

Basic Contract IT Security Requirements

For unclassified information used for the effort, the contractor shall provide an information security categorization document indicating the sensitivity of the information processed as part of this contract if the information security categorization was not provided in the statement of work. The determination shall be made using National Institute of Standards and Technology (NIST) Special Publication (SP) 800-60 and must be approved by CSO. The NRC contracting officer and Contracting Officer's Representative (COR) shall be notified immediately before the contractor begins to process information at a higher sensitivity level.

If the effort includes use or processing of classified information, the NRC contracting officer and Contracting Officer's Representative (COR) shall be notified before the contractor begins to process information at a more restrictive classification level.

All work under this contract shall comply with the latest version of policy, procedures and standards. Individual task orders will reference latest versions of standards or exceptions as necessary. These policy, procedures and standards include: NRC Management Directive (MD) volume 12 Security, Computer Security Office policies, procedures and standards, National Institute of Standards and Technology (NIST) guidance and Federal Information Processing Standards (FIPS), and Committee on National Security Systems (CNSS) policy, directives, instructions, and guidance. This information is available at the following links:

NRC Policies, Procedures and Standards (CSO internal website): <http://www.internal.nrc.gov/CSO/policies.html>

NRC Policy and Procedures For Handling, Marking and Protecting Sensitive Unclassified Non-Safeguards Information (SUNSI): <http://www.internal.nrc.gov/sunsi/pdf/SUNSI-Policy-Procedures.pdf>

All NRC Management Directives (public website):
<http://www.nrc.gov/reading-rm/doc-collections/management-directives/>

NIST SP and FIPS documentation is located at: <http://csrc.nist.gov/>

CNSS documents are located at: <http://www.cnss.gov/>

The Contractor shall ensure compliance with the latest version of NIST guidance and FIPS standards available at contract issuance and continued compliance with the latest versions within one year of the release date.

When e-mail is used, the Contractors shall only use NRC provided e-mail accounts to send and receive sensitive information (information that is not releasable to the public) or mechanisms to protect the information during transmission to NRC that have been approved by CISO.

All Contractor employees must sign the NRC Agency-Wide Rules of Behavior for Authorized Computer Use prior to being granted access to NRC computing resources.

The Contractor shall adhere to following NRC policies:

1. Management Directive 12.5, Automated Information Security Program
2. NRC Sensitive Unclassified Non-Safeguards Information (SUNSI)
3. Computer Security Policy for Encryption of Data at Rest When Outside of Agency Facilities
4. Policy for Copying, Scanning, Printing, and Faxing SGI & Classified Information
5. Computer Security Information Protection Policy
6. Remote Access Policy
7. Use of Commercial Wireless Devices, Services and Technologies Policy
8. Laptop Security Policy
9. Computer Security Incident Response Policy

Contractor will adhere to NRC's prohibition of use of personal devices to process and store NRC sensitive information.

All electronic process of NRC sensitive information, including system development and operations and maintenance performed at non-NRC facilities shall be in facilities, networks, and computers that have been accredited by NRC for processing information at the highest sensitivity of the information that is processed or will ultimately be processed.

Contract Performance And Closeout

The contractor shall ensure that the NRC data processed during the performance of this contract shall be purged from all data storage components of the contractor's computer facility. Tools used to perform data purging shall be approved by the CISO. The contractor shall provide written certification to the NRC contracting officer that the contractor does not retain any NRC data within 30 calendar days after contract completion. Until all data is purged, the contractor shall ensure that any NRC data remaining in any storage component will be protected to prevent unauthorized disclosure.

When contractor employees no longer require access to an NRC system, the contractor shall notify the Contracting Officer's Representative (COR) within 24 hours.

Upon contract completion, the contractor shall provide a status list of all contractor employees who were users of NRC systems and shall note if any users still require access to the system to perform work if a follow-on contract or task order has been issued by NRC.

Control Of Information And Data

The contractor shall not publish or disclose in any manner, without the contracting officer's written consent, the details of any security controls or countermeasures either designed or developed by the contractor under this contract or otherwise provided by the NRC.

Any IT system used to process NRC sensitive information shall:

1. Include a mechanism to require users to uniquely identify themselves to the system before beginning to perform any other actions that the system is expected to provide.
2. Be able to authenticate data that includes information for verifying the claimed identity of individual users (e.g., passwords)

3. Protect authentication data so that it cannot be accessed by any unauthorized user
4. Be able to enforce individual accountability by providing the capability to uniquely identify each individual computer system user
5. Report to appropriate security personnel when attempts are made to guess the authentication data whether inadvertently or deliberately.

Access Controls

Any contractor system being used to process NRC data shall be able to define and enforce access privileges for individual users. The discretionary access controls mechanisms shall be configurable to protect objects (e.g., files, folders) from unauthorized access.

The contractor system being used to process NRC data shall provide only essential capabilities and specifically prohibit and/or restrict the use of specified functions, ports, protocols, and/or services.

The contractors shall only use NRC approved methods to send and receive information considered sensitive or classified. Specifically,

1. Classified Information - All NRC Classified data being transmitted over a network shall use NSA approved encryption and adhere to guidance in MD 12.2 NRC Classified Information Security Program, MD 12.5 NRC Automated Information Security Program and Committee on National Security Systems. Classified processing shall be only within facilities, computers, and spaces that have been specifically approved for classified processing.

2. SGI Information - All SGI being transmitted over a network shall adhere to guidance in MD 12.7 NRC Safeguards Information Security Program and MD 12.5 NRC Automated Information Security Program. SGI processing shall be only within facilities, computers, and spaces that have been specifically approved for SGI processing. Cryptographic modules provided as part of the system shall be validated under the Cryptographic Module Validation Program to conform to NIST FIPS 140-2 overall level 2 and must be operated in FIPS mode. The contractor shall provide the FIPS 140-2 cryptographic module certificate number and a brief description of the encryption module that includes the encryption algorithm(s) used, the key length, and the vendor of the product.

The most restrictive set of rights/privileges or accesses needed by users (or processes acting on behalf of users) for the performance of specified tasks must be enforced by the system through assigned access authorizations.

Separation of duties for contractor systems used to process NRC information must be enforced by the system through assigned access authorizations.

The mechanisms within the contractor system or application that enforces access control and other security features shall be continuously protected against tampering and/or unauthorized changes.

Configuration Standards

All systems used to process NRC sensitive information shall meet NRC configuration standards available at: <http://www.internal.nrc.gov/CSO/standards.html>.

Media Handling

All media used by the contractor to store or process NRC information shall be controlled in accordance with the sensitivity level.

The contractor shall not perform sanitization or destruction of media approved for processing NRC information designated as SGI or Classified. The contractor must provide the media to NRC for destruction.

Vulnerability Management

The Contractor must adhere to NRC patch management processes for all systems used to process NRC information. Patch Management reports will be made available to the NRC upon request for following security categorizations and reporting timeframes:

- 5 calendar days after being requested for a high sensitivity system - 10 calendar days after being requested for a moderate sensitivity system - 15 calendar days after being requested for a low sensitivity system

For any contractor system used to process NRC information, the contractor must ensure that information loaded into the system is scanned for viruses prior to posting; servers are scanned for viruses, adware, and spyware on a regular basis; and virus signatures are updated at the following frequency:

- 1 calendar day for a high sensitivity system
- 3 calendar days for a moderate sensitivity system
- 7 calendar days for a low sensitivity system

H.5 INFORMATION TECHNOLOGY (IT) SECURITY REQUIREMENTS - GENERAL EXCEPTIONS (JULY 2011)

INFORMATION TECHNOLOGY (IT) SECURITY REQUIREMENTS - GENERAL EXCEPTIONS

All purchases shall comply with the latest version of policy, procedures and standards. Individual task orders will reference latest versions of policy, procedures, standards or exceptions as necessary. These policy, procedures and standards include: NRC Management Directive (MD) volume 12 Security, Computer Security Office policies, procedures and standards, National Institute of Standards and Technology (NIST) guidance and Federal Information Processing Standards (FIPS), and Committee on National Security Systems (CNSS) policy, directives, instructions, and guidance. This information is available at the following links:

All procurements must be certified and accredited prior to being placed into an operational state.

All electronic processing of NRC sensitive information, including all system development and operations and maintenance activities performed at non-NRC facilities shall be in facilities, networks, and computers that have been accredited by NRC for processing information at the highest sensitivity of the information that is processed or will ultimately be processed.

All systems used to process NRC sensitive information shall meet NRC configuration standards available at: <http://www.internal.nrc.gov/CSO/standards.html>.

H.6 IT SECURITY REQUIREMENTS - DEVELOPMENT AND OPERATIONS AND MAINTENANCE REQUIREMENTS (JULY 2011)

IT SECURITY REQUIREMENTS - DEVELOPMENT AND OPERATIONS AND MAINTENANCE REQUIREMENTS

O&M Security Requirements

All system modifications to classified systems must comply with NRC security policies and procedures for classified systems, as well as federal laws, guidance, and standards to ensure Federal Information Security Management Act (FISMA) compliance.

The Contractor shall correct errors that are discovered by the NRC or the contractor in contractor developed software and applicable documentation that are not commercial off-the-shelf which are discovered by the NRC or the contractor. Inability of the parties to determine the cause of software errors shall be resolved in accordance with the Dispute clause, FAR 52.233-1, incorporated by reference in the contract.

The Contractor shall adhere to the guidance outlined in NIST, SP 800-53, FIPS 200 and NRC guidance for the identification and documentation of minimum security controls.

The contractor shall provide the system requirements traceability matrix at the end of the initiation phase, development/acquisition phase, implementation/ assessment phase, operation & maintenance phase and disposal phase that provides the security requirements in a separate section so that they can be traced through the development life cycle. The contractor shall also provide the software and hardware designs and test plan documentation, and source code upon request to the NRC for review.

All development and testing of the systems shall be protected at their assigned system sensitivity level and shall be performed on a network separate and isolated from the NRC operational network.

All system computers must be properly configured and hardened according to NRC policies, guidance, and standards and comply with all NRC security policies and procedures as commensurate with the system security categorization.

All contractor provided deliverables identified in the project plan will be subject to the review and approval of NRC Management. The PM will establish review time based on the complexity of the system and incorporate into the project schedule. The contractor will make the necessary modifications to project deliverables to resolve any identified issues. Project deliverables include but are not limited to: requirements, architectures, design documents, test plans, and test reports.

System development schedules shall include computer security office go/no-go decision points, including but not limited to the following system milestones:

1. Requirements review
2. Architecture review
3. Detailed design review
4. Code review
5. System test
6. System readiness review

Access Controls

The contractor shall not hardcode any passwords into the software unless the password only appears on the server side (e.g. using server-side technology such as ASP, PHP, or JSP).

The contractor shall ensure that the software does not contain undocumented functions and undocumented methods for gaining access to the software or to the computer system on which it is installed. This includes, but is not limited to, master access keys, back doors, or trapdoors.

Cryptography

Cryptographic modules provided as part of the system shall be validated under the Cryptographic Module Validation Program to conform to NIST FIPS 140-2 and must be operated in FIPS mode. The contractor shall provide the FIPS 140-2 cryptographic module certificate number and a brief description of the encryption module that includes the encryption algorithm(s) used, the key length, and the vendor of the product.

Configuration Management And Control

The contractor must ensure that the system will be divided into configuration items (CIs). CIs are parts of a system that can be individually managed and versioned. The system shall be managed at the CI level.

The contractor must have a configuration management plan that includes all hardware and software that is part of the system and contains at minimum the following sections:

1. Introduction
 - a. Purpose & Scope
 - b. Definitions
 - c. References
2. Configuration Management
 - a. Organization
 - b. Responsibilities
 - c. Tools and Infrastructure
3. Configuration Management Activities
 - a. Specification Identification
 - b. Change control form identification
 - c. Project baselines
4. Configuration and Change Control
 - a. Change Request Processing and Approval
 - b. Change Control Board
5. Milestones
 - a. Define baselines, reviews, audits
 - b. Training and Resources

The Information System Security Officer's (ISSO's) role in the change management process must be described. The ISSO is responsible for the security posture of the system. Any changes to the system security posture must be approved by the ISSO. The contractor should not have the ability to make changes to the system's security posture without the appropriate involvement and approval of the ISSO.

The contractor shall track and record information specific to proposed and approved changes that minimally include:

1. Identified configuration change
2. Testing of the configuration change
3. Scheduled implementation the configuration change
4. Track system impact of the configuration change
5. Track the implementation of the configuration change
6. Recording & reporting of configuration change to the appropriate party
7. Back out/Fall back plan
8. Weekly Change Reports and meeting minutes
9. Emergency change procedures
10. List of team members from key functional areas

The contractor shall provide a list of software and hardware changes in advance of placing them into operation within the following timeframes:

- 30 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system

-10 calendar days for a low sensitivity system

The contractor must maintain all system documentation that is current to within:

- 10 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

Modified code, tests performed and test results, issue resolution documentation, and updated system documentation shall be deliverables on the contract.

Any proposed changes to the system must have written approval from the NRC Contracting Officer's Representative (COR).

The contractor shall maintain a list of hardware, firmware and software changes that is current to within:

- 15 calendar days for a classified, SGI or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

The contractor shall analyze proposed hardware and software configurations and modification as well as addressed security vulnerabilities in advance of NRC accepted operational deployment dates within:

- 15 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

The contractor shall provide the above analysis with the proposed hardware and software for NRC testing in advance of NRC accepted operational deployment dates within:

- 15 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

Control Of Hardware And Software

The contractor shall demonstrate that all hardware and software meet security requirements prior to being placed into the NRC production environment.

The contractor shall ensure that the development environment is separated from the operational environment using NRC CSO approved controls.

Auditing

The system shall be able to create, maintain and protect from modification or unauthorized access or destruction an audit trail of accesses to the objects it protects. The audit data shall be protected so that read access to it is limited to those who are authorized.

The system shall be able to record the following types of events: use of identification and authentication mechanisms, introduction of objects into a user's address space (e.g., file open, program initiation), deletion of objects, and actions taken by computer operators and system administrators or system security officers and other security relevant events. The system shall be able to audit any override of security controls.

The Contractor shall ensure auditing is implemented on the following:

- Operating System
- Application
- Web Server
- Web Services
- Network Devices
- Database
- Wireless

The contractor shall perform audit log reviews daily using automated analysis tools. In addition, the contractor must log at least the following events on systems that process NRC information:

- Audit all failures
- Successful logon attempt
- Failure of logon attempt
- Permission Changes
- Unsuccessful File Access
- Creating users & objects
- Deletion & modification of system files
- Registry Key/Kernel changes
- Startup & shutdown
- Authentication
- Authorization/permission granting
- Actions by trusted users
- Process invocation
- Controlled access to data by individually authenticated user
- Unsuccessful data access attempt
- Data deletion
- Data transfer
- Application configuration change
- Application of confidentiality or integrity labels to data
- Override or modification of data labels or markings
- Output to removable media
- Output to a printer

H.7 IT SECURITY REQUIREMENTS - CERTIFICATION AND ACCREDITATION (MAR 2011)

IT SECURITY REQUIREMENTS - CERTIFICATION AND ACCREDITATION

SECURITY RISK ASSESSMENT

The contractor shall work with the NRC Contracting Officer's Representative (COR) in performing Risk Assessment activities according to NRC policy, standards, and guidance. The contractor shall perform Risk Assessment activities that include analyzing how the architecture implements the NRC documented security policy for the system, assessing how management, operational, and technical security control features are planned or implemented and how the system interconnects to other systems or networks while maintaining security.

SYSTEM SECURITY PLAN

The contractor shall develop the system security plan (SSP) according to NRC policy, standards, and guidance to define the implementation of IT security controls necessary to meet both the functional assurance and security requirements. The contractor will ensure that all controls required to be implemented are documented in the SSP.

ASSESSMENT PROCEDURES - SECURITY TEST & EVALUATION

The contractor shall follow NRC policy, standards, and guidance for execution of the test procedures. These procedures shall be supplemented and augmented by tailored test procedures based on the control objective as it applies to NRC. The contractor shall include verification and validation to ensure that appropriate corrective action was taken on identified security weaknesses.

The contractor shall perform ST&E activities, including but not limited to, coordinating the ST&E and developing the ST&E Plan, execution ST&E test cases and documentation of test results. The contractor shall prepare the Plan of Action and Milestones (POA&M) based on the ST&E results.

PLAN OF ACTION AND MILESTONES (POA&M) MAINTENANCE & REPORTING

The contractor shall provide a determination, in a written form agreed to by the NRC Contracting Officer's Representative (COR) and Computer Security Office, on whether the implemented corrective action was adequate to resolve the identified information security weaknesses and provide the reasons for any exceptions or risk-based decisions. The contractor shall document any vulnerabilities indicating which portions of the security control have not been implemented or applied.

The contractor shall develop and implement solutions that provide a means of planning and monitoring corrective actions; define roles and responsibilities for risk mitigation; assist in identifying security funding requirements; track and prioritize resources; and inform decision-makers of progress of open POA&M items.

The contractor shall perform verification of IT security weaknesses to ensure that all weaknesses identified through third party (e.g., OIG) audits are included in the POA&Ms that the quarterly reporting to OMB is accurate, and the reasons for any exceptions or risk-based decisions are reasonable and clearly documented. This verification process will be done in conjunction with the continuous monitoring activities.

CERTIFICATION & ACCREDITATION DOCUMENTATION

The contractor shall create, update maintain all Certification and Accreditation (C&A) documentation in accordance with the following NRC Certification and Accreditation procedures and guidance:

- C&A Non-SGI Unclassified Systems
- C&A SGI Unclassified Systems
- C&A Classified Systems

The Contractor must develop contingency plan and ensure annual contingency testing is completed within one year of previous test and provide an updated security plan and test report according to NRC's policy and procedure.

The Contractor must conduct annual security control testing according to NRC's policy and procedure and update POA&M, SSP, etc. to reflect any findings or changes to management, operational and technical controls.

H.8 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS (AUG 2011)

Annual and final evaluations of contractor performance under this contract will be prepared in accordance with FAR Subpart 42.15, "Contractor Performance Information," normally at or near the time the contractor is notified of the NRC's

H.8 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS (AUG 2011)

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

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

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

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

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

H.9 COMPENSATION FOR ON-SITE CONTRACTOR PERSONNEL (AUG 2011)

(a) NRC facilities may not be available due to (1) designated Federal holiday, any other day designated by Federal Statute, Executive Order, or by President's Proclamation; (2) early dismissal of NRC employees during working hours (e.g., special holidays, water emergency); or (3) occurrence of emergency conditions during nonworking hours (e.g., inclement weather).

(b) When NRC facilities are unavailable, the contractor's compensation and deduction policy (date), incorporated herein by reference, shall be followed for contractor employees performing work on-site at the NRC facility. The contractor shall promptly submit any revisions to this policy to the Contracting Officer for review before they are incorporated into the contract.

(c) The contractor shall not charge the NRC for work performed by on-site contractor employees who were reassigned to perform other duties off site during the time the NRC facility was closed.

(d) On-site contractor staff shall be guided by the instructions given by a third party (e.g., Montgomery County personnel in situations which pose an immediate health or safety threat to employees (e.g., water emergency).

(e) The contractor's Project Director shall first consult the NRC Contracting Officer's Representative (COR) before releasing on-site personnel in situations which do not impose an immediate safety or health threat to employees (e.g., special holidays). That same day, the contractor must then alert the Contracting Officer of the NRC Contracting Officer's Representative's (COR) direction. The contractor shall continue to provide sufficient personnel to perform

H.10 RULES OF BEHAVIOR FOR AUTHORIZED COMPUTER USE (MAR 2011)

In accordance with Appendix III, "Security of Federal Automated Information Resources," to Office of Management and Budget (OMB) Circular A-130, "Management of Federal Information Resources," NRC has established rules of behavior for individual users who access all IT computing resources maintained and operated by the NRC or on behalf of the NRC. In response to the direction from OMB, NRC has issued the "Agency-wide Rules of Behavior for Authorized Computer Use" policy, hereafter referred to as the rules of behavior. The rules of behavior for authorized computer use will be provided to NRC computer users, including contractor personnel, as part of the annual computer security awareness course.

The rules of behavior apply to all NRC employees, contractors, vendors, and agents (users) who have access to any system operated by the NRC or by a contractor or outside entity on behalf of the NRC. This policy does not apply to licensees. The next revision of Management Directive 12.5, "NRC Automated Information Security Program," will include this policy. The rules of behavior can be viewed at <http://www.internal.nrc.gov/CSO/documents/ROB.pdf> or use NRC's external Web-based ADAMS at <http://wba.nrc.gov:8080/ves/> (Under Advanced Search, type ML082190730 in the Query box).

The rules of behavior are effective immediately upon acknowledgement of them by the person who is informed of the requirements contained in those rules of behavior. All current contractor users are required to review and acknowledge the rules of behavior as part of the annual computer security awareness course completion. All new NRC contractor personnel will be required to acknowledge the rules of behavior within one week of commencing work under this contract and then acknowledge as current users thereafter. The acknowledgement statement can be viewed at http://www.internal.nrc.gov/CSO/documents/ROB_Ack.pdf or use NRC's external Web-based ADAMS at <http://wba.nrc.gov:8080/ves/> (Under Advanced Search, type ML082190730 in the Query box).

The NRC Computer Security Office will review and update the rules of behavior annually beginning in FY 2011 by December 31st of each year. Contractors shall ensure that their personnel to which this requirement applies acknowledge the rules of behavior before beginning contract performance and, if the period of performance for the contract lasts more than one year, annually thereafter. Training on the meaning and purpose of the rules of behavior can be provided for contractors upon written request to the NRC Contracting Officer's Representative (COR).

The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order if such subcontracts/agreements will authorize access to NRC electronic and information technology (EIT) as that term is defined in FAR 2.101.

H.11 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.12 SAFETY OF ON-SITE CONTRACTOR PERSONNEL (AUG 2011)

Ensuring the safety of occupants of Federal buildings is a responsibility shared by the professionals implementing our security and safety programs and the persons being protected. The NRC's Office of Administration (ADM) Division of Facilities and Security (DFS) has coordinated an Occupant Emergency Plan (OEP) for NRC Headquarters buildings with local authorities. The OEP has been approved by the Montgomery County Fire and Rescue Service. It is designed to improve building occupants' chances of survival, minimize damage to property, and promptly account for building occupants when necessary.

The contractor's Project Director shall ensure that all personnel working full time on-site at NRC Headquarters read the NRC's OEP, provided electronically on the NRC Intranet at <http://www.internal.nrc.gov/ADM/OEP.pdf>. The contractor's Project Director also shall emphasize to each staff member that they are to be familiar with and guided by the OEP, as well as by instructions given by emergency response personnel in situations which pose an immediate health or safety threat to building occupants.

The NRC Contracting Officer's Representative (COR) shall ensure that the contractor's Project Director has communicated the requirement for on-site contractor staff to follow the guidance in the OEP. The NRC Contracting Officer's Representative (COR) also will assist in accounting for on-site contract persons in the event of a major emergency (e.g., explosion occurs and casualties or injuries are suspected) during which a full evacuation will be required, including the assembly and accountability of occupants. The NRC DFS will conduct drills periodically to train occupants and assess these procedures.

H.13 NRC INFORMATION TECHNOLOGY SECURITY TRAINING (AUG 2011)

NRC contractors shall ensure that their employees, consultants, and subcontractors with access to the agency's information technology (IT) equipment and/or IT services complete NRC's online initial and refresher IT security training requirements to ensure that their knowledge of IT threats, vulnerabilities, and associated countermeasures remains current. Both the initial and refresher IT security training courses generally last an hour or less and can be taken during the employee's regularly scheduled work day.

Contractor employees, consultants, and subcontractors shall complete the NRC's online annual, "Computer Security Awareness" course on the same day that they receive access to the agency's IT equipment and/or services, as their first action using the equipment/service. For those contractor employees, consultants, and subcontractors who are already working under this contract, the on-line training must be completed in accordance with agency Network Announcements issued throughout the year, within three weeks of issuance of this modification.

Contractor employees, consultants, and subcontractors who have been granted access to NRC information technology equipment and/or IT services must continue to take IT security refresher training offered online by the NRC throughout the term of the contract. Contractor employees will receive notice of NRC's online IT security refresher training requirements through agency-wide notices.

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

H.14 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS (AUG 2011)

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 NOTICE LISTING CONTRACT CLAUSES INCORPORATED BY REFERENCE

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

NUMBER	TITLE	DATE
	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1)	
52.202-1	DEFINITIONS	JAN 2012
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	APR 1984
52.203-7	ANTI-KICKBACK PROCEDURES	OCT 2010
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN 1997
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	OCT 2010
52.203-13	CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT	APR 2010
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER	MAY 2011
52.204-9	PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL	JAN 2011
52.204-13	CENTRAL CONTRACTOR REGISTRATION MAINTENANCE	DEC 2012
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	DEC 2010
52.215-2	AUDIT AND RECORDS--NEGOTIATION ALTERNATE III (JUNE 1999)	OCT 2010
52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT 1997
52.222-3	CONVICT LABOR	JUN 2003
52.222-19	CHILD LABOR - COOPERATION WITH AUTHORITIES AND REMEDIES	MAR 2012
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

52.227-14
52.230-6

RIGHTS IN DATA--GENERAL
ADMINISTRATION OF COST ACCOUNTING
STANDARDS

DEC 2007
JUN 2010

I.2 52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION (JUL 2012)

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

"Commercially available off-the-shelf (COTS) item"--

(1) Means any item of supply that is--

(i) A commercial item (as defined in paragraph (1) of the definition at 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in section 3 of the Shipping Act of 1984 (46U.S.C. App. 1702), such as agricultural products and petroleum products. Per 46 CFR 525.1(c)(2), "bulk cargo" means cargo that is loaded and carried in bulk onboard ship without mark or count, in a loose unpackaged form, having homogenous characteristics. Bulk cargo loaded into intermodal equipment, except LASH or Seabee barges, is subject to mark and count and, therefore, ceases to be bulk cargo.

"Employee assigned to the contract" means an employee who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), who is directly performing work, in the United States, under a contract that is required to include the clause prescribed at 22.1803. An employee is not considered to be directly performing work under a contract if the employee--

(1) Normally performs support work, such as indirect or overhead functions; and

(2) Does not perform any substantial duties applicable to the contract.

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

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

"United States", as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands.

(b) Enrollment and verification requirements.

(1) If the Contractor is not enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall--

(i) Enroll. Enroll as a Federal Contractor in the E-Verify program within 30 calendar days of contract award;

(ii) Verify all new employees. Within 90 calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); and

(iii) Verify employees assigned to the contract. For each employee assigned to the contract, initiate verification within 90 calendar days after date of enrollment or within 30 calendar days of the employee's assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(2) If the Contractor is enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall use E-Verify to initiate verification of employment eligibility of--

(i) All new employees.

(A) Enrolled 90 calendar days or more. The Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(B) Enrolled less than 90 calendar days. Within 90 calendar days after enrollment as a Federal Contractor in E-Verify, the Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(ii) Employees assigned to the contract. For each employee assigned to the contract, the Contractor shall initiate verification within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(3) If the Contractor is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State or local government or the government of a Federally recognized Indian tribe; or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the Contractor may choose to verify only employees assigned to the contract, whether existing employees or new hires. The Contractor shall follow the applicable verification requirements at (b)(1) or (b)(2), respectively, except that any requirement for verification of new employees applies only to new employees assigned to the contract.

(4) Option to verify employment eligibility of all employees. The Contractor may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the contract. The Contractor shall initiate verification for each existing employee working in the United States who was hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within 180 calendar days of--

(i) Enrollment in the E-Verify program; or

(ii) Notification to E-Verify Operations of the Contractor's decision to exercise this option, using the contact information provided in the E-Verify program Memorandum of Understanding (MOU).

(5) The Contractor shall comply, for the period of performance of this contract, with the requirements of the E-Verify program MOU.

(i) The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the Contractor's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the Contractor will be referred to a suspension or debarment official.

(ii) During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the Contractor is excused from its obligations under paragraph (b) of this clause. If the

suspension or debarment official determines not to suspend or debar the Contractor, then the Contractor must reenroll in E-Verify.

(c) Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify>.

(d) Individuals previously verified. The Contractor is not required by this clause to perform additional employment verification using E-Verify for any employee--

(1) Whose employment eligibility was previously verified by the Contractor through the E-Verify program;

(2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or

(3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12, Policy for a Common Identification Standard for Federal Employees and Contractors.

(e) Subcontracts. The Contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for identification of the parties), in each subcontract that--

(1) Is for--

(i) Commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or

(ii) Construction;

(2) Has a value of more than \$3,000; and

(3) Includes work performed in the United States.

52.223-6	DRUG-FREE WORKPLACE	MAY 2001
52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG 2011
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN 2008
52.225-25	PROHIBITION ON CONTRACTING WITH ENTITIES ENGAGING IN CERTAIN ACTIVITIES OR TRANSACTIONS RELATING TO IRAN-- REPRESENTATION AND CERTIFICATIONS	DEC 2012
52.227-1	AUTHORIZATION AND CONSENT	DEC 2007
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	DEC 2007
52.232-17	INTEREST	OCT 2010

I.3 52.232-22 LIMITATION OF FUNDS (APR 1984)

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost

specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

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

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

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

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

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

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

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

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

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

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

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

excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

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

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

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

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

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

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

I.4 52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

I.5 52.232-25 PROMPT PAYMENT (OCT 2008)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer (EFT). Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--

(1) Due date.

(i) Except as indicated in paragraphs (a)(2) and (c) of this clause, the due date for making invoice payments by the designated payment office is the later of the following two events:

(A) The 30th day after the designated billing office receives a proper invoice from the Contractor (except as provided in paragraph (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed. For a final invoice, when the payment amount is subject to contract settlement actions, acceptance is deemed to occur on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments.

(i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(3)(i) through (a)(3)(x) of this clause. If the invoice does not comply with these requirements, the designated billing office will return it within 7 days after receipt (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or

oils, and food products prepared from edible fats or oils), with the reasons why it is not a proper invoice. The Government will take into account untimely notification when computing any interest penalty owed the Contractor.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of the mailing or transmission.)

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, discount for prompt payment terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(ix) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232- 38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer—Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer—Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(x) Any other information or documentation required by the contract (e.g., evidence of shipment).

(4) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance is deemed to occur constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivers the supplies or performs the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. If actual acceptance occurs within the constructive acceptance period, the Government will base the determination of an interest penalty on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(6) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(7) Additional interest penalty.

(i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of \$1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest is due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt, provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(iii) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payment. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

(d) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall--

(1) Remit the overpayment amount to the payment office cited in the contract along with a description of the overpayment including the--

(i) Circumstances of the overpayment (e.g., duplicate payment, erroneous payment, liquidation errors, date(s) of overpayment);

(ii) Affected contract number and delivery order number if applicable;

(iii) Affected contract line item or subline item, if applicable; and

(iv) Contractor point of contact.

(2) Provide a copy of the remittance and supporting documentation to the Contracting Officer.

I.6 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER--CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term "EFT" refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

- (i) Making a correct payment;
- (ii) Paying any prompt payment penalty due; and
- (iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the

Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

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
52.237-3	CONTINUITY OF SERVICES	JAN 1991
52.242-13	BANKRUPTCY	JUL 1995
52.243-3	CHANGES--TIME-AND-MATERIALS OR LABOR-HOURS	SEP 2000
52.244-2	SUBCONTRACTS ALTERNATE I (JUNE 2007)	OCT 2010
52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	DEC 2010
52.246-25	LIMITATION OF LIABILITY--SERVICES	FEB 1997
52.249-6	TERMINATION (COST-REIMBURSEMENT) ALT. V	SEP 1996
1030	NRC ACQUISITION REGULATION (NRCAR) PROVISIONS AND CLAUSES	AUG 2011

I.7 52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (FEB 2012)

(a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the Central Contractor Registration database via <https://www.acquisition.gov>.

(b) As required by section 3010 of the Supplemental Appropriations Act, 2010 (Pub. L. 111-212), all information posted in FAPIS on or after April 15, 2011, except past performance reviews, will be publicly available. FAPIS consists of two segments--

(1) The non-public segment, into which Government officials and the Contractor post information, which can only be viewed by--

- (i) Government personnel and authorized users performing business on behalf of the Government; or
- (ii) The Contractor, when viewing data on itself; and

(2) The publicly-available segment, to which all data in the non-public segment of FAPIS is automatically transferred after a waiting period of 14 calendar days, except for--

- (i) Past performance reviews required by subpart 42.15;
- (ii) Information that was entered prior to April 15, 2011; or
- (iii) Information that is withdrawn during the 14-calendar-day waiting period by the Government official who posted it in accordance with paragraph (c)(1) of this clause.

(c) The Contractor will receive notification when the Government posts new information to the Contractor's record.

(1) If the Contractor asserts in writing within 7 calendar days, to the Government official who posted the information, that some of the information posted to the nonpublic segment of FAPIIS is covered by a disclosure exemption under the Freedom of Information Act, the Government official who posted the information must within 7 calendar days remove the posting from FAPIIS and resolve the issue in accordance with agency Freedom of Information procedures, prior to reposting the releasable information. The contractor must cite 52.209-9 and request removal within 7 calendar days of the posting to FAPIIS.

(2) The Contractor will also have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, i.e., for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.

(3) As required by section 3010 of Pub. L. 111-212, all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available.

(d) Public requests for system information posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

I.8 52.215-23 LIMITATIONS ON PASS-THROUGH CHARGES (OCT 2009) ALTERNATE I (OCT 2009)

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

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

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

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

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

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

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

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

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

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

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

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

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

(e) Access to records.

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

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

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

I.9 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 31.2 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 30TH 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.10 52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days.

I.11 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 30 days; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed five (5) years.

I.12 52.232-99 PROVIDING ACCELERATED PAYMENT TO SMALL BUSINESS SUBCONTRACTORS (DEVIATION) (AUG 2012)

This clause implements the temporary policy provided by OMB Policy Memorandum M-12-16, Providing Prompt Payment to Small Business Subcontractors, dated July 11, 2012.

(a) Upon receipt of accelerated payments from the Government, the contractor is required to make accelerated payments to small business subcontractors to the maximum extent practicable after receipt of a proper invoice and all proper documentation from the small business subcontractor.

(b) Include the substance of this clause, including this paragraph (b), in all subcontracts with small business concerns.

(c) The acceleration of payments under this clause does not provide any new rights under the Prompt Payment Act.

I.13 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

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

I.14 COMPLIANCE WITH SECTION 508 OF THE REHABILITATION ACT OF 1973, AS AMENDED (AUG 2011)

In 1998, Congress amended the Rehabilitation Act of 1973 (29 U.S.C. 794d) as amended by the Workforce Investment Act of 1998 (P.L. 105 - 220), August 7, 1998 to require Federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities. Inaccessible technology interferes with an ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, open new opportunities for people with disabilities, and encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. 794d), agencies must give disabled employees and members of the public access to information that is comparable to access available to others.

Specifically, Section 508 of that Act requires that when Federal agencies develop, procure, maintain, or use EIT, Federal employees with disabilities have access to and use of information and data that is comparable to the access and use by Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. (36 C.F.R. 1194 implements Section 508 of the Rehabilitation Act of 1973, as amended, and is viewable at: <http://www.access-board.gov/sec508/standards.htm>)

Exceptions.

All EIT that the government acquires by purchase or by lease/rental under this contract must meet the applicable accessibility standards at 36 C.F.R. Part 1194, unless one or more of the following exceptions at FAR 39.204 applies to this acquisition (applicable if checked):

- The EIT is for a national security system.
- The EIT is acquired by a contractor incidental to a contract.
- The EIT is located in spaces frequented only by service personnel for maintenance, repair or occasional monitoring of equipment.
- Compliance with the applicable 36 C.F.R. Part 1194 provisions would impose an undue burden on the agency.

Applicable Standards.

The following accessibility standards from 36 C.F.R. Part 1194 have been determined to be applicable to this contract/order. See www.section508.gov for more information:

- 1194.21 Software applications and operating systems.
- 1194.22 Web-based intranet and internet information and applications. 16 rules.
- 1194.23 Telecommunications products.
- 1194.24 Video and multimedia products.
- 1194.25 Self contained, closed products.
- 1194.26 Desktop and portable computers.
- 1194.31 Functional performance criteria.
- 1194.41 Information, documentation, and support.

Note: Under the Exceptions paragraph, the Contracting Officer should check the boxes for any exceptions that apply. If no exceptions apply, then the Contracting Officer should, under the Applicable Standards paragraph, check the boxes that indicate which of the standards apply. See FAR Subpart 39.2 and www.section508.gov for additional guidance.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

ATTACHMENT NUMBER	TITLE	DATE	NO. PAGES
A	STATEMENT OF WORK/SPECIFICATION		

ATTACHMENT

STATEMENT OF WORK FOR COMMERCIAL

TITLE: SNAP Maintenance and Development

BACKGROUND

The analytical computer codes developed by and for the U.S. Nuclear Regulatory Commission (NRC) frequently do not employ object-oriented programming designs and have minimal documentation to guide developers on how code changes should be implemented. Typically, much of the development work on analytical codes focused on the implementation of some advanced scientific procedure or state-of-the-art numerical method, but little attention was given to code maintainability or future development. Currently, several codes are being actively developed for NRC's Office of Nuclear Regulatory Research (RES) that would benefit from access to code designer expertise. The purpose of this contract is to provide a resource to code design expertise and to provide development and maintenance support to a limited number of RES codes and code-related projects.

A RES-developed code that is to be specifically covered under this contract is the Symbolic Nuclear Analysis Package (SNAP). SNAP is a graphical user interface system designed to support NRC nuclear analysis codes. SNAP includes preprocessor and postprocessor components allowing code-specific models to be built, exported, submitted to the analysis code, then receiving the output from the analysis code and displaying the results in a user-friendly fashion. SNAP is written primarily in Java, although some aspects of the postprocessor component are written in C. SNAP is designed to be object oriented and extensible. Currently, SNAP supports the following NRC-developed analytical codes: TRACE, RELAP5, CONTAIN, MELCOR (1.8.6 and 2.1), FRAPCON, and FRAPTRAN. TRACE and RELAP5 are system-level thermal hydraulic codes. MELCOR is a system-level severe accident code. CONTAIN is a code used to predict containment response and associated phenomena. FRAPCON and FRAPTRAN are fuel phenomena codes. Maintenance and testing for the RELAP5 plug-in is not included in this work scope.

OBJECTIVE

1. To provide NRC/RES with general code design support and to recommend software development solutions, given the contractor's expertise in code design, for the most maintainable and cost-effective approach to software design and implementation. Specifically, to acquire the services of a code-design expert, Ken Jones; and
2. To maintain and develop user interfaces and codes as specified by NRC/RES. The specific codes to be developed and maintained are defined under the "scope" section of this document.

SCOPE OF WORK

Task 1 *SNAP Application Testing and Distribution*

1. SNAP plug-ins for analytical codes shall be tested to ensure that they can import and export the respective code input decks without causing changes in the calculated results. For each analytical code for which SNAP provides a plug-in, the contractor shall maintain and exercise a relevant suite of input decks to assure that the SNAP plug-in is performing input and output operations correctly. The contractor shall at least include in these test suites any decks that are provided by the NRC project manager. The contractor shall correct errors discovered in the associated SNAP plug-in during testing, as necessary.
2. Maintain a multi-platform, SNAP installation package to support code distribution. SNAP is to be distributed from a web-site under strict control of the contractor. Access to the SNAP code is to be coordinated through the NRC project manager.
3. Evaluate and correct errors reported by the SNAP user community.
4. Maintain and extend SNAP User's manuals and help files to reflect any code changes. Automate linkage to analysis code documentation.
5. Provide User Support. Implement user supplied requests for improvements as reviewed and approved by NRC.

Base year:

Estimated Effort: 5 staff months
Completion Date: 1 year after award of contract

Task 2 *Maintain SNAP Capabilities*

The supported analytical codes are still undergoing modifications that may necessitate changes to their input format requirements. The contractor shall upgrade SNAP to fully support these modifications. The contractor shall maintain contact with the analytical code developers so that any changes can be identified and modifications made to the respective SNAP plug-in in a timely fashion. The NRC project manager shall be notified (by letter or email) of any planned changes to any plug-in before such changes are actually made. Note that in cases where the analytical code has been updated or changed in a major way, the contractor may need to write an entirely new plug-in for the new version of the analytical code. If the need for an entirely new plug-in is encountered, then the contractor shall not proceed to make changes to the existing plug-in but instead inform NRC so that other actions may be planned.

Base year:

Estimated Effort: 2 staff months
Completion Date: 1 year after award of contract

Task 3 *Provide Technical Support*

Provide technical support to NRC. The work includes making presentations, attending meetings, reviewing technical reports, and providing technical consultation and support as requested by the NRC project manager.

Base year:

Estimated Effort: 4 staff months

Completion Date: 1 year after award of contract

Task 4 *Implement Automated Testing for the SNAP-TRACE plug-in*

The contractor shall design and implement an automated testing mechanism to verify that each input value specified in the TRACE code's input requirements is editable via the SNAP graphical user interface, and that modifying each record updates the code input appropriately.

Once implemented, the contractor shall ensure that the automated testing indicates that the SNAP-TRACE plug-in passes all tests before releasing new versions of the plug-in.

Base year:

Estimated Effort: 6 staff months

Completion Date: 1 year after award of contract

Task 5 *Support for SNAP-MELCOR plug-in and Support for New Simulation Models*

The MELCOR 2.1 SNAP plug-in was developed by Applied Programming Technology, Inc. (APT) in early 2009 and heavily modified in 2010 and 2011 to support "advanced simulator" capabilities. The simulator modifications made to the SNAP-MELCOR user interface were also carried over to the other SNAP plug-ins. The work was largely successful and well received by the MELCOR user community. Plans for the USNRC MELCOR project have indicated that new simulation models will be developed and will require interaction with the SNAP developer.

Also, the SNAP-MELCOR user interface was successfully used in the fall 2011 MELCOR user workshop and has lead to many new SNAP-MELCOR users. As new users come online it is anticipated that more interface issues will arise, requiring more developer time and support.

Therefore, through this support task, the SNAP developer shall:

1. Provide SNAP-MELCOR 2.1 plug-in related support that may be required by the MELCOR 2.1 code developers. All support that is requested by SNL is to be communicated to the NRC project manager in the regular monthly status report.
2. Add new features to the SNAP-MELCOR 2.1 plug-in as requested by the NRC project manager. Currently unforeseen feature requirements may require more development resources; the contractor shall request permission in writing from the NRC project manager before performing work exceeding this tasks' level of resources.

Base year:

Estimated Effort: 2 staff months
Completion Date: 1 year after award of contract.

Task 6 Implement USNRC TRACE user guidance into the SNAP-TRACE Plug-in

RES has been developing comprehensive guidelines for input model development for the TRACE code. The contractor shall implement these new guidelines into the SNAP-TRACE plug-in so that the guidelines will be graphically “popped up” as suggestions to a TRACE model developer. The suggestions shall be implemented in such a way that they can be toggled on and off both individually and in total so that advanced users don’t have to be burdened with annoying reminders of what they already know. The USNRC will provide the contractor with documentation of the TRACE code recommendation, as needed.

Base year:

Estimated Effort: 2 staff months
Completion Date: 1 year after award of contract

Task 7 Implement Advanced Support for DAKOTA Features

The DAKOTA (Design Analysis Kit for Optimization and Terascale Applications) code is currently being used in SNAP’s UQ (uncertainty quantification) plug-in only for its uncertainty analysis features. However, DAKOTA offers much more functionality to analysts than what the UQ plug-in uses. The purpose of this task is for the SNAP contractor to collect and suggest features of DAKOTA that will be useful for the USNRC’s purposes. Furthermore, once these features have been identified, the contractor shall document these features and document a design for implementing said features into the SNAP user interface. After the USNRC PM approves the proposed design(s), the contractor shall implement the features into SNAP.

Base year:

Estimated Effort: 3 staff months
Completion Date: 1 year after award of contract

Task 8 Add support for the SCALE code into the SNAP model-editor

The Standardized Computer Analysis for Licensing Evaluation (SCALE) code system developed at Oak Ridge National Laboratory (ORNL) provides a comprehensive, verified and validated, user friendly tool set for criticality safety, reactor physics, radiation shielding, and sensitivity and uncertainty analysis. For over 30 years, regulators, licensees, and research institutions around the world have used SCALE for nuclear safety analysis and design. In 2012 work was started on developing a SNAP-SCALE plug-in for SNAP. The 2012 SNAP-SCALE work was focused on implementing only one of the SCALE “sequences” called TRITON. The work to be done under this task is to extend the SNAP-SCALE interface to selected SCALE sequences and module interfaces. The SNAP contractor shall develop these user interfaces with support from the ORNL SCALE contractor and guidance from the USNRC SCALE user base. The USNRC SNAP Project Manager will ensure that USNRC feedback is provided to the SNAP contractor as well as ensuring that the ORNL contractor has resources to provide the required support and feedback to the SNAP contractor.

Base year:
Estimated Effort: 3 staff months
Completion Date: 1 year after award of contract

Task 9 *Develop Advanced User Interface Tools for SNAP-TRACE Plug-in*

Develop a simplified user interface for certain common TRACE input features. This work was originally scheduled to be done in the preceding contract but was put on hold in order to complete higher-priority work. This work is different than simply implementing user guidance recommendations. This work is to develop a more intuitive and easy to use interface that helps the user make correct code modeling choices. These kinds of user interfaces are often referred to as “wizards”. Suitable wizards are to be developed for the following purposes in the SNAP-TRACE plug-in:

- The TRACE 3-D vessel component.
- The TRACE channel component.
- The PARCS 3-D kinetics code interface.
- The exterior component interface.

Base year:
Estimated Effort: 3 staff months
Completion Date: 1 year after award of contract

OPTION YEAR 1

Task 1 SNAP Application Testing and Distribution

1. SNAP plug-ins for analytical codes shall be tested to ensure that they can import and export the respective code input decks without causing changes in the calculated results. For each analytical code for which SNAP provides a plug-in, the contractor shall maintain and exercise a relevant suite of input decks to assure that the SNAP plug-in is performing input and output operations correctly. The contractor shall at least include in these test suites any decks that are provided by the NRC project manager. The contractor shall correct errors discovered in the associated SNAP plug-in during testing, as necessary.
2. Maintain a multi-platform, SNAP installation package to support code distribution. SNAP is to be distributed from a web-site under strict control of the contractor. Access to the SNAP code is to be coordinated through the NRC project manager.
3. Evaluate and correct errors reported by the SNAP user community.
4. Maintain and extend SNAP User's manuals and help files to reflect any code changes. Automate linkage to analysis code documentation.
5. Provide User Support. Implement user supplied requests for improvements as reviewed and approved by NRC.

Option year 1:

Estimated Effort: 5 staff months
Completion Date: 2 year after award of contract

Task 2 Maintain SNAP Capabilities

The supported analytical codes are still undergoing modifications that may necessitate changes to their input format requirements. The contractor shall upgrade SNAP to fully support these modifications. The contractor shall maintain contact with the analytical code developers so that any changes can be identified and modifications made to the respective SNAP plug-in in a timely fashion. The NRC project manager shall be notified (by letter or email) of any planned changes to any plug-in before such changes are actually made. Note that in cases where the analytical code has been updated or changed in a major way, the contractor may need to write an entirely new plug-in for the new version of the analytical code. If the need for an entirely new plug-in is encountered, then the contractor shall not proceed to make changes to the existing plug-in but instead inform NRC so that other actions may be planned.

Option year 1:

Estimated Effort: 2 staff months
Completion Date: 2 year after award of contract

Task 3 Provide Technical Support

Provide technical support to NRC. The work includes making presentations, attending meetings, reviewing technical reports, and providing technical consultation and support as requested by the NRC project manager.

Option year 1:

Estimated Effort: 4 staff months
Completion Date: 2 year after award of contract

Task 4 Continue to Implement Automated Testing for the SNAP-TRACE plug-in

The contractor shall continue to develop necessary test suites for the remaining input editors and ensure that automated testing indicates that the SNAP-TRACE plug-in passes all tests before releasing new versions of the plug-in.

Option year 1:

Estimated Effort: 8 staff months
Completion Date: 2 year after award of contract

Task 5 Continue Support for SNAP-MELCOR plug-in and Support for New Simulation Models

This is a continuation of the Base Year Task 5.

Through this support task, the SNAP developer shall:

1. Provide SNAP-MELCOR 2.1 plug-in related support that may be required by the MELCOR 2.1 code developers. All support that is requested by SNL is to be communicated to the NRC project manager in the regular monthly status report.
2. Add new features to the SNAP-MELCOR 2.1 plug-in as requested by the NRC project manager. Currently unforeseen feature requirements may require more development resources; the contractor shall request permission in writing from the NRC project manager before performing work exceeding this tasks' level of resources.

Option year 1:

Estimated Effort: 2 staff months
Completion Date: 2 year after award of contract.

Task 6 Complete Adding Support for the SCALE Code into the SNAP Model-Editor

This is a continuation of work from Task 8 of the base year.

The Standardized Computer Analysis for Licensing Evaluation (SCALE) code system developed at Oak Ridge National Laboratory (ORNL) provides a comprehensive, verified and validated, user friendly tool set for criticality safety, reactor physics, radiation shielding, and sensitivity and uncertainty analysis. For over 30 years, regulators, licensees, and research institutions around the world have used SCALE for nuclear safety analysis and design. In 2012 work was started

on developing s SNAP-SCALE plug-in for SNAP. The 2012 SNAP-SCALE work was focused on implementing only one of the SCALE "sequences" called TRITON. The work to be done under this task is to extend the SNAP-SCALE interface to selected SCALE sequences and module interfaces. The SNAP contractor shall develop these user interfaces with support from the ORNL SCALE contractor and guidance from the USNRC SCALE user base. The USNRC SNAP Project Manager will ensure that USNRC feedback is provided to the SNAP contractor as well as ensuring that the ORNL contractor has resources to provide the required support and feedback to the SNAP contractor.

Option year 1:

Estimated Effort: 2 staff months
Completion Date: 2 year after award of contract

Task 7 Complete Adding USNRC TRACE user guidance into the SNAP-TRACE Plug-in

This is a continuation of the work from Task 6 of the base year.

RES has been developing comprehensive guidelines for input model development for the TRACE code. The contractor shall implement these new guidelines into the SNAP-TRACE plug-in so that the guidelines will be graphically "popped up" as suggestions to a TRACE model developer. The suggestions shall be implemented in such a way that they can be toggled on and off both individually and in total so that advanced users don't have to be burdened with annoying reminders of what they already know. The USNRC will provide the contractor with documentation of the TRACE code recommendation, as needed.

Option year 1:

Estimated Effort: 4 staff months
Completion Date: 2 year after award of contract

Task 8 APTPlot Advanced Feature Development

Deleted.

Task 9 Provide TRACE Plug-in Support for the Common Repository Manager (CRM)

The goal of a CRM database is to provide a source of common (multidiscipline) design-basis data that unambiguously describes a core, a plant, or a collection of core or plant parameters for use in developing analysis models or to provide input to analysis models. The Common Repository Manager (CRM) is used to design, create, and modify these databases. The two main components of the CRM are the Structure Builder and the Database Plug-ins. The Structure Builder is used by repository designers and/or developers to define the component types, table types, and parameters that will be made available in a database. This includes such things as attribute name, pop-up help, and data type (real, integer, enumeration, etc.). The resulting layout (called a Structure) is then exported as a Structure File (*.CRMSF) to be used by the Database plug-in. The Structure Builder acts as a customized graphical user interface builder for database. The Database plug-in allows users to graphically create, modify, and manage databases defined by a Structure File. The Database plug-in loads the Structure

File and dynamically creates a display that represents the component types and associated parameters contained within the file. These data are then used directly (via Tcl, Perl, or XML) or indirectly in reports, assessments, and in the input for a variety of analysis codes.

Design information can include a wide range of data such as isometric drawings, process and instrumentation diagrams, vendor equipment manuals, operating procedures, and test reports that collectively make up the design being analyzed. This information is typically provided in a wide variety of specialized formats from different sources. Once the design information is collected, the relevant data needed for model development can be extracted and organized electronically into a CRM Database. Each data element within the database can include links to the reference design information. In addition, ownership shall be assigned to this data on an attribute level to facilitate data validation. Values in this database shall be calculated, if necessary, to derive data that can be used to support model input requirements.

Auxiliary calculations can range from simple hand calculations and modeling assumptions contained in a scanned image or word processing file to complex Matlab calculations that pull data from a CRM database. The results from these auxiliary calculations could be brought directly into the analysis code model or they could be stored in the CRM database if they are common to multiple models.

After the design data and results of the auxiliary calculations have been compiled into a CRM database to create a plant reference model, these data shall be brought into the analysis code plug-ins to build the input models. This would permit each value in the input model to be traced back to and validated against the design information stored in the common repository. Auxiliary calculations included in the analysis code model shall refer directly or indirectly to common repository values in the same way. In addition to providing the ability to identify the design information and auxiliary calculations that form a basis for a model, this approach shall allow changes to this data to be easily identified so that the impact of these changes could be assessed to determine the impact they may have on the model input.

Specialized plug-in specific user interface features will be needed to simplify the process of retrieving values from CRM and calculating analysis code-specific component level inputs. For example, the TRACE Pipe component could be modified to include a CRM attribute along with a custom editor. The custom editor would be used to identify a series of pipe segments defined in the CRM database. The geometric data for the pipe could then be derived from the pipe segment data. This data can then be use for lumping of parallel flow paths as well as advanced renodalization features.

The contractor shall provide training to NRC staff in the use of the CRM structure builder and database software. The contractor also shall adapt the CRM project manager feature plug-in to meet the NRC-specific site requirements. Moreover, the contractor shall provide assistance as needed by NRC staff (and support contractors, as identified by the NRC project manager) to develop a standardized plant reference model (PRM). The contractor shall also modify the TRACE plug-in to extract data from PRM databases.

Option year 1:

Estimated Effort:	3 staff months
Completion Date:	2 year after award of contract

OPTION YEAR 2

Task 1 *SNAP Application Testing and Distribution*

1. SNAP plug-ins for analytical codes shall be tested to ensure that they can import and export the respective code input decks without causing changes in the calculated results. For each analytical code for which SNAP provides a plug-in, the contractor shall maintain and exercise a relevant suite of input decks to assure that the SNAP plug-in is performing input and output operations correctly. The contractor shall at least include in these test suites any decks that are provided by the NRC project manager. The contractor shall correct errors discovered in the associated SNAP plug-in during testing, as necessary.
2. Maintain a multi-platform, SNAP installation package to support code distribution. SNAP is to be distributed from a web-site under strict control of the contractor. Access to the SNAP code is to be coordinated through the NRC project manager.
3. Evaluate and correct errors reported by the SNAP user community.
4. Maintain and extend SNAP User's manuals and help files to reflect any code changes. Automate linkage to analysis code documentation.
5. Provide User Support. Implement user supplied requests for improvements as reviewed and approved by NRC.

Option Year 2:

Estimated Effort: 5 staff months
Completion Date: 3 year after award of contract

Task 2 *Maintain SNAP Capabilities*

The supported analytical codes are still undergoing modifications that may necessitate changes to their input format requirements. The contractor shall upgrade SNAP to fully support these modifications. The contractor shall maintain contact with the analytical code developers so that any changes can be identified and modifications made to the respective SNAP plug-in in a timely fashion. The NRC project manager shall be notified (by letter or email) of any planned changes to any plug-in before such changes are actually made. Note that in cases where the analytical code has been updated or changed in a major way, the contractor may need to write an entirely new plug-in for the new version of the analytical code. If the need for an entirely new plug-in is encountered, then the contractor shall not proceed to make changes to the existing plug-in but instead inform NRC so that other actions may be planned.

Option Year 2:
Estimated Effort: 2 staff months
Completion Date: 3 year after award of contract

Task 3 *Provide Technical Support*

Provide technical support to NRC. The work includes making presentations, attending meetings, reviewing technical reports, and providing technical consultation and support as requested by the NRC project manager.

Option Year 2:
Estimated Effort: 4 staff months
Completion Date: 3 year after award of contract

Task 4 *Implement Automated Testing for the SNAP-PARCS plug-in*

The contractor shall implement the automated testing mechanism into the SNAP-PARCS plug-in and verify that each input value specified in the PARCS code's input requirements is editable via the SNAP graphical user interface, and that modifying each record updates the code input appropriately.

Once implemented, the contractor shall ensure that the automated testing indicates that the SNAP-PARCS plug-in passes all tests before releasing new versions of the plug-in.

Option year 2:
Estimated Effort: 5 staff months
Completion Date: 3 year after award of contract

Task 5 *Implement Automated Testing for the SNAP-MELCOR plug-in*

The contractor shall design and implement an automated testing mechanism to verify that each input value specified in the MELCOR code's input requirements is editable via the SNAP graphical user interface, and that modifying each record updates the code input appropriately.

Once implemented, the contractor shall ensure that the automated testing indicates that the SNAP-MELCOR plug-in passes all tests before releasing new versions of the plug-in.

Option year 2:
Estimated Effort: 8 staff months
Completion Date: 3 years after award of contract.

Task 6 Continue to Provide TRACE-Plug-in Support for the Common Repository Manager (CRM) and Develop TRACE model-builder-wizard

This is a follow-on task for the CRM task work done in the option year 1 of this contract.

The contractor shall continue to provide training to NRC staff in the use of the CRM structure builder and database software. The contractor also shall further adapt the CRM project manager feature plug-in to meet the NRC-specific site requirements. Moreover, the contractor shall provide assistance as needed by NRC staff (and support contractors, as identified by the NRC project manager) to develop a standardized plant reference model (PRM).

Furthermore, the contractor shall develop a TRACE model-builder-wizard interface in the SNAP-TRACE plug-in. This "wizard" shall provide a comprehensive visual walk-through for a user to build a TRACE model. The design for the wizard shall be prepared by the contractor and submitted for review by the NRC PM. Once approved by the NRC PM the contractor shall implement the TRACE wizard in the SNAP-TRACE plug-in and distribute it via the normal SNAP distribution process.

Option year 2:

Estimated Effort: 5 staff months
Completion Date: 3 years after award of contract

Task 7 Develop a Generic Model-type SNAP Plug-in

Deleted.

OPTION YEAR 3

Task 1 SNAP Application Testing and Distribution

1. SNAP plug-ins for analytical codes shall be tested to ensure that they can import and export the respective code input decks without causing changes in the calculated results. For each analytical code for which SNAP provides a plug-in, the contractor shall maintain and exercise a relevant suite of input decks to assure that the SNAP plug-in is performing input and output operations correctly. The contractor shall at least include in these test suites any decks that are provided by the NRC project manager. The contractor shall correct errors discovered in the associated SNAP plug-in during testing, as necessary.
2. Maintain a multi-platform, SNAP installation package to support code distribution. SNAP is to be distributed from a web-site under strict control of the contractor. Access to the SNAP code is to be coordinated through the NRC project manager.
3. Evaluate and correct errors reported by the SNAP user community.
4. Maintain and extend SNAP User's manuals and help files to reflect any code changes. Automate linkage to analysis code documentation.
5. Provide User Support. Implement user supplied requests for improvements as reviewed and approved by NRC.

Option Year 3:

Estimated Effort: 5 staff months
Completion Date: 4 year after award of contract

Task 2 Maintain SNAP Capabilities

The supported analytical codes are still undergoing modifications that may necessitate changes to their input format requirements. The contractor shall upgrade SNAP to fully support these modifications. The contractor shall maintain contact with the analytical code developers so that any changes can be identified and modifications made to the respective SNAP plug-in in a timely fashion. The NRC project manager shall be notified (by letter or email) of any planned changes to any plug-in before such changes are actually made. Note that in cases where the analytical code has been updated or changed in a major way, the contractor may need to write an entirely new plug-in for the new version of the analytical code. If the need for an entirely new plug-in is encountered, then the contractor shall not proceed to make changes to the existing plug-in but instead inform NRC so that other actions may be planned.

Option Year 3:

Estimated Effort: 2 staff months
Completion Date: 4 year after award of contract

Task 3 Provide Technical Support

Provide technical support to NRC. The work includes making presentations, attending meetings, reviewing technical reports, and providing technical consultation and support as requested by the NRC project manager.

Option Year 3:

Estimated Effort: 4 staff months
Completion Date: 4 years after award of contract

Task 4 Complete Implementation of Automated Testing for the SNAP-MELCOR plug-in

This is a continuation of Task 5 of option year 2.

The contractor shall continue to develop and implement user interface test suites for the SNAP-MELCOR plug-in. The contractor shall ensure that the automated testing indicates that the SNAP-MELCOR plug-in passes all tests before releasing new versions of the plug-in.

Option year 3:

Estimated Effort: 8 staff months
Completion Date: 4 years after award of contract.

Task 5 Re-factor and Re-implement the MATPRO Materials Library

The MATPRO materials library was originally developed to ensure that analysis of nuclear severe-accident and fuel issues used a consistent and correct set of material properties. Throughout the years, the original MATPRO library has become fractured and split along several different lines of development and usage. The contractor shall perform the following actions to recapture and re-implement the MATPRO library:

- Design a suitable database for the existing MATPRO information. This database shall hold not only the raw materials data, but also references to the data pedigree. Data available to users from this database shall be "tagged" with a version identifier so that there can be no doubt as to any particular datum's pedigree.
- Gather and populate the new database with as much existing MATPRO data as can be reasonably located.
- Maintain the new database so that when new data are available they may be added to the database.
- Develop an Application Programming Interface (API) for Java, FORTRAN, and C languages that can interact with the new database. The new API shall be fully documented, and the documentation made suitable to be published as a NUREG/CR. This API will be made available to code developers and researchers as directed by the NRC project manager.

Option year 3:

Estimated Effort: 9 staff months
Completion Date: 4 years after award of contract

OPTION YEAR 4

Task 1 SNAP Application Testing and Distribution

1. SNAP plug-ins for analytical codes shall be tested to ensure that they can import and export the respective code input decks without causing changes in the calculated results. For each analytical code for which SNAP provides a plug-in, the contractor shall maintain and exercise a relevant suite of input decks to assure that the SNAP plug-in is performing input and output operations correctly. The contractor shall at least include in these test suites any decks that are provided by the NRC project manager. The contractor shall correct errors discovered in the associated SNAP plug-in during testing, as necessary.
2. Maintain a multi-platform, SNAP installation package to support code distribution. SNAP is to be distributed from a web-site under strict control of the contractor. Access to the SNAP code is to be coordinated through the NRC project manager.
3. Evaluate and correct errors reported by the SNAP user community.
4. Maintain and extend SNAP User's manuals and help files to reflect any code changes. Automate linkage to analysis code documentation.
5. Provide User Support. Implement user supplied requests for improvements as reviewed and approved by NRC.

Option Year 4:

Estimated Effort: 5 staff months
Completion Date: 5 year after award of contract

Task 2 Maintain SNAP Capabilities

The supported analytical codes are still undergoing modifications that may necessitate changes to their input format requirements. The contractor shall upgrade SNAP to fully support these modifications. The contractor shall maintain contact with the analytical code developers so that any changes can be identified and modifications made to the respective SNAP plug-in in a timely fashion. The NRC project manager shall be notified (by letter or email) of any planned changes to any plug-in before such changes are actually made. Note that in cases where the analytical code has been updated or changed in a major way, the contractor may need to write an entirely new plug-in for the new version of the analytical code. If the need for an entirely new plug-in is encountered, then the contractor shall not proceed to make changes to the existing plug-in but instead inform NRC so that other actions may be planned.

Option Year 4:

Estimated Effort: 2 staff months
Completion Date: 5 year after award of contract

Task 3 Provide Technical Support

Provide technical support to NRC. The work includes making presentations, attending meetings, reviewing technical reports, and providing technical consultation and support as requested by the NRC project manager.

Option Year 4:

Estimated Effort: 4 staff months

Completion Date: 5 years after award of contract

Task 4 Complete the Re-factor and Re-implementation the MATPRO Materials Library

This is a continuation of Task 5 of the previous option year.

The MATPRO materials library was originally developed to ensure that analysis of nuclear severe-accident and fuel issues used a consistent and correct set of material properties. Throughout the years, the original MATPRO library has become fractured and split along several different lines of development and usage. The contractor shall perform the following actions to recapture and re-implement the MATPRO library:

- Design a suitable database for the existing MATPRO information. This database shall hold not only the raw materials data, but also references to the data pedigree. Data available to users from this database shall be "tagged" with a version identifier so that there can be no doubt as to any particular datum's pedigree.
- Gather and populate the new database with as much existing MATPRO data as can be reasonably located.
- Maintain the new database so that when new data are available they may be added to the database.
- Develop an Application Programming Interface (API) for Java, FORTRAN, and C languages that can interact with the new database. The new API shall be fully documented, and the documentation made suitable to be published as a NUREG/CR. This API will be made available to code developers and researchers as directed by the NRC project manager.

Option year 4:

Estimated Effort: 8 staff months

Completion Date: 5 years after award of contract

Task 5 Provide SNAP-MELCOR Plug-in Support for the Common Repository Manager (CRM) and Develop MELCOR model-builder-wizard

This is analogous to the SNAP-TRACE plug-in CRM support work done in Task 9 of option year 1, and Task 6 of option year 2, except this is to support the MELCOR code.

The contractor shall continue to provide training to NRC staff in the use of the CRM structure builder and database software. The contractor also shall further adapt the CRM project manager feature plug-in to meet the NRC-specific site requirements. Moreover, the contractor shall provide assistance as needed by NRC staff (and support contractors, as identified by the NRC project manager) to develop a standardized plant reference model (PRM).

Furthermore, the contractor shall develop a MELCOR model-builder-wizard interface in the SNAP-MELCOR plug-in. This "wizard" shall provide a comprehensive visual walk-through for a

user to build a MELCOR model. The design for the wizard shall be prepared by the contractor and submitted for review by the NRC PM. Once approved by the NRC PM the contractor shall implement the MELCOR wizard in the SNAP-MELCOR plug-in and distribute it via the normal SNAP distribution process.

Option year 4:

Estimated Effort: 7.5 staff months
Completion Date: 5 years after award of contract

RESEARCH QUALITY

The Advisory Committee on Reactor Safeguards (ACRS) assesses the quality of NRC research programs each year. Within the context of ACRS reviews of RES programs, the definition of quality research is based on several major characteristics:

- Results meet the objectives (75 percent of overall score)
 - Justification of major assumptions (12 percent)
 - Soundness of technical approach and results (52 percent)
 - Uncertainties and sensitivities addressed (11 percent)

- Documentation of research results and methods is adequate (25 percent of overall score)
 - Clarity of presentation (16 percent)
 - Identification of major assumptions (9 percent)

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

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

This contract is partially to acquire the services of Mr. Ken Jones, who is considered for the purposes of this contract to be a code design expert. It is critical that Mr. Jones be committed for at least 40 percent of full time on this contract. Other personnel on this contract need to have a strong background in object-oriented programming and Java development experience.

LEVEL OF EFFORT

Estimated level of effort for the base contract year and Option Year 1 are 2.5 staff years each. The level of effort for Option Year 2 is 2.4 staff years. The level of effort for Option Year 3 is 2.3 staff years. The level of effort for Option Year 4 is 2.2 staff years. The total level of effort for all five proposed contract years is 12 staff years.

PERIOD OF PERFORMANCE

The period of performance of this contract is five years (September 21, 2012 to September 20, 2017), including a 1-year base period and four 1-year option periods.

The base year is proposed to run from September 21, 2012 – September 20, 2013. Each option year covers exactly one year of time, i.e., Option Year one runs from September 21, 2013 to September 20, 2014.

REPORTING REQUIREMENTS

The Monthly Letter Status Report (MLSR) individually reports on the progress made on each task. See the paragraph below for further requirements for the MLSR. Moreover, for each task for which a code design is requested in the task description, the contractor shall prepare a report documenting the design, requirements, success criteria, and proposed test procedures that shall be delivered to the NRC project manager **BEFORE** any development is carried out to implement the subject design. Upon receiving approval from the NRC program manager (via email or written letter), the contractor shall proceed with implementing the code design.

In addition, for any new plug-ins that are developed or significant changes to existing plug-ins, the contractor shall issue new user documentation (this must be made available in the form of both online help through the SNAP user interface AND in a printable form). Moreover, application programming interface documentation for the SNAP Common Application Framework for Engineering Analysis (CAFEAN, also known as the SNAP “core”) shall be updated, as needed. The NRC program manager will determine when, or if, a supplement to the existing NUREG/CR-6974, “SNAP CAFEAN Preprocessor Plug-in Application Programming Interface”, needs to be prepared. If a supplement to NUREG/CR-6974 is deemed necessary, then the contractor shall prepare the necessary documentation.

Monthly Letter Status Report

An MLSR is to be submitted to the NRC project manager **BEFORE** by the 20th of the month following the month to be reported with copies provided to the following:

Resource Name: RESDSAMLSR.Resource@nrc.gov

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

PUBLICATIONS NOTE

RES encourages the publication of the scientific results from RES-sponsored programs in refereed scientific and engineering journals, as appropriate. If the laboratory proposes to publish in the open literature or present the information at meeting in addition to submitting the required technical reports, approval of the proposed article or presentation should be obtained from the NRC project manager. The RES project manager shall approve the material as submitted, approve it subject to NRC suggested revisions, or disapprove it. In any event, the RES project manager may disapprove or delay presentation or publication of papers on information that is subject to Commission approval that has not been ruled upon or which has been disapproved. Additional information regarding the publication of NRC-sponsored research

is contained in NRC Management Directives 3.7, "NUREG Series Publications," and 3.9, "NRC Staff and Contractor Speeches, Papers, and Journal Articles on Regulatory and Technical Subjects."

If the presentation or paper is in addition to the required technical reports and the RES project manager determines that it will benefit the RES project, the project manager may authorize payment of travel and publishing costs, if any, from the project funds. If the project manager determines that the article or presentation would not benefit the RES project, the costs associated with the preparation, presentation, or publication will be borne by the contractor. For any publication or presentations falling into this category, NRC reserves the right to require that such presentation or publication will not identify NRC's sponsorship of the work.

NEW STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

NRC began to capture most of its official records electronically on January 1, 2000. NRC will capture each final NUREG-series publication in its native application. Therefore, please submit your final manuscript that has been approved by your NRC project manager in both electronic and camera-ready copy.

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

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

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

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

Note that you should continue to submit original photographs, which will be scanned, because digitized photographs do not print well.

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

DELIVERABLES/SCHEDULES AND/OR MILESTONES

Base Year

Task	Deliverable	Due
1	MLSR documentation of work done.	MLSR
2	MLSR documentation of work done.	MLSR
3	MLSR documentation of work done.	MLSR
4	Document requirements and design of the automated testing mechanism in a report. Also include a test matrix that shows features to be tested and schedule for testing implementation.	Design document due before implementation of test suites. Deadline: Before end of contract year.
5	MLSR documentation of work done. If new features are requested by MELCOR users, these features need to be documented and any requirements and designs reported to the USNRC PM. Implementation of any new features must be first approved by the USNRC .	MLSR. "Feature" reports, as needed.
6	Document requirements and design of how the user guidance is to be implemented into the model editor BEFORE actual implementation begins. Implement design only after receiving email or written approval.	As requirements and designs become available. Deadline: Before end of contract year.
7	Document requirements and design of the DAKOTA features in a report BEFORE actual implementation begins. Implement design only after receiving email or written approval from USNRC PM.	As requirements and designs become available. Deadline: Before end of contract year.
8	Document requirements and design of the SCALE support in SNAP in a report BEFORE actual implementation begins. Implement design only after receiving email or written approval from USNRC PM.	As requirements and designs become available. Deadline: Before end of contract year.
9	Document requirements and design of "wizards" in a report BEFORE actual development begins. Implement design only after receiving email or written approval from USNRC PM.	As requirements and designs become available. Deadline: Before end of contract year.

Option Year 1

Task	Deliverable	Due
1	MLSR documentation of work done.	MLSR
2	MLSR documentation of work done.	MLSR
3	MLSR documentation of work done.	MLSR
4	Document any changes to the SNAP-TRACE test matrix, as necessary.	MLSR Report documenting test suite changes, as necessary. Deadline: Before end of contract year.
5	MLSR documentation of work done. If new features are requested by MELCOR users, these features need to be documented and any requirements and designs reported to the USNRC PM. Implementation of any new features must be first approved by the USNRC .	MLSR. "Feature" reports, as needed.
6	Document requirements and design of the SCALE support in SNAP in a report BEFORE actual implementation begins. Implement design only after receiving email or written approval from USNRC PM.	As requirements and designs become available. Deadline: Before end of contract year.
7	Document requirements and design of how the user guidance is to be implemented into the model editor BEFORE actual implementation begins. Implement design only after receiving email or written approval.	As requirements and designs become available. Deadline: Before end of contract year.
8	Deleted	
9	Document requirements and design of any adaptation necessary for the CRM/TRACE implementation in a report BEFORE actual development begins. Implement design only after receiving email or written approval from USNRC PM.	Before end of contract year.

Option Year 2

Task	Deliverable	Due
1	MLSR documentation of work done.	MLSR
2	MLSR documentation of work done.	MLSR
3	MLSR documentation of work done.	MLSR
4	Document the SNAP-PARCS test matrix. The matrix shall include features to be tested and a schedule for testing implementation.	Test matrix due before implementation of test suites. Deadline: Before end of contract year.
5	Document the SNAP-MELCOR test matrix. The matrix shall include features to be tested and a schedule for testing implementation.	Test matrix due before implementation of test suites. Deadline: Before end of contract year.
6	Document requirements and design of the TRACE-model-builder-wizard. Implement design only after receiving email or written approval from USNRC PM.	As requirements and designs become available. Deadline: Before end of contract year.
7	Deleted	

Option Year 3

Task	Deliverable	Due
1	MLSR documentation of work done.	MLSR
2	MLSR documentation of work done.	MLSR
3	MLSR documentation of work done.	MLSR
4	Document any changes to the SNAP-MELCOR test matrix, as necessary.	MLSR Report documenting test suite changes, as necessary. Deadline: Before end of contract year.
5	Document requirements and design of the MATPRO database API implementation in a report BEFORE actual development begins. Implement design only after receiving email or written approval.	Deadline: Before end of contract year.

Option Year 4

Task	Deliverable	Due
1	MLSR documentation of work done.	MLSR
2	MLSR documentation of work done.	MLSR
3	MLSR documentation of work done.	MLSR
4	MLSR documentation of work done.	MLSR
5	Document requirements and design of any adaptation necessary for the CRM/MELCOR implementation in a report BEFORE actual development begins. Implement design only after receiving email or written approval from USNRC PM.	Before end of contract year.

ORGANIZATIONAL CONFLICT OF INTEREST DISCLOSURE
(to be inserted by Division of Contracts)

MEETINGS AND TRAVEL

The contractor shall plan on making five trips per year for up to two people to NRC Headquarters for coordination meetings and training purposes.

NRC-FURNISHED MATERIAL

None.

INFORMATION SECURITY CATEGORIZATION

The Security Categorization of data required for full performance of this contract and any task orders has been determined using the guidance of FIPS 199 and NIST SP 800-60. The following table summarizes the required information types.

Information Type	Evaluated Impact		
	Confidentiality	Integrity	Availability
Research and Development	Low	Low	Low
System Development	Low	Low	Low

NIST 800-60 defines provisional impacts of Moderate for Integrity for both the Research and Development and System Development information types. For the purposes of this contract, however, that provisional categorization is higher than necessary because it does not take into account the fact that APT has established in-house software quality assurance (SQA) procedures that it follows for any data used or produced under this contract. The software codes produced here-in are also subject to periodic external independent peer review as a further means of ensuring data and product quality. As such, the impact of any loss of integrity will not lead to serious adverse effects because there is high probability that such instances will be identified and corrected during the review process. For this reason, the impact on Integrity has been assigned an impact level of Low.

NIST 800-60 defines a provisional impact of Low for Confidentiality for the Research and Development information type. Since this contract is not expected to require access to proprietary data, an impact of Low for Confidentiality for the Research and Development information type is appropriate.

Based on the above summary, information is categorized as follows:

Security Category = (Confidentiality, Low), (Integrity, Low), (Availability, Low)

The overall impact level and SP 800-53 control set selected for systems needed to process data in the performance of this contract is Low.

QUALITY ASSURANCE

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

The Contractor shall cite contractor quality assurance procedures to be used in the conduct of this work that provide for compliance with OMB and NRC guidelines in the proposal. With regard to the code development and maintenance activities outlined above, this should, at a minimum, include accepted software quality assurance (QA) procedures, as set forth in NUREG/BR-0167 "Software Quality Assurance Program and Guidelines", and NUREG-1737, "Software Quality Assurance Procedures for NRC Thermal Hydraulic Codes" (See Section J. List of Attachments). Note that these documents do not address quality assurance of code input models.

SUBCONTRACT/CONSULTANT INFORMATION

Describe any technical support effort that is proposed to be performed by a subcontractor or consultant. Identify the level of effort, by task, of any proposed subcontractor or consultant and provide an explanation of the need for subcontracting that portion of the effort. For any subcontract or consultant effort, describe the following:

- Necessity of subcontracting.
- Tasks and subtasks the subcontractor or consultant will perform.
- Level of effort proposed for the subcontract effort.
- The status and expected time frame for selection.
- The method of selection of the subcontractor or consultant.

CONTRACTOR ACQUIRED EQUIPMENT/PROPERTY

The contractor may purchase, upon the NRC Contracting Officer's approval, high performance workstations, and/or upgrade or replace existing computer hardware as needed during the period of the contract to assure that the codes properly utilize state-of-the-art workstation capabilities and to maintain compatibility with the workstations used by NRC and its contractors. Identification of upgrade and/or replacement hardware shall be presented to the NRC Contracting Officer and Project Manager and purchases made only after prior written approval of the NRC Contracting Officer. The contractor shall provide a written request each year to the NRC Contracting Officer and Project Manager as to the equipment and/or any upgrades required for the performance of this contract.

APPROPRIATE USE OF GOVERNMENT-FURNISHED INFORMATION TECHNOLOGY EQUIPMENT AND/ OR IT SERVICES/ ACCESS (APRIL 2003)

As part of contract performance, NRC may provide the contractor with information technology (IT) equipment and IT services or IT access as identified in the statement of work or subsequently as identified in the project. Government-furnished IT equipment, or IT services, or IT access may include but is not limited to computers, copiers, facsimile machines, printers, pagers, software, phones, Internet access and use, and email access and use. The contractor (including the contractor's employees, consultants and subcontractors) shall use the NRC-furnished IT equipment, and/or IT provided services, and/or IT access solely to perform the necessary efforts required under the contract. The contractor (including the contractor's employees, consultants, and subcontractors) are prohibited from engaging or using the NRC IT equipment and government-provided IT services or IT access for any personal use, misuse, abuses, or any other unauthorized usage.

The contractor is responsible for monitoring its employees, consultants, and subcontractors to ensure that NRC-furnished IT equipment and/or IT services, and/or IT access are not being used for personal use, misused, or abused. NRC reserves the right to withdraw or suspend the use of its government-furnished IT equipment, IT services, and/or IT access arising from contractor personal usage, or misuse, or abuse; and/or to disallow any payments associated with contractor (including the contractor's employees, consultants, and subcontractors) personal usage, misuses, or abuses of IT equipment, IT services and/or IT access; and/or to terminate the project arising from violation of this provision.

IT SECURITY REQUIREMENTS

For unclassified information used for the effort, the contractor shall provide an information security categorization document indicating the sensitivity of the information processed as part of this contract if the information security categorization was not provided in the statement of work. The determination shall be made using NIST SP 800-60 and must be approved by CSO. All work under this contract shall comply with the latest version of all applicable guidance and standards. Individual task orders will reference applicable versions of standards or exceptions as necessary. These standards include, but are not limited to, NRC Management Directive 12.5 Automated Information Security Program, and National Institute of Standards and Technology (NIST) guidance and Federal Information Processing Standards (FIPS), and Committee on National Security Systems (CNSS) policy, directives, instructions, and guidance. This information is available at the following links:

NRC Policies, Procedures and Standards (CSO internal website):

<http://www.internal.nrc.gov/CSO/policies.html>

All NRC Management Directives (public website):

<http://www.nrc.gov/reading-rm/doc-collections/management-directives/>

NIST SP and FIPS documentation is located at:

<http://csrc.nist.gov/>

CNSS documents are located at:

<http://www.cnss.gov/>

Contractor shall adhere to NRC policies, including but not limited to:

- Computer Security Policy for Encryption of Data at Rest When Outside of Agency Facilities
- Policy for Copying, Scanning, Printing, and Faxing SGI & Classified Information
- Computer Security Information Protection Policy
- Remote Access Policy
- Use of Commercial Wireless Devices, Services, and Technologies Policy
- Laptop Security Policy
- Computer Security Incident Response Policy

When e-mail is used, the Contractors shall only use NRC provided e-mail accounts to send and receive sensitive information (information that is not releasable to the public) or mechanisms to protect the information during transmission to NRC that have been approved by CSO.

All Contractor employees must sign the NRC Agency Rules of Behavior for Secure Computer Use prior to being granted access to NRC computing resources.

Contractor shall adhere to NRC's prohibition of use of personal devices to process and store NRC sensitive information.

All work performed at non-NRC facilities shall be in facilities, networks, and computers that have been accredited by NRC for processing information at the sensitivity level of the information being processed.

The contractor shall ensure that the NRC data processed during the performance of this contract shall be purged from all data storage components of the contractor's computer facility, and the contractor shall retain no NRC data within 30 calendar days after contract is completed. Until all data is purged, the contractor shall ensure that any NRC data remaining in any storage component shall be protected to prevent unauthorized disclosure.

When contractor employees no longer require access to an NRC system, the contractor shall notify the project officer within 24 hours.

Upon contract completion, the contractor shall provide a status list of all NRC system users and shall note if any users still require access to the system to perform work if a follow-on contract or task order has been approved by NRC.

The contractor shall not publish or disclose in any manner, without the Contracting Officer's written consent, the details of any security controls or countermeasures either designed or developed by the contractor under this contract or otherwise provided by the NRC.

Any IT system used to process NRC sensitive information shall:

- Include a mechanism to require users to uniquely identify themselves to the system before beginning to perform any other actions that the system is expected to provide
- Be able to authenticate data that includes information for verifying the claimed identity of individual users (e.g., passwords)
- Protect authentication data so that it cannot be accessed by any unauthorized user
- Be able to enforce individual accountability by providing the capability to uniquely identify each individual computer system user
- Report to appropriate security personnel when attempts are made to guess the authentication data whether inadvertently or deliberately

Any Contractor system being used to process NRC data shall be able to define and enforce access privileges for individual users. The discretionary access control mechanisms shall be configurable to protect objects (e.g., files, folders) from unauthorized access.

The Contractor system being used to process NRC data shall provide only essential capabilities and specifically prohibit and/or restrict the use of specified functions, ports, protocols, and/or services.

The Contractors shall only use NRC approved methods to send and receive information considered sensitive or classified. Specifically,

- **Classified Information** -All NRC Classified data being transmitted over a network shall use NSA approved encryption and adhere to guidance in MD 12.2 NRC Classified Information Security Program, MD 12.5 NRC Automated Information Security Program, and Committee on National Security Systems. Classified processing shall be only within facilities, computers, and spaces that have been specifically approved for classified processing.
- **SIGINT Information** -All SIGINT being transmitted over a network shall adhere to guidance in MD 12.7 NRC Safeguards Information Security Program and MD 12.5 NRC Automated Information Security Program. SIGINT processing shall be only within facilities, computers, and spaces that have been specifically approved for SIGINT processing. Cryptographic modules provided as part of the system shall be validated under the Cryptographic Module Validation Program to conform to NIST FIPS 140-2 overall level 2 and must be operated in FIPS mode. The contractor shall provide the FIPS 140-2 cryptographic module certificate number and a brief description of the encryption module that includes the encryption algorithm(s) used, the key length, and the vendor of the product.

If the effort includes use or processing of classified information, the NRC Contracting Officer and Project Officer shall be notified prior to processing information at a more restrictive classification level.

All system modifications to classified systems shall comply with NRC security policies and procedures for classified systems, as well as federal laws, guidance, and standards to ensure Federal Information Security Management Act (FISMA) compliance.

The most restrictive set of rights/privileges or accesses needed by users (or processes acting on behalf of users) for the performance of specified tasks shall be enforced by the system through assigned access authorizations.

The mechanisms within the Contractor system or application that enforces access control and other security features shall be continuously protected against tampering and/or unauthorized changes.

Separation of duties for Contractor systems used to process NRC information shall be enforced by the system through assigned access authorizations.

All systems used to process NRC sensitive information shall meet NRC configuration standards available at: <http://www.internal.nrc.gov/CSO/standards.html>.

All media used by the Contractor to store or process NRC information shall be controlled in accordance to the sensitivity level.

The Contractor shall not perform sanitization or destruction of media approved for processing NRC information designated as SGI or Classified. The Contractor shall provide the media to NRC for destruction.

The Contractor shall correct errors in Contractor developed software and applicable documentation that are not commercial off-the-shelf which are discovered by the NRC or the Contractor. Inability of the parties to determine the cause of software errors shall be resolved in accordance with the Disputes clause in Section I, FAR 52.233-1, incorporated by reference in the contract.

The Contractor shall provide the system requirements traceability matrix at the end of the initiation phase, development/acquisition phase, implementation/assessment phase, operation & maintenance phase, and disposal phase that provides the security requirements in a separate section so that they can be traced through the development life cycle. The Contractor shall also provide the software and hardware designs and test plan documentation, and source code to the NRC for review, upon request.

All development and testing of the systems shall be protected at their assigned system sensitivity level and shall be performed on a network separate and isolated from the NRC operational network.

All system computers shall be properly configured and hardened according to NRC policies, guidance, and standards and shall comply with all NRC security policies and procedures as commensurate with the system security categorization.

All Contractor provided deliverables identified in the project plan shall be subject to the review and approval of NRC Management. The Contractor shall make the necessary modifications to project deliverables to resolve any identified issues. Project deliverables include but are not limited to: requirements, architectures, design documents, test plans, and test reports.

The Contractor shall not hardcode any passwords into the software unless the password only appears on the server side (e.g. using server-side technology such as ASP, PHP, or JSP).

The Contractor shall ensure that the software does not contain undocumented functions and undocumented methods for gaining access to the software or to the computer system on which it is installed. This includes, but is not limited to, master access keys, back doors, or trapdoors.

Cryptographic modules provided as part of the system shall be validated under the Cryptographic Module Validation Program to conform to NIST FIPS 140-2 and shall be operated in FIPS mode. The Contractor shall provide the FIPS 140-2 cryptographic module certificate number and a brief description of the encryption module that includes the encryption algorithm(s) used, the key length, and the vendor of the product.

The Contractor shall ensure that the system will be divided into configuration items (CIs). CIs are parts of a system that can be individually managed and versioned. The system shall be managed at the CI level.

The Contractor shall have a configuration management plan that includes all hardware and software that is part of the system and contains at minimum the following sections:

- a. Introduction
 - i. Purpose & Scope
 - ii. Definitions
 - iii. References
- b. Configuration Management
 - i. Organization
 - ii. Responsibilities
 - iii. Tools and Infrastructure
- c. Configuration Management Activities
 - i. Specification Identification
 - ii. Change control form identification
 - iii. Project baselines
- d. Configuration and Change Control
 - i. Change Request Processing and Approval
 - ii. Change Control Board
- e. Milestones
 - i. Define baselines, reviews, audits
- f. Training and Resources

The Information System Security Officer's (ISSO's) role in the change management process must be described. The ISSO is responsible for the security posture of the system. Any changes to the system security posture shall have the prior approval of the ISSO. The Contractor shall not have the ability to make changes to the system's security posture without the appropriate involvement and approval of the ISSO.

The Contractor shall track and record information specific to proposed and approved changes that minimally includes:

- a. Identification of the configuration change
- b. Testing of the configuration change
- c. Scheduled implementation of the configuration change
- d. Tracking system impact of the configuration change
- e. Tracking the implementation of the configuration change

- f. Recording & reporting of the configuration change to the appropriate party
- g. Back out/Fall back plan
- h. Weekly Change Reports and meeting minutes
- i. Emergency change procedures
- j. List of team members from key functional areas

The Contractor shall provide a list of software and hardware changes in advance of placing them into operation within the following timeframes:

- 30 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 10 calendar days for a low sensitivity system

The contractor shall maintain all system documentation that is current to within:

- 10 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

Modified code, tests performed and test results, issue resolution documentation, and updated system documentation shall be deliverables under the contract.

Any proposed changes to the system shall have written approval from the NRC Project Officer. The Contractor shall maintain a list of hardware, firmware, and software changes that is current to within:

- 15 calendar days for a classified, SGI or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

The Contractor shall analyze proposed hardware and software configurations and modification as well as addressed security vulnerabilities in advance of NRC accepted operational deployment dates within:

- 15 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

The Contractor shall provide the above analysis with the proposed hardware and software for NRC testing in advance of NRC accepted operational deployment dates within:

- 15 calendar days for a classified, SGI, or high sensitivity system
- 20 calendar days for a moderate sensitivity system
- 30 calendar days for a low sensitivity system

The Contractor shall demonstrate that all hardware and software meet security requirements prior to being placed into the NRC production environment.

The Contractor shall ensure that the development environment is separated from the operational environment using NRC CSO approved controls.

The Contractor shall ensure that its employees, in performance of the contract, receive Information Technology (IT) security training in their role at the contractor's expense. The Contractor shall provide the NRC written certification that training has been completed, along with the title of the course and dates of training as a prerequisite to start of work on the contract. Contractors shall ensure that their employees, consultants, and subcontractors that have significant IT responsibilities (e.g. IT administrators, developers, project leads) receive in-depth IT security training in their area of responsibility. This training shall be at the Contractor's expense.

The system shall be able to create, maintain, and protect from modification or unauthorized access or destruction an audit trail of accesses to the objects it protects. The audit data shall be protected so that read access to it is limited to those who are authorized.

The system shall be able to record the following types of events: use of identification and authentication mechanisms, introduction of objects into a user's address space (e.g., file open, program initiation), deletion of objects, and actions taken by computer operators and system administrators or system security officers and other security relevant events. The system shall be able to audit any override of security controls.

The Contractor shall ensure auditing is implemented on the following:

- Operating System
- Application
- Web Server
- Web Services
- Network Devices
- Database
- Wireless

The Contractor shall perform audit log reviews daily using automated analysis tools.

The Contractor shall log at least the following events on systems that process NRC information:

- a. Audit all failures
- b. Successful logon attempt
- c. Failure of logon attempt
- d. Permission changes
- e. Unsuccessful file access
- f. Creating users & objects
- g. Deletion & modification of system files
- h. Registry key/kernel changes
- i. Startup & shutdown
- j. Authentication
- k. Authorization/permission granting
- l. Actions by trusted users
- m. Process invocation
- n. Controlled access to data by individually authenticated user
- o. Unsuccessful data access attempt
- p. Data deletion
- q. Data transfer
- r. Application configuration change
- s. Application of confidentiality or integrity labels to data
- t. Override or modification of data labels or markings
- u. Output to removable media
- v. Output to a printer

The Contractor shall ensure that backup media is created, encrypted (in accordance with information sensitivity) and verified to ensure that data can be retrieved and is restorable to NRC systems based on information sensitivity levels. Backups shall be executed to create readable media which allows successful file/data restoration at the following frequencies:

- At least every 1 calendar day for a high sensitivity system
- At least every 1 calendar day for a moderate sensitivity system
- At least every 7 calendar days for a low sensitivity system

The Contractor shall employ perimeter protection mechanisms, such as firewalls and routers, to deny all communications unless explicitly allowed by exception.

The Contractor shall deploy and monitor intrusion detection capability and have an always deployed and actively engaged security monitoring capability in place for systems placed in operation for the NRC. Intrusion detection and monitoring reports shall be made available to the NRC upon request for the following security categorizations and reporting timeframes:

- 5 calendar days after being requested for a high sensitivity system.
- 10 calendar days after being requested for a moderate sensitivity system
- 15 calendar days after being requested for a low sensitivity system

The Contractor shall only use licensed software and in-house developed authorized software (including NRC and Contractor developed) on the system and for processing NRC information. Public domain, shareware, or freeware shall only be installed after prior written approval is obtained from the NRC Project Manager.

The Contractor shall provide proof of valid software licensing upon request of the Contracting Officer, the NRC Project Officer, a Senior Information Technology Security Officer (SITSO), or the Designated Approving Authorities (DAAs).

TECHNICAL DIRECTION

Technical direction will be provided by the project manager, **Chester Gingrich**, who can be reached at:

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U.S. Nuclear Regulatory Commission
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