

2. CONTRACT NUMBER	3. SOLICITATION NUMBER N00173-08-R-SE02	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	5. DATE ISSUED 8/13/2008	6. REQUISITION/PURCHASE NUMBER 82-4163-08
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7. ISSUED BY Contracting Officer, Code 3235:RJS Naval Research Laboratory-SSC Department of the Navy Stennis Space center, MS 39529-5004	CODE N001783	8. ADDRESS OFFER TO (If other than Item 7)
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NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 4 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 Bldg. 1008, RM 208 until 4:00PM local time 9/15/2008
(Hour) (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 Eric Sogard	B. TELEPHONE (NO COLLECT CALLS) AREA CODE NUMBER EXT. 228 688-5980	C. E-MAIL ADDRESS esogard@nrlssc.navy.mil
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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.

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. ACKNOWLEDGMENT 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	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
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15B. TELEPHONE NUMBER AREA CODE NUMBER EXT.	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. <input type="checkbox"/>	17. SIGNATURE	18. OFFER DATE
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AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
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22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)) <input type="checkbox"/> 41 U.S.C. 253(c) ()	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) <input checked="" type="checkbox"/> ITEM
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24. ADMINISTERED BY (If other than Item 7) CODE	25. PAYMENT WILL BE MADE BY CODE
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26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE
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IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

**PART I - THE SCHEDULE
SECTION B
SUPPLIES OR SERVICES AND PRICES/COSTS**

B-1 SUPPLIES/SERVICES AND COSTS

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	ESTIMATED COST PLUS FIXED FEE
0001	The Contractor shall provide software and engineering support in accordance with Section C.	\$	\$	\$
0002	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE		\$	\$	\$

* *Not Separately Priced*

NOTICE TO OFFERORS: In addition to inserting the estimated cost and fixed fee for the base year above, the estimated cost and fixed fee for each optional extension of the term of the contract are to be inserted in Section H.

**SECTION C
DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK**

C-1 STATEMENT OF WORK

The work and services to be performed hereunder shall be subject to the requirements and standards contained in Attachment (1), Statement of Work, with Exhibit A, Contract Data Requirements List, and all other Attachments cited in Section J, which are incorporated by reference into Section C.

C-2 REQUIREMENTS FOR ON-SITE CONTRACTORS

For those portions of the work under this contract performed at any NRL site, the contractor shall comply with the Requirements for On-Site Contractors dated 01 June 2007 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/13onsite.htm>

**SECTION D
PACKAGING AND MARKING**

D-1 PACKAGING AND MARKING

Preservation, packaging, packing and marking of all deliverable contract line items must conform to normal commercial packing standards to assure safe delivery at destination.

**SECTION E
INSPECTION AND ACCEPTANCE**

E-1 INSPECTION AND ACCEPTANCE CLAUSES INCORPORATED BY REFERENCE

FAR CLAUSE TITLE

52.246-9 - Inspection Of Research And Development (Short Form) (APR 1984)

DFARS CLAUSE TITLE

252.246-7000 - Material Inspection And Receiving Report (MAR 2003)

E-2 INSPECTION AND ACCEPTANCE

Inspection and acceptance of the final delivery will be accomplished by the Technical Manager (TM) or Contracting Officer Representative (COR) designated in Section G of this contract. Inspection and acceptance will be performed at the Naval Research Laboratory, Washington DC 20375-5320.

**SECTION F
DELIVERIES OR PERFORMANCE**

F-1 DELIVERIES OR PERFORMANCE CLAUSES INCORPORATED BY REFERENCE:

FAR CLAUSE TITLE

52.242-15 - Stop-Work Order (AUG 1989) - Alternate I (APR 1984)

52.247-34 - F.O.B. Destination (NOV 1991)

F-2 PERIOD AND PLACE OF PERFORMANCE

(a) The term of this contract is from date of contract award through a period of twelve (12) months with four option periods. The option periods if exercised by the Government shall commence upon completion of the preceding period of performance and continue through a period of twelve (12) months.

(b) The principal place of performance of this contract shall be the Naval Research Laboratory in Washington D.C., Field site in Blossom Point, Maryland and other remote locations.

SECTION G
CONTRACT ADMINISTRATION DATA

G-1 PROCURING OFFICE REPRESENTATIVE

In order to expedite administration of the contract, the Administrative Contracting Officer (ACO) will direct inquiries to the appropriate office listed below. Please do not direct routine inquiries to the person listed in Item 20A on Standard Form 26.

Security Matters- Contracting Officer for Security, Code 1226, (202) 767-2240, DSN 297-2240, email security-group@nrl.navy.mil

Safety Matters- Head Safety Branch, Code 3540, (202) 767-2232, DSN 297-2232, email safety@nrl.navy.mil

Patent Matters-Associate Counsel (Intellectual Property), Code 1008.2, (202) 404-1552, DSN 297-1552, email patents@nrl.navy.mil

Release of Data-Public Affairs Officer, Code 1030 (202) 767-2541, DSN 297-2541, email publicaffairs@nrl.navy.mil

G-2 CONTRACTING OFFICER'S REPRESENTATIVE (COR) - FUNCTIONS AND LIMITATIONS

* @nrl.navy.mil is hereby designated the cognizant COR who will represent the Contracting Officer in the technical monitoring and administration of this contract. In accordance with Section E, the COR will accomplish inspection and acceptance of deliverables under this contract. The COR is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or change the specifications in the contract. If, as a result of technical discussions, it is desirable to alter contract obligations or the statement of work, a modification must be issued in writing and signed by the Contracting Officer. Unless terminated sooner, this appointment is effective for the period of performance of this contract including any options, if exercised. COR authority may not be redelegated. No change in COR assignment shall be made without written notice by the Contracting Officer, who will modify the contract to reflect the change of COR assignment.

(To be completed at time of award)*

G-3 ONR 5252.242-9718 - TECHNICAL DIRECTION (FEB 02)

- (a) Performance of the work hereunder is subject to the technical direction of the Program Officer/COR designated in this contract, or his duly authorized representative. For the purposes of this clause, technical direction includes the following:
- (1) Direction to the Contractor which shifts work emphasis between work areas or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise serves to accomplish the objectives described in the statement of work;
 - (2) Guidelines to the Contractor which assist in the interpretation of drawings, specifications or technical portions of work description.
- (b) Technical direction must be within the general scope of work stated in the contract. Technical direction may not be used to:
- (1) Assign additional work under the contract,
 - (2) Direct a change as defined in the contract clause entitled "Changes";
 - (3) Increase or decrease the estimated contract cost, the fixed fee, or the time required for contract performance; or
 - (4) Change any of the terms, conditions or specifications of the contract.
- (c) The only individual authorized to in any way amend or modify any of the terms of this contract shall be the Contracting Officer. When, in the opinion of the Contractor, any technical direction calls for effort outside the scope of the contract or inconsistent with this special provision, the Contractor shall notify the Contracting Officer in writing within ten working days after its receipt. The Contractor shall not proceed with the work affected by the technical direction until the Contractor is notified by the Contracting Officer that the technical direction is within the scope of the contract.
- (d) Nothing in the foregoing paragraphs may be construed to excuse the Contractor from performing that portion of work statement, which is not affected by the disputed technical direction.

G-4 CONTRACTOR-ACQUIRED PROPERTY

- (a) The contractor is authorized to acquire the following items of facilities, which are needed to accomplish this contract.

Items to be Acquired

Estimated Cost

*

*(*this provision will be included and completed at time of award, if applicable)*

- (b) This authorization does not constitute any consent required pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2). Advance notification or requests for consent pursuant to that clause shall be directed to the administrative contracting officer (ACO).
- (c) Pursuant to the contract clause entitled "Government Property" (FAR 52.245-1), title to the property shall vest in the Government.
- (d) Prior to acquisition of any item of Industrial Plant Equipment, the Contractor must comply with the requirements of Department of Defense Federal Acquisition Regulation Supplement (DFARS 245.302-1(b)(1)(A). (See DFARS 245.301 for definition of "Industrial Plant Equipment.")

G-5 SUBCONTRACTORS/CONSULTANTS

(a) Advance notification or requests for consent pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2) shall be directed to the cognizant administrative contracting officer (ACO).

(b) The following subcontractors/consultants have been identified in the Contractor's proposal as necessary for performance of this contract:

Subcontractor/Consultant Name	Estimated Cost
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(Paragraph (b) will be included and filled in at time of award if subcontractor/consultants are proposed by the successful offeror)

G-6 INCREMENTAL FUNDING

Pursuant to the Limitation of Funds clause (FAR 52.232-22), the total amount allotted to this contract is \$* and it is estimated that this amount is sufficient for contract performance through *.

*(*this provision will be included and completed at time of award, if applicable)*

G-7 INFORMATIONAL SUBLINE ITEMS

It is anticipated that the research and development services performed under this contract will be paid for from multiple sources of funds. Informational subline items will be established as necessary to identify each accounting citation classification.

G-8 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (COST-REIMBURSEMENT)

If there is more than one ACRN within a contract line item, the payment office will make payment using the ACRN(s) cited on the contractor's invoice.

G-9 PAYMENT AND VOUCHER INSTRUCTIONS

In accordance with the contract clause, *Electronic Submission of Payment Requests* (DFARS 252.232-7003), the contractor must submit requests for payment electronically in the Wide Area Workflow (WAWF). It may be accessed at its homepage <https://wawf.eb.mil/>. If the contractor has not registered with WAWF, instructions for doing so may be accessed at: <https://wawf.eb.mil/vreg.htm>. The designated Electronic Business (EB) point of contact in the Central Contractor Registration (CCR) is the person responsible for activating the company's CAGE code in WAWF by calling 1-866-618-5988.

The following information is applicable to vouchers submitted under this contract using WAWF:

Under "Create New Document" select "Cost Voucher". When you enter the contract number, some of the other fields in the document may fill out automatically.

Use the appropriate Item Number stated in Section B of the contract (e.g., 0001, 0002 or 0001AA, 0001AB, etc).

If the contract contains multiple accounting classification reference numbers (ACRNs), the ACRN(s) from which payment is to be made must be cited on the voucher. If more than one ACRN is cited, the voucher must indicate the amounts to be paid from each. Information may be obtained from the COR to assist the contractor in determining the appropriate ACRNs from which payment is to be made.

ROUTING TABLE DATA REQUIRED FOR SUBMISSION OF INVOICE TO WAWF	
Document Type	Cost Voucher
Contract Number	N00173-08- *
Issued By DoDAAC	N00173*
Admin By DoDAAC	*
Pay DoDAAC	*
LPO	N00173
Ship To DoDAAC	N00173 Extension *
Service Acceptor	N00173 Extension *
DCAA Auditor DoDAAC	*
CAGE Code	*

IMPORTANT: When submitting vouchers using WAWF, utilize the “**Send More Email Notifications**” function in WAWF. This additional notification is important to ensure the Government Acceptor is aware that the invoice documents have been submitted into the WAWF system.

Send More Email Notifications	
Acceptor email	* @nrl.navy.mil

Pursuant to DFARS 242.803(b)(i)(c), if the cognizant Government auditor has notified the contractor of its authorization to do so, the contractor may submit vouchers under this contract direct to the payment office. Such authorization does not extend to the first and final vouchers.

For assistance with the WAWF system, you may contact the Navy WAWF Assistance Line : 1-800-559-WAWF(9293).

* To be provided at time of award

**SECTION H
SPECIAL CONTRACT REQUIREMENTS**

H-1 TYPE OF CONTRACT

This is a *

*(*To be completed at time of award)*

H-2 ONR 5252.237-9705 - KEY PERSONNEL (DEC 88)

(a) The Contractor agrees to assign to the contract tasks those persons whose resumes were submitted with its proposal and who are necessary to fulfill the requirements of the contract as "key personnel". No substitutions may be made except in accordance with this clause.

(b) The Contractor understands that during the first ninety (90) days of the contract performance period, no personnel substitutions will be permitted unless these substitutions are unavoidable because of the incumbent's sudden illness, death or termination of employment. In any of these events, the Contractor shall promptly notify the Contracting Officer and provide the information described in paragraph (c) below. After the initial ninety (90) day period the Contractor must submit to the Contracting Officer all proposed substitutions, in writing, at least thirty (30) days in advance (sixty (60) days if security clearance must be obtained) of any proposed substitution and provide the information required by paragraph (c) below.

(c) Any request for substitution must include a detailed explanation of the circumstances necessitating the proposed substitution, a resume for the proposed substitute, and any other information requested by the Contracting Officer. Any proposed substitute must have qualifications equal to or superior to the qualifications of the incumbent. The Contracting Officer or his/her authorized representative will evaluate such requests and promptly notify the Contractor of his/her approval or disapproval thereof.

(d) In the event that any of the identified key personnel cease to perform under the contract and the substitute is disapproved, the contract may be immediately terminated in accordance with the Termination clause of the contract.

The following are identified as key personnel: *

*(*To be completed at time of award)*

Labor Category	First/M/Last Name

H-3 ONR 5252.216-9706 - LEVEL OF EFFORT (DEC 88)

- (a) The Contractor agrees to provide the total level of effort specified in the next sentence in performance of the work described in this contract. The total level of effort for performance of this contract shall be 92,120 total hours of direct labor for the base year and 92,120 total hours of direct labor for each of the option years, including subcontractor direct labor for those subcontractors specifically identified in the Contractor's proposal as having hours included in the proposed level of effort. A breakdown of labor categories and hours is set forth in paragraph (k) below.
- (b) The level of effort for this contract shall be expended at an average rate of 7,677 hours per month. It is understood and agreed that the rate of hours per month may fluctuate in pursuit of the technical objective, provided such fluctuation does not result in the use of the total hours of effort prior to the expiration of the term of the contract.
- (c) The Contractor is required to notify the Contracting Officer when any of the following situations occur, or are anticipated to occur: If during any three consecutive months the monthly average is exceeded by 25% or, if at any time it is forecast that during the last three months of the contract less than 50% of the monthly average will be used during any given month; or, when 85% of the total level of effort has been expended.
- (d) If, during the term of the contract, the Contractor finds it necessary to accelerate the expenditure of direct labor to such an extent that the total hours of effort specified would be used prior to the expiration of the term, the Contractor shall notify the Contracting Officer in writing, setting forth the acceleration required, the probable benefits which would result, and an offer to undertake the acceleration at no increase in the estimated cost or fixed fee together with an offer setting forth a proposed level of effort, cost breakdown, and proposed fixed fee for continuation of the work until expiration of the term hereof. The offer shall provide that the work proposed will be subject to the terms and conditions of this contract and any additions or changes required by then current law, regulations, or directives, and that the offer, with a written notice of acceptance by the Contracting Officer, shall constitute a binding contract. The Contractor shall not accelerate any effort until receipt of such written approval by the Contracting Officer. Any agreement to accelerate will be formalized by contract modification.
- (e) The Contracting Officer may, by written order, direct the Contractor to accelerate the expenditure of direct labor such that the total hours of effort specified in paragraph (a) above would be used prior to the expiration of the term. This order shall specify the acceleration required and the resulting revised term. The Contractor shall acknowledge this order within five days of receipt.
- (f) If the total level of effort specified in paragraph (a) above is not provided by the Contractor during the term of this contract, the Contracting Officer shall either (i) reduce the fixed fee of this contract as follows:
- $$\text{Fee Reduction} = \text{Fixed Fee} \times \frac{(\text{Required LOE Hours} - \text{Expended LOE Hours})}{\text{Required LOE Hours}}$$
- or (ii) subject to the provisions of the clause of this contract entitled "Limitation of Cost," require the Contractor to continue to perform the work until the total number of hours of direct labor specified in paragraph (a) shall have been expended, at no increase in the fixed fee of this contract.
- (g) In the event the government fails to fully fund the contract in a timely manner, the term of the contract may be extended accordingly with no change to cost or fee. If the government fails to fully fund the contract, the fee will be adjusted in direct proportion to that effort which was performed.
- (h) Notwithstanding any of the provisions in the above paragraphs, the Contractor may furnish hours up to five percent in excess of the total hours specified in paragraph (a) above, provided that the additional effort is furnished within the term hereof, and provided further that no increase in the estimated cost or fixed fee is required, and no adjustment in the fixed fee shall be made provided that the Contractor has delivered at least 95% of the level of effort required in paragraph (a) above.
- (i) It is understood that the mix of labor categories provided by the Contractor under the contract, as well as

the distribution of effort among those categories, may vary considerably from the initial mix and distribution of effort which was estimated by the government or proposed by the Contractor.

(j) Nothing herein shall be construed to alter or waive any of the rights or obligations of either party pursuant to the Clause entitled "Limitation of Costs" or "Limitation of Funds," either of which clauses as incorporated herein applies to this contract.

(k) The anticipated breakdown by labor category of the yearly total level of effort is as follows:

<u>Labor Category</u>	<u>Hours</u>
Project Manager (Key Personnel)	1880
Senior Systems Engineer (Key Personnel)	1880
Senior Aerospace Engineer (Key Personnel)	1880
Senior Software Engineer I (Key Personnel)	1880
Lead Software Engineer I (Key Personnel)	1880
Senior Software Engineer II (Key Personnel)	1880
Lead Software Engineer II (Key Personnel)	1880
Senior Software Engineer III (Key Personnel)	1880
Lead Software Engineer III (Key Personnel)	1880
Senior Software Engineer IV (Key Personnel)	1880
System Administrator	5640
Senior Software Engineer V	33840
Software Engineer	26320
Configuration Management Specialist	3760
Program Administrator	3760

H-4 ONR 5252.235-9714 - REPORT PREPARATION (JUL 2005)

Scientific or technical reports prepared by the Contractor and deliverable under the terms of this contract will be prepared in accordance with format requirements contained in ANSI/NISO Z39.18-2005, Scientific and Technical Reports: Elements, Organization, and Design.

[NOTE: All NISO American National Standards are available as free, downloadable pdf(s) at <http://www.niso.org/standards/index.html> . NISO standards can also be purchased in hardcopy form from NISO Press Fulfillment, P. O. Box 451, Annapolis Junction, MD 20701-0451 USA. Telephone U.S. and Canada: (877) 736-6476; Outside the U.S. and Canada: 301-362-6904 ax: 301-206-9789.]

H-5 ELECTRONIC AND INFORMATION TECHNOLOGY (EIT)

In accordance with Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d), all EIT supplies and services provided under this contract must comply with the applicable accessibility standards issued by the Architectural and Transportation Barriers Compliance Board at 36 CFR part 1194 (see FAR Subpart 39.2). Electronic and information technology (EIT) is defined at FAR 2.101.

H-6 OPTION TO EXTEND THE TERM OF THE CONTRACT

This contract shall be renewable at the unilateral option of the Government by the Contracting Officer giving written notice of renewal to the Contractor within the existing term of the contract. The Government may exercise its option to renew the contract a total of four (4) times and each such renewal shall extend the term of the contract by twelve (12) months. The Contractor agrees that performance under each such renewal shall be accomplished in accordance with all of the terms and conditions of this contract and at the estimated cost and fixed fee set forth below:

First Option

Estimated Cost:	\$
Fixed Fee:	\$
Estimated Cost Plus Fixed Fee:	\$

Second Option

Estimated Cost:	\$
Fixed Fee:	\$
Estimated Cost Plus Fixed Fee:	\$

Third Option

Estimated Cost:	\$
Fixed Fee:	\$
Estimated Cost Plus Fixed Fee:	\$

Fourth Option

Estimated Cost:	\$
Fixed Fee:	\$
Estimated Cost Plus Fixed Fee:	\$

H-7 ON-SITE USE OF GOVERNMENT PROPERTY

It is anticipated that Government property will be used by the contractor's personnel in the performance of that portion of the contract performed on-site at the U.S. Naval Research Laboratory (NRL) including any of its field sites. Such use will be on a rent free basis and all such property shall be considered to remain in the possession and control of the NRL for property responsibility and accountability purposes.

H-8 GOVERNMENT-FURNISHED PROPERTY

The following Government property will be furnished to the contractor on a rent-free basis for use in performing the contract:

(To be completed at time of award)

H-9 REPRESENTATIONS AND CERTIFICATIONS

The Contractor's ORCA Representations and Certifications valid from to are incorporated herein by reference.

The Contract Specific Representations and Certifications submitted by the contractor for this award are hereby incorporated by reference.

H-10 PROTECTION OF HUMAN SUBJECTS

Any collection or analysis of data from human subjects must not commence until the contractor provides the following information per SECNAV 3900.39D 8.d. (1):

- (a) An appropriate DoD Navy Assurance or a Federalwide Assurance (FWA) with a DoD Navy addendum to the FWA, or an application for a DoD Navy Assurance.
- (b) Documentation of the Institutional Review Board's (IRBs) initial and continuing review and approval.
- (c) IRB-approved informed consent form, except when not required consistent with law and regulation.
- (d) IRB-approved research protocol.
- (e) Documentation that research ethics and human subject protections training has been completed by the contractor's principle investigators.

The contractor has responsibility for certain reporting requirements per SECNAV 3900.39D 8.d. (2).

H-11 ORGANIZATIONAL CONFLICT OF INTEREST

(a) Definitions

Organizational Conflict of Interest (OCI): FAR Part 2.1 defines “Organizational Conflict of Interest” as a situation in which: “...because of other activities or relationships with other persons, a person is unable or potentially unable to render impartial assistance or advice to the government, or the person’s objectivity in performing the contract work is or might be otherwise impaired, or a person has an unfair competitive advantage.” For the purposes of this contract, the term Organizational Conflict of Interest means that a relationship exists between the contractor (including the successor-in-interest, assignee or affiliated divisions, subsidiaries, employees, consultants, or subcontractors, hereinafter referred to as “Contractor”) and another in which the underlying interests of the contractor and the other party, directly or indirectly (1) may influence, affect or diminish the contractor’s ability to give impartial, technically sound, objective assistance, conclusions, advice or recommendations, or may otherwise result in a biased work product to or for the Government, or (2) may result in an unfair competitive advantage.

(b) Purpose

The purpose of this provision is to ensure that the Contractor (1) is able to give the Government impartial, technically sound, objective assistance, conclusions, advice or recommendations in its performance of this contract and (2) does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(c) Scope

The requirements described herein shall apply to performance or participation by the Contractor, any of its affiliate organizations or their successors in interest (hereinafter referred to collectively as “Contractor”) in the activities covered by this clause as a prime contractor, subcontractor, co-sponsor, joint venturer, consultant, or in any similar capacity. The financial, contractual, organizational and other interests of Contractor personnel performing work under this contract shall be deemed to be the interests of the Contractor for the purposes of determining the existence of an Organizational Conflict of Interest.

(d) Requirements

(1) The contractor shall evaluate Commercial-Off-the-Shelf software and related products and make recommendations to the government regarding its use or replacement.

(A) The Contractor warrants that, to the best of its knowledge and belief, it does not have any organizational conflict of interest, as defined in paragraph (a) above.

(B) The Contractor agrees that if during the performance of this contract, it discovers a potential or actual organizational conflict of interest with respect to this contract; it shall make an immediate and full disclosure in writing to the Procuring Contracting Officer (PCO). This disclosure must include a description of the actions which the contractor has taken or proposes to take to eliminate, avoid, or neutralize the conflict(s).

(C) If the Contractor's efforts in performing this contract require access to proprietary data of another company(ies), whether the proprietary data is in the possession of the other company or the Government, the Contractor shall obtain a written agreement from such other company(ies), to have access to and to use the data and to protect the data from unauthorized use or disclosure so long as the data remains proprietary. The Contractor shall upon request, provide the Contracting Officer or Contracting Officer's Technical Representative with copies of the agreement(s). This provision is not intended to protect proprietary data furnished voluntarily by companies without limitations as to use or data furnished by companies which is in the public domain.

(2) The contractor may have access to government information technology (IT) systems that contain sensitive information including, but not limited to, other organizations' proprietary information, Government procurement sensitive information, source selection information (see Federal Acquisition Regulation 2.101, 3.104-4 and 9.505-4), personally identifiable information subject to the Privacy Act Of 1974, and information designated For Official Use Only.

(A) The Contractor agrees that such information will be accessed only to the extent necessary to perform the contract and that such information will be used by the Contractor only in the performance of the contract.

(B) The Contractor agrees that all its personnel having access to such information will be required to sign a nondisclosure statement substantially as Attachment (4) to this contract and that, upon request, it will provide the Contracting Officer or COR with copies of the nondisclosure agreement(s).

(e) Government Remedy

The Contractor agrees that any breach or violation of the warranties, restrictions, disclosures or non-disclosures set forth in this organizational conflicts of interest clause shall constitute a material and substantial breach of the terms, conditions and provisions of this contract and the government may, in addition to any other remedies available, terminate this contract for default.

PART II - CONTRACT CLAUSES
SECTION I
CONTRACT CLAUSES

I-1 FAR 52.252-2 - CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

Also, the full text of a clause may be accessed electronically at this/these address(es):

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

<http://heron.nrl.navy.mil/contracts/home.htm>

a. FEDERAL ACQUISITION REGULATION CLAUSES**FAR CLAUSE TITLE**

- | | | |
|-----------|---|--|
| 52.202-1 | - | Definitions (JUL 2004) |
| 52.203-3 | - | Gratuities (APR 1984) |
| 52.203-5 | - | Covenant Against Contingent Fees (APR 1984) |
| 52.203-6 | - | Restrictions On Subcontractor Sales To The Government (SEP 2006) |
| 52.203-7 | - | Anti-Kickback Procedures (JUL 1995) |
| 52-203-8 | - | Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997) |
| 52.203-10 | - | Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997) |
| 52.203-12 | - | Limitation On Payments To Influence Certain Federal Transactions (SEP 2007) |
| 52.203-13 | - | Contractor Code Of Business Ethics And Conduct (DEC 2007) |
| 52.203-14 | - | Display Of Hot-line Poster(s) (DEC 2007) |
| 52.204-2 | - | Security Requirements (AUG 1996) |
| 52.204-4 | - | Printed Or Copied Double-Sided On Recycled Paper (AUG 2000) |
| 52.204-7 | - | Central Contractor Registration (JUL 2006) |
| 52.204-9 | - | Personal Identity Verification Of Contractor Personnel (SEP 2007) |
| 52.204-10 | - | Reporting Subcontract Awards (SEPT 2007) |
| 52.209-6 | - | Protecting The Government's Interest When Subcontracting With Contractors Debarred, Suspended, Or Proposed For Debarment (SEP 2006) |
| 52.211-15 | - | Defense Priority And Allocation Requirements (SEP 1990) |
| 52.215-2 | - | Audit And Records-Negotiation (JUN 1999) |
| 52.215-8 | - | Order Of Precedence - Uniform Contract Format (OCT 1997) |
| 52.215-10 | - | Price Reduction For Defective Cost Or Pricing Data (OCT 1997) |
| 52.215-11 | - | Price Reduction For Defective Cost Or Pricing Data - Modifications (OCT 1997) |
| 52.215-12 | - | Subcontractor Cost Or Pricing Data (OCT 1997) |
| 52.215-13 | - | Subcontractor Cost Or Pricing Data Modifications (OCT 1997) |
| 52.215-14 | - | Integrity Of Unit Prices (OCT 1997) |
| 52.215-15 | - | Pension Adjustments And Asset Reversions (OCT 2004) |
| 52.215-17 | - | Waiver Of Facilities Capital Cost Of Money (OCT 1997)
(<i>will be included if the successful offeror does not propose facilities capital cost of money</i>) |
| 52.215-18 | - | Reversion Or Adjustment Of Plans For Post-Retirement Benefits (PRB) Other Than Pensions (JUL 2005) |

- 52.215-19 - Notification Of Ownership Changes (OCT 1997)
- 52.215-21 - Requirements For Cost Or Pricing Data Or Information Other Than Cost or Pricing Data - Modifications (OCT 1997)
- 52.216-7 - Allowable Cost And Payment (DEC 2002) (fill in 30th)
- 52.216-8 - Fixed-Fee (MAR 1997)
- 52.219-6 - Notice Of Total Small-Business Set-Aside (JUN 2003)
- 52.219-8 - Utilization Of Small Business Concerns (MAY 2004)
- 52.219-14 - Limitations On Subcontracting (DEC 1996)
- 52.222-2 - Payment For Overtime Premiums (JUL 1990) -The Use Of Overtime Is Authorized Under This Contract If The Overtime Premium Does Not Exceed "0"
- 52.222-3 - Convict Labor (JUN 2003)
- 52.222-21 - Prohibition Of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (MAR 2007)
- 52.222-35 - Equal Opportunity For Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
- 52.222-37 - Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-39 - Notification Of Employee Rights Concerning Payment Of Union Dues Or Fees (DEC 2004)
- 52.222-50 - Combating Trafficking In Persons (AUG 2007)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention And Right-To-Know Information (AUG 2003)
- 52.223-6 - Drug-Free Workplace (MAY 2001)
- 52.223-10 - Waste Reduction Program (AUG 2000)
- 52.223-14 - Toxic Chemical Release Reporting (AUG 2003)
- 52.225-13 - Restrictions On Certain Foreign Purchases (FEB 2006)
- 52.227-1 - Authorization And Consent (DEC 2007)- Alternate I (APR 1984)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (DEC 2007)
- 52.227-10 - Filing Of Patent Application- Classified Subject Matter (DEC 2007)
- 52.227-11 - Patent Rights - Ownership by the Contractor (DEC 2007)
- 52.228-7 - Insurance - Liability To Third Persons (MAR 1996)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-17 - Interest (JUN 1996)
- 52.232-20 - Limitation Of Cost (APR 1984) (*Applicable when the contract or task order is fully funded*)
- 52.232-22 - Limitation Of Funds (APR 1984) (*Applicable when the contract or task order is not fully funded*)
- 52.232-23 - Assignment Of Claims (JAN 1986) Alternate I (APR 1984)
- 52.232-25 - Prompt Payment (OCT 2003)
- 52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (OCT 2003)
- 52.233-1 - Disputes (JUL 2002)
- 52.233-3 - Protest After Award (AUG 1996) - Alternate I (JUN 1985)
- 52.233-4 - Applicable Law For Breach Of Contract Claim (OCT 2004)
- 52.237-2 - Protection Of Government Buildings, Equipment And Vegetation (APR 1984)
- 52.237-3 - Continuity Of Services (JAN 1991)
- 52.242-1 - Notice Of Intent To Disallow Costs (APR 1984)

- 52.242-3 - Penalties For Unallowable Costs (MAY 2001)
- 52.242-4 - Certification of Final Indirect Costs (JAN 1997)
- 52.242-13 - Bankruptcy (JUL 1995)
- 52.243-2 - Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
- 52.244-2 - Subcontracts (JUN 2007) - Alternate I (JUN 2007)
- 52.244-5 - Competition In Subcontracting (DEC 1996)
- 52.244-6 - Subcontracts For Commercial Items (MAR 2007)
- 52.245-1 - Government Property (JUN 2007)
- 52.245-9 - Use And Charges (JUN 2007)
- 52.246-23 - Limitation Of Liability (FEB 1997)
- 52.246-25 - Limitation Of Liability - Services (FEB 1997)
- 52.247-1 - Commercial Bill Of Lading Notations (FEB 2006)
- 52.247-63 - Preference For U. S. Flag Air Carriers (JUN 2003)
- 52.249-6 - Termination (Cost-Reimbursement) (MAY 2004)
- 52.249-14 - Excusable Delays (APR 1984)
- 52.251-1 - Government Supply Sources (APR 1984)
- 52.252-6 - Authorized Deviations in Clauses (APR 1984)(fill in Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2))
- 52.253-1 - Computer Generated Forms (JAN 1991)

b. DEPARTMENT OF DEFENSE FEDERAL ACQUISITION REGULATION CLAUSES

DFARS CLAUSE TITLE

- 252.201-7000 - Contracting Officer's Representative (DEC 1991)
- 252.203-7001 - Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related Felonies (DEC 2004)
- 252.203-7002 - Display Of DoD Hotline Poster (DEC 1991)
- 252.204-7000 - Disclosure Of Information (DEC 1991)
- 252.204-7003 - Control Of Government Personnel Work Product (APR 1992)
- 252.204-7004 - Alternate A Central Contractor Registration (SEP 2007)
- 252.204-7005 - Oral Attestation Of Security Responsibilities (NOV 2001)
- 252.205-7000 - Provision Of Information To Cooperative Agreement Holders (DEC 1991)
- 252.209-7004 - Subcontracting With Firms That Are Owned Or Controlled By The Government Of A Terrorist Country (DEC 2006)
- 252.211-7003 - Item Identification And Valuation (JUN 2005) (*fill in none in (c)(1)(ii) and (c)(1)(iii))*)
- 252.211-7007 - Item Unique Identification of Government Property (SEP 2007) (*fill in none)*)
- 252.215-7000 - Pricing Adjustments (DEC 1991)
- 252.215-7002 - Cost Estimating System Requirements (DEC 2006)
- 252.215-7004 - Excessive Pass-Through Charges (APR 2007)
- 252.223-7004 - Drug-Free Work Force (SEP 1988)
- 252.223-7006 - Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993)
- 252.225-7004 - Report Of Intended Performance Outside The United States And Canada-Submission After Award (MAY 2007)
- 252.225-7006 - Quarterly Reporting Of Actual Contract Performance Outside The United States (MAY 2007)
- 252.225-7012 - Preference For Certain Domestic Commodities (JAN 2007)

- 252.225-7031 - Secondary Arab Boycott Of Israel (JUN 2005)
- 252.225-7043 - Antiterrorism/Force Protection Policy For Defense Contractors Outside The United States (MAR 2006) (fill in : Naval Criminal Investigative Service (NCIS), Code 24, telephone, DSN 228-9113 or commercial (202)433-9113)
- 252.226-7001 - Utilization of Indian Organizations, Indian-Owned Economic Enterprises, And Native Hawaiian Small Business Concerns (SEP 2004)
- 252.227-7013 - Rights In Technical Data -- Noncommercial Items (NOV 1995)
- 252.227-7014 - Rights In Noncommercial Computer Software And Noncommercial Computer Software Documentation (JUN 1995)
- 252.227-7016 - Rights In Bid Or Proposal Information (JUN 1995)
- 252.227-7019 - Validation Of Asserted Restrictions--Computer Software (JUN 1995)
- 252.227-7025 - Limitations On The Use Or Disclosure Of Government-Furnished Information Marked With Restrictive Legends (JUN 1995)
- 252.227-7026 - Deferred Delivery Of Technical Data Or Computer Software (APR 1988)
- 252.227-7030 - Technical Data--Withholding Of Payment (MAR 2000)
- 252.227-7037 - Validation Of Restrictive Markings On Technical Data (SEP 1999)
- 252.227-7039 - Patents--Reporting Of Subject Inventions (APR 1990)
- 252.231-7000 - Supplemental Cost Principles (DEC 1991)
- 252.232-7003 - Electronic Submission Of Payment Requests (MAY 2006)
- 252.232-7010 - Levies On Contract Payments (DEC 2006)
- 252.235-7010 - Acknowledgment Of Support And Disclaimer (MAY 1995)
- 252.235-7011 - Final Scientific Or Technical Report (NOV 2004)
- 252.243-7002 - Requests For Equitable Adjustment (MAR 1998)
- 252.244-7000 - Subcontracts For Commercial Items And Commercial Components (DoD Contracts) (JAN 2007)
- 252.246-7001 - Warranty Of Data (DEC 1991)
- 252.247-7023 - Transportation Of Supplies By Sea (MAY 2002)
- 252.247-7024 - Notification Of Transportation Of Supplies By Sea (MAR 2000)
(will be included if the successful offeror made a negative response to the inquiry at DFARS 252.247-7022)
- 252.251-7000 - Ordering From Government Supply Sources (NOV 2004)

**I-2 FAR 52.219-28 - POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION
(JUNE 2007)**

(a) Definitions. As used in this clause—

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts—

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the exercise date specified in the contract for any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/services/contractingopportunities/sizestandardsttopics/>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the rerepresentation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure they reflect current status. The Contractor shall notify the contracting office by e-mail, or otherwise in writing, that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it is, is not a small business concern under NAICS Code _____ assigned to contract number _____.

[Contractor to sign and date and insert authorized signer's name and title].

I-3 FAR 52.223-11 - OZONE-DEPLETING SUBSTANCES (MAY 2001)

(a) *Definitions.* "Ozone-depleting substance", as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as –

- (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or
- (2) Class II, including, but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

WARNING

Contains (or manufactured with, if applicable) _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

**The Contractor shall insert the name of the substance(s).*

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

- J-1** Attachment (1) - Statement Of Work - 15 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 4 Pages.
- J-2** Attachment (2) - DD Form 254, Contract Security Classification Specification, Ser 072-08, Dated 2008/07/10w/Attachments 2 Pages.
- J-3** Attachment (3) – Personnel Qualifications, 6 Pages.
- J-4** Attachment (4) – Non-Disclosure Agreement, 1 page.
- J-5** Attachment (5) – Accounting and Appropriation Data- 1 page. *

(To be included at time of award)*

PART IV - REPRESENTATIONS AND INSTRUCTIONS
SECTION - K
REPRESENTATIONS, CERTIFICATIONS
AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS

K-1 REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS OR RESPONDENTS

In accordance with FAR 4.1201, prospective contractors must complete electronic annual representations and certifications via the Online Representations and Certifications Application (ORCA) at <http://orca.bpn.gov> in conjunction with required registration in the Central Contractor Registration (CCR) at <http://www.ccr.gov> database. The representations and certification must be updated as necessary, but at least annually, to ensure they are kept current, accurate and complete.

In addition, each offeror must complete the additional contract specific representations and certifications below:

K-2 FAR 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2006)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is see Section K-3 [insert NAICS code].

(2) The small business size standard is see Section K-3 [insert size standard].

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b)(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (c) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (c) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

(i) Paragraph (c) applies.

(ii) Paragraph (c) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [offeror to insert changes, identifying

change by clause number, title, date]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR CLAUSE #	TITLE	DATE	CHANGE

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

K-3 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004)

The fill in information is as follows:

- (a) (1) The NAICS code for this acquisition is 541511
- (2) The small business size standard is \$23,000,000.00

K-4 FAR 52.230-1 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (JUNE 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

I. DISCLOSURE STATEMENT—COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of \$500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror’s proposal under this solicitation unless the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

Caution: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

(1) *Certificate of Concurrent Submission of Disclosure Statement.* The offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows:

- (i) Original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable; and
- (ii) One copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: _____

Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

(2) *Certificate of Previously Submitted Disclosure Statement.* The offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____

Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

(3) *Certificate of Monetary Exemption.* The offeror hereby certifies that the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling \$50 million or more in the cost accounting period immediately preceding the period in which this proposal was submitted. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

(4) *Certificate of Interim Exemption.* The offeror hereby certifies that (i) the offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under paragraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

Caution: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of \$50 million or more in the current cost accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. COST ACCOUNTING STANDARDS—ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the offeror received less than \$50 million in awards of CAS-covered prime contracts and subcontracts. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

Caution: An offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of \$50 million or more or if, during its current cost accounting period, the offeror has been awarded a single CAS-covered prime contract or subcontract of \$50 million or more.

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The offeror shall indicate below whether award of the contemplated contract would, in accordance with paragraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

Yes No

(End of provision)

Alternate I (Apr 1996). As prescribed in 30.201-3(b), add the following paragraph (c)(5) to Part I of the basic provision:

(5) *Certificate of Disclosure Statement Due Date by Educational Institution.* If the offeror is an educational institution that, under the transition provisions of 48 CFR 9903.202-1(f), is or will be required to submit a Disclosure Statement after receipt of this award, the offeror hereby certifies that (check one and complete):

(i) A Disclosure Statement Filing Due Date of _____ has been established with the cognizant Federal agency.

(ii) The Disclosure Statement will be submitted within the 6-month period ending _____ months after receipt of this award.

Name and Address of Cognizant ACO or Federal Official Where Disclosure Statement is to be Filed:

**K-5 FAR 52.230-7 PROPOSAL DISCLOSURE—COST ACCOUNTING PRACTICE CHANGES
(APR 2005)**

The offeror shall check “yes” below if the contract award will result in a required or unilateral change in cost accounting practice, including unilateral changes requested to be desirable changes.

Yes No

If the offeror checked “Yes” above, the offeror shall—

(1) Prepare the price proposal in response to the solicitation using the changed practice for the period of performance for which the practice will be used; and

(2) Submit a description of the changed cost accounting practice to the Contracting Officer and the Cognizant Federal Agency Official as pricing support for the proposal.

K-6 ORGANIZATIONAL CONFLICTS OF INTEREST REPRESENTATION

The offeror hereby represents that it has reviewed and understands the guidance, requirements, and restrictions in Federal Acquisition Regulation (FAR) Subpart 9.5 ("Organizational and Consultant Conflicts of Interest"). With respect to the guidance provided in FAR Subpart 9.5,

it is aware of no past, present, or currently planned interest (financial, contractual, organizational, or otherwise) or activity relating to the work required to be performed under the contract resulting from the Request for Proposals that would indicate any impingement upon its ability to render impartial, technically sound, and objective assistance or advice or result in the appearance that it may have an unfair competitive advantage.

it is aware of circumstances that may indicate an impingement upon its ability to render impartial, technically sound, and objective assistance or advice or result in the appearance that it may have an unfair competitive advantage.

This representation applies to all affiliates of the offeror and its proposed consultants or subcontractors of any tier.

**SECTION L
INSTRUCTIONS CONDITIONS AND NOTICES
TO OFFERORS OR RESPONDENTS**

L-1 FAR 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions 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. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

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

<http://heron.nrl.navy.mil/contracts/home.htm>

FAR CLAUSE TITLE

- 52.215-1 - Instructions To Offerors- Competitive Acquisition (JAN 2004)
- 52.215-16 - Facilities Capital Cost Of Money (JUN 2003)
- 52.222-24 - Preaward On-Site Equal Opportunity Compliance Evaluation (FEB 1999)
- 52.237-10 - Identification Of Uncompensated Overtime (OCT 1997)

DFAR CLAUSE TITLE

- 252.209-7001- Disclosure Of Ownership Or Control By The Government Of A Terrorist Country (OCT 2006)
- 252.211-7005 - Substitutions For Military Or Federal Specifications And Standards (NOV 2005)
- 252.215-7003 - Excessive Pass-Through Charges—Identification Of Subcontract Effort (APR 2007)
- 252.225-7003 - Report Of Intended Performance Outside The United States And Canada – Submission With Offer (DEC 2006)

L-2 INSTRUCTIONS FOR SUBMISSION OF PROPOSALS/OFFERS

All proposals shall be submitted in accordance with FAR 52.215-1- *Instructions to Offerors-Competitive Acquisition*. Proposals/offers submitted in paper media through the United States Postal Service (USPS) or delivery services shall be addressed:

Contracting Officer, ATTN: Code 3235

RFP No. N00173-08-R-SE02

Closing Date: 9/15/2008

Time:4:00PM CST

Naval Research Laboratory - SSC

Building 1008, Room 208

Stennis Space Center, MS 39529-5004

Proposals may be hand delivered to the Contracting Office, NRL-SSC, Stennis Space Center, MS 39529-5004, Building 1008, Room 208 between the hours of 8AM until 4PM, local time, excluding weekends and federal holidays. Stennis Space Center is a controlled-access facility. Photo identification will be required. Please contact the NRL Contracts office at 228-688-5784 for directions and additional information about NRL-SSC. All offerors shall allow sufficient time for delivery of their proposal to the Contracting Office prior to the closing date and time announced in the solicitation.

L-3 FAR 52.211-14 - NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be a DX rated order; DO rated order certified for national use under the Defense Priorities and Allocations system (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.

L-4 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)ALTERNATE IV (OCT 1997)

- (a) Submission of cost or pricing data is not required.
- (b) See Section L-14 Volume II – Business Proposal

L-5 FAR 52.216-1 - TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Cost Plus Fixed Fee - Term contract resulting from this solicitation.

L-6 FAR 52.233-2 - SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office(GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from the Control Desk, Code 3200, Bldg. 222, Rm. 115, Naval Research Laboratory, 4555 Overlook Ave., S.W., Washington DC 20375-5326.

- (b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

L-7 DFARS 252.227-7017 - IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS (JUN 1995)

- (a) The terms used in this provision are defined in following clause or clauses contained in this solicitation—
 - (1) If a successful offeror will be required to deliver technical data, the Rights in Technical Data--Noncommercial Items clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.
 - (2) If a successful offeror will not be required to deliver technical data, the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.
- (b) The identification and assertion requirements in this provision apply only to technical data, including computer software documents, or computer software to be delivered with other than unlimited rights. For contracts to be awarded under the Small Business Innovative Research Program, the notification requirements do not apply to technical data or computer software that will be generated under the resulting contract. Notification and identification is not required for restrictions based solely on copyright.
- (c) Offers submitted in response to this solicitation shall identify, to the extent known at the time an offer is submitted to the Government, the technical data or computer software that the Offeror, its subcontractors or suppliers, or potential subcontractors or suppliers, assert should be furnished to the Government with restrictions on use, release, or disclosure.
- (d) The Offeror's assertions, including the assertions of its subcontractors or suppliers or potential subcontractors or suppliers shall be submitted as an attachment to its offer in the following format, dated and signed by an official authorized to contractually obligate the Offeror:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software.

The Offeror asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted:

Technical Data or Computer Software to be Furnished With Restrictions*	Basis for Assertion **	Asserted Rights Category ***	Name of Person Asserting Restrictions****
(List)*****	(List)	(List)	(List)

* For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such items, component, or process. For computer software or computer software documentation identify the software or documentation.

** Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions. For technical data, other than computer software documentation, development refers to development of the item, component, or process to which the data pertain. The Government's rights in computer software documentation generally may not be restricted. For

computer software, development refers to the software. Indicate whether development was accomplished exclusively or partially at private expense. If development was not accomplished at private expense, or for computer software documentation, enter the specific basis for asserting restrictions.

*** Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited, restricted, or government purpose rights under this or a prior contract, or specially negotiated licenses).

**** Corporation, individual, or other person, as appropriate.

***** Enter "none" when all data or software will be submitted without restrictions.

Date _____
Printed Name and Title _____
Signature _____

(End of identification and assertion)

- (e) An offeror's failure to submit, complete, or sign the notification and identification required by paragraph (d) of this provision with its offer may render the offer ineligible for award.
- (f) If the Offeror is awarded a contract, the assertions identified in paragraph (d) of this provision shall be listed in an attachment to that contract. Upon request by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate any listed assertion.

L-8 DFARS 252.227-7028 - TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify - -

- (a) The contract number under which the data or software were produced;
- (b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and
- (c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

L-9 GOVERNMENT-FURNISHED PROPERTY

No material, labor, or facilities will be furnished by the Government unless provided for in the solicitation.

L-10 INQUIRIES CONCERNING THE RFP

Any questions concerning the RFP must be submitted in writing to the Contracting Officer representative at the contact location noted in blocks 7 and 10 of the Standard Form 33, *Solicitation, Offer and Award*. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

L-11 POTENTIAL ORGANIZATIONAL CONFLICT OF INTEREST

If, in Section K, the offeror represented that it is aware of circumstances that may hinder its ability to render impartial, technically sound, and unbiased assessments, recommendations and/or evaluations; or that circumstances exist that may result in the appearance that it may have an unfair competitive advantage, the offeror shall provide a full disclosure statement. The statement must describe in a concise manner all relevant facts concerning any past, present or currently planned interest (financial, contractual, organizational, or otherwise) relating to the work to be performed hereunder and bearing on whether the offeror has a possible organizational conflict of interest with respect to (1) impartial, technically sound, and unbiased assessments, recommendations and/or evaluations, or (2) being given an unfair competitive advantage. Prospective Offerors should refer to FAR Subpart 9.5 for policies and procedures for avoiding, neutralizing, or mitigating organizational conflicts of interest.

The government will review the statement submitted and may require additional relevant information from the offeror. All such information and any other relevant information will be used by the government to determine whether an award to the offeror may create an organizational conflict of interest. If found to exist, the Government may (1) impose appropriate conditions which avoid such conflict, (2) disqualify the offeror, or (3) determine that it is otherwise in the best interest of the government to contract with the offeror by including appropriate conditions mitigating such conflict in the contract awarded.

The refusal to provide the disclosure or representation of any additional information as required shall result in disqualification of the offeror for award. The nondisclosure or misrepresentation of any relevant interest may also result in the disqualification of the offeror for award, or if such nondisclosure or misrepresentation is discovered after award, the government may terminate the contract for default, recommend that the contractor be disqualified from subsequent related contracts, or be subject to such other remedial actions as may be permitted or provided by law. The attention of the offeror in complying with this provision is directed to 18 U.S.C. 1001 and 31 U.S.C. 3802(a)(2).

Depending on the nature of the contract activities, the offeror may, because of possible organizational conflicts of interest, propose to exclude specific kinds of work from the statement, unless the solicitation specifically prohibits such exclusion. Any such proposed exclusion by an offeror shall be considered by the government in the evaluation of proposals, and if the government considers the proposed excluded work to be an essential or integral part of the required work, the proposal may be rejected as unacceptable.

No award shall be made until the disclosure or representation has been evaluated by the government. Failure to provide the disclosure or representation will be deemed to be a minor informality and the offeror or contractor shall be required to promptly correct the omission.

The provision in Section H, "Organizational Conflict of Interest," may be modified if the Contracting Officer determines it necessary to avoid or resolve a conflict of interest based on the information provided by the offeror. The terms of the provision are subject to negotiation.

L-12 PROPOSAL ORGANIZATION

(1) Information for the technical/management proposal shall be placed in Volume I and be completely separate from the business proposal (Volume II).

(2) Proposal Format and Length - No attempt is made to restrict the proposal format and style. However, the proposal should be written and organized so as to be compatible with the RFP, the Statement of Work, company's organization and accounting structure, and proposed cost estimate. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.

L-13 VOLUME I - TECHNICAL/MANAGEMENT PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 4 COPIES.

(1) The offeror shall propose the labor categories in accordance with the level of effort breakdown in section H-3. If the offeror uses category terminology other than those listed in Section H, the offeror shall include a matrix clearly relating the proposed categories to those listed in section H.

(2) The following information is required for evaluation of your technical/management proposal:

(a) Technical Sub factor (1) Personnel Qualifications:

The offeror shall provide convincing proof that it is has, or has the ability to obtain, personnel with relevant experience in the task areas described in the Statement of Work. These are highly specialized fields and personnel without actual experience in these areas are not acceptable. Attachment (3) Personnel Qualifications sets forth the desired qualifications. It is essential for the offeror to demonstrate that it has or will have, prior to contract award, the necessary personnel with or with the ability to obtain a final DoD granted personnel security clearance commensurate with the level of access required for performance under the resultant contract. The proposal should indicate the specific personnel to be assigned to this effort, their background and pertinent experience and the amount of effort each will be performing on this contract. This shall resume's that include the education level, experience (both general and project related), and availability of sufficient key project professional and technical personnel by the prime contractor as well as any proposed subcontractors and consultants.

(b) Technical Sub factor (2) Company Experience:

The offeror shall provide a narrative description of company experience in performing projects requiring engineering, technical and managerial effort which is the same, closely similar or related to the effort required under the Statement of Work, Attachment (1). Experience in supporting efforts involving space and avionics systems will be given the greatest consideration. This description should clearly show: (1) the relationship between the company's experience and the tasks required under the Statement of Work, (2) prior or current programs in the task areas addressed, and (3) details such as project schedule, plans for each task, and approach to each particular task. Prior experience should be identified by citing contracting agency, period of performance of the contract, point of contact and a summary of the nature of the work.

(c) Technical Sub factor (3) Management Capability

The offeror shall provide a narrative description of the proposed management approach (including quality improvement initiatives). The proposal should clearly demonstrate: (a) the corporate structure, the relationship between the organizations elements and their respective responsibilities that will participate in accomplishing the government's requirement. This includes: internal management communications; lines and methods of maintaining close liaison with the COR; and methods both program and immediate work site supervision (b) any proposed subcontracts and extent of involvement in performance of this contract and a management plan detailing how each subcontractor will be integrated into the overall management approach to ensure contract objectives are satisfied (c) ability of management to respond to workload fluctuations in a timely manner (d) reporting systems available for monitoring qualitative and quantitative aspects of contract performance including financial monitoring and reporting (e) start-up/transition plan that clearly describes the offeror's understanding and knowledge of the ground, space and avionics systems described in the Statement of Work, including designs, schedule commitments, cost constraints, and cost effectiveness measures consistent with the NRL software reuse and COTS initiatives described in the Statement of Work. The start-up/transition plan should also demonstrate the offeror's plan to transition from start up to full performance within 30 days of award.

(3) PAST PERFORMANCE INFORMATION

(a) Offerors shall submit the following information as part of their proposal. (Offerors are encouraged to submit the information prior to other parts of the proposal to assist the government in reducing the length of the evaluation period.) List the last five (5) contracts or subcontracts completed by the offeror or predecessor companies during the past three (3) years for services similar in nature to this requirement. Include in the 5 any current contracts or subcontracts for similar services that were awarded at least one year prior to the date of this solicitation. Offerors that have no similar previous or current contracts should provide the requested information for proposed subcontractors that will perform major or critical aspects of the requirement or for the proposed project manager or key personnel responsible for major or critical aspects of the requirement.

1. Name of contracting organization.
2. Contract number
3. Contract type
4. Total contract value
5. Description of the contract work
6. Contracting officer and telephone number
7. Contracting officer's representative, program manager, or similar official and telephone number

(b) Offerors shall contact the contracting organizations identified pursuant to paragraph (a) as soon as possible and request them to send past performance information on the identified contracts to the address in Block 7 of the face page of this solicitation. The past performance report which is available electronically in full text at <http://heron.nrl.navy.mil/contracts/home.htm> is to be provided to the contracting organization for this purpose. If the contracting organization has already collected past performance information on the contract pursuant to FAR Subpart 42.15, the format used to collect the information may be used instead of the past performance report.

(c) Offerors may include in their proposals specific information relating to problems encountered in performing the identified contracts and any corrective actions by the offeror. Offerors should not provide general information on their performance on the identified contracts as this will be obtained from the contracting organizations.

L-14 VOLUME II - BUSINESS PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 2 COPIES

(1) COST PROPOSAL

The offeror shall submit a business proposal that includes a cost proposal with supporting information for each cost element consistent with offeror's cost accounting system. The supporting breakdown should include such elements as materials, direct labor, indirect cost, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate each cost element. Should rates be used in the proposal which are not DCAA approved, the offeror shall provide complete documentation and the rationale for their use at time of proposal submission. However, offerors are advised to use actual labor rates of proposed personnel as the basis for estimating labor costs when practicable.

(2) MATERIAL/EQUIPMENT ESTIMATE FOR EVALUATION PURPOSES ONLY)

The material/equipment estimate costs set forth **MUST** be included in each offeror's cost proposal for evaluation purposes only. During the term of the contract, the contractor will be reimbursed actual and verifiable material costs and associated expenses. The material and travel estimates below shall include any applicable indirect costs.

The Government estimates the material cost (including any indirect costs) for this effort as follows:

Basic:	\$50,000.00
Option 1 (if exercised)	\$50,000.00
Option 2 (if exercised)	\$50,000.00
Option 3 (if exercised)	\$50,000.00
Option 4 (if exercised)	\$50,000.00

(3) TRAVEL ESTIMATE (FOR EVALUATION PURPOSES ONLY)

The travel estimate set forth **MUST** be included in each offeror's cost proposal for evaluation purposes only. During the term of the contract, the contractor will be reimbursed actual and verifiable travel expenses in accordance with the federal travel guidelines.

The Government estimates the travel cost (including any indirect costs) for this effort as follows:

Basic:	\$96,000.00
Option 1 (if exercised)	\$96,000.00
Option 2 (if exercised)	\$96,000.00
Option 3 (if exercised)	\$96,000.00
Option 4 (if exercised)	\$96,000.00

**SECTION M
EVALUATION FACTORS FOR AWARD**

M-1 EVALUATION

Award will be made to that offeror whose proposal is determined to be the best value to the Government, proposed cost and other factors considered. The Government reserves the right to make award to other than the low offeror. The technical considerations are more important than the cost factor. The closer the technical scores of the various proposals are to one another, the more important the cost considerations become.

M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor. The following technical factors are listed in descending order of importance.

M-2-1. TECHNICAL/MANAGEMENT**(1) PERSONNEL QUALIFICATIONS**

The proposed personnel will be evaluated on the offeror's demonstrated ability to provide personnel with: (1) the appropriate qualifications and or education requirements set forth in Attachment (3) Personnel Qualifications; (2) actual relevant experience in the task areas set forth in Attachment (1) Statement of Work; and (3) the ability to obtain the required security clearances prior to commencing work.

(2) COMPANY EXPERIENCE

The proposal will be evaluated on the offeror's demonstrated company experience in performing projects requiring engineering, technical and managerial effort which is the same, closely similar or related to the effort required under the Statement of Work, Attachment (1). Relevant experience in supporting efforts involving space and avionics systems will be given the greatest consideration.

(3) MANAGEMENT CAPABILITY

The soundness of the Offeror's project management capabilities and start-up/transition plan for accomplishing the tasks specified in the Statement of Work.

(4) PAST PERFORMANCE

Past performance will be evaluated on the basis of the quality of the work performed, timeliness of performance, cost control, and business relations. The evaluation will be based on the information provided pursuant to Section L and other sources if available. The evaluation will take into account past performance information regarding predecessor companies, subcontractors that will perform major or critical aspects of the requirement, or the proposed project manager or key personnel responsible for major or critical aspects of the requirement. Offerors that have no relevant performance history or for which past performance information is not available will not be evaluated favorably or unfavorably on past performance. The government may begin proposal evaluation prior to receipt of past performance information. If, after completion of proposal evaluation except evaluation of past performance, the contracting officer determines that evaluation of past performance will not affect the outcome of competitive selection, the contracting officer may waive its evaluation in accordance with FAR 15.304(c)(3)(iv).

Statement of Work

SOFTWARE AND ENGINEERING SUPPORT SERVICES

1 Introduction

The Naval Center for Space Technology (NCST), located at the U.S. Naval Research Laboratory (NRL) in Washington, DC, is the designated lead laboratory for Navy space programs. NCST has the mission to “preserve and enhance a strong space technology base and provide expert capabilities in the development and acquisition of space systems which support Naval missions.” NCST has the primary responsibility to develop space systems, spacecraft payloads, tactical communications, and aerospace systems, and to actively pursue emerging technologies in an effort to advance space, tactical, and aerospace system development.

The NCST defines system requirements based on overall mission objectives, develops alternative system architectures, designs and develops systems and subsystems, and implements technologies to achieve optimized operational systems.

The NCST has several on-going advanced science and technology space programs at various states of the development process. These include but are not limited to MIS, Upperstage, J-MAPS, and TacSat4. These programs are developed and tested at NRL and many use the Blossom Point Satellite Tracking and Command Station (BP or BPSTCS) as the ground systems responsible for flight operations.

Over the past 25 years the NCST has developed, enhanced, and maintained a collection of software used for design, development, test, launch, and mission operations of DoD space assets. This software is constantly being enhanced to provide state of the art solutions to space applications. The core suite of software components are used in all aspects of the spacecraft or component life-cycle. The development and maintenance of this software is currently being done primarily by three contractors as subcontractors under two different contracts. The purpose of this contracting effort is to consolidate all software support under one direct contract.

2 Scope

NCST develops spacecraft for numerous DoD, NASA, DARPA, and other government agency customers. These efforts have resulted in successful satellite operations in low, medium, highly elliptical, and geosynchronous orbits. The ability of the center to rapidly produce cost effective and reliable spacecraft and components is directly related to the experience of the engineering team and the ability to apply and modify development techniques, software procedures, processors, and other hardware components to accomplish new requirements. A vast collection of reusable and application specific software components, test procedures, operating system modifications, and other software has been collected and organized. This collection requires continued new development, enhancement, maintenance, test, and configuration management as directed by NCST engineers and required by new programs

This Statement of Work (SOW) defines the technical and managerial tasks required to design, develop, test, maintain, enhance, and provide configuration control for all software modules related to spacecraft and space component development/test and system operations. This includes but is not limited to: 1) the common ground software suite used in development, test, and operations; 2) ground station and mission operations software; 3) integration and test software libraries, procedures, and device control and; 4) onboard flight software systems and firmware components; 5) other software development required for new and/or advanced system development.

3 Requirements

3.1 Program Management

The contractor shall provide program management, control, and reporting functions necessary to manage and direct the satisfaction of the requirements under this statement of work for the life of the contract. The contract shall require a program manager who has overall responsibility for the work done under this SOW and shall act as the single point of contact with NRL for all matters pertaining to this SOW. The program manager shall keep the Contracting Officers Representative (COR) informed of the status of technical and managerial efforts and expenditures on the contract by means of monthly reports, telephone conversations, and meetings at the contractors facility and NRL.

The program manager shall have the authority to commit corporate resources to ensure the successful completion of authorized tasks. The program manager shall keep the COR informed as to the corporate organization by providing current organizational charts. Additionally, an up to date staffing chart shall be provided monthly showing the current engineering staff and related responsibilities:

The contractor shall establish and maintain a management system for control and reporting of the program and contracts efforts including cost, schedule, and technical performance for the life of the contract.

Financial reporting of all contract spending shall be presented on a monthly basis. This shall include for each contract line item number (CLIN): the contracted value, expended value, cumulative value, and projections to the end of the contract year. With the concurrence of the COR these may be altered for the different CLIN's as required. The system shall project spending to the end of the year, or task, in order to determine an over run /under run.

Each NRL program may be chartered by a different sponsor, therefore that contractor's management system shall be designed to assess technical achievement of more than one program and to measure progress and to determine and accrue costs accurately for each assigned task within the separate programs by the contractor and any subcontractors supporting the effort. For each task the contractor shall report the funded value, expended value, cumulative value, and projections to the end of the contract year/task.. For each task the contractor shall report monthly

on the technical progress and accomplishments against the schedule. With the concurrence of the COR these may be altered for the different tasks as required. With the concurrence of the COR the reporting period may be changed to a period that exceeds more than one month.

The contractor shall provide the technical and financial oversight for subcontracts to ensure the engineering process is being adhered to and the subcontractor is operating satisfactorily. The contractor shall ensure the integration of all subcontract efforts into its monthly reporting system as stated above.

3.2 Common Ground Architecture (CGA)

The NCST has developed and enhanced the Common Ground Architecture (CGA) software for over 25 years. The CGA is government owned software that provides a set of reusable components that facilitate the development of command, control, and monitoring applications used for spacecraft, and component development, integration & test, and flight operations (pre-launch, launch, mission). The software executes on the Solaris operating system with the ability to support applications on Windows/PC devices. The contractor shall provide software engineering development, maintenance, enhancement and configuration management support for all components contained within the CGA.

The CGA architecture supports industry standards such as TCP/IP, Unix, and X-Windows. The use of the X-Windows protocol provides the ability to use low cost Windows/XP platforms for engineering analysis workstations. PC/Windows servers shall be used in operational environments to allow CGA output displayed in conjunction with tools such as Microsoft Word, Excel, Power Point, Outlook, and Internet Explorer. The CGA system is built to be modular. In some instances, it is used as a process control system for applications with no external data, simply to control a set of ground equipment for system calibration. It is also used to control multiple simultaneous downlink and uplink paths during operational scenarios that include critical initial on-orbit checkout, orbital maneuvering/station keeping, and day to day mission operations. It can be scaled to the needs of the user during system build procedures and rescaled if/when necessary. The libraries contain input and output device control functions for many commercial vendors so that no hardware dependencies are contained in the CGA software.

The CGA provides spacecraft command and control capabilities including data acquisition and visualization, commanding, logging, playback, recording, and automated procedures. These capabilities are also used to provide control and status of ground equipment. The contractor shall demonstrate system development experience using the CGA components to support operational real time command and control functions. CGA provides an environment for development of distributed client-server software systems by providing utilities that allow communication between system processes and network nodes. The contractor shall have experience in developing applications that combine CGA components with application developed databases and mission unique software used to implement mission specific requirements. These applications can vary in size from a single node test system to a multi-site, large scale ground control system capable of supporting simultaneous real-time operations for multiple constellations physically distributed throughout the world via secure communication lines. The

contractor shall provide engineering personnel with experience with the CGA and show the ability to provide application development, CGA enhancement and maintenance, and configuration control of the source code and documentation.

Under the guidance of the NRL Configuration Control Board (CCB) the contractor shall continually update and maintain the CGA software components to ensure compliance with new requirements for spacecraft operations. The future of space depends on quick reaction to new operational scenarios. Common hardware and software components are the key resource required with rapid deployment of space vehicles. The contractor shall provide a full understanding of the current CGA internal components and shall have the ability and experience to modify, replace, remove, add, and augment the individual modules to adapt to new requirements including; uplink and downlink formats ((i.e. CCSDS, Consultative Committee for Space Data Systems); internal bus communication devices (i.e. spacewire); ground architecture interfaces (i.e. ARTS, SOA); operational data product distribution; and other state of the practice requirements that are developed during the life of the contract.

3.3 Ground Station and Mission Operations

The contractor shall provide engineering services for operational ground station and spacecraft command and control at the NRL Field Site in Blossom Point, Maryland and other remote locations. The contractor shall demonstrate knowledge of the processes and procedures applied to operational satellite ground system software and system engineering tasks associated with the design and development of command, control, tasking, and monitoring multiple spacecraft and constellations simultaneously. The ground system software consists of the following components: CGA; ground system control; mission unique software; satellite specific software; data reduction and analysis; task generation system; COTS integration; and remote tracking systems. The contractor shall demonstrate experience with the use of these components to develop a software system that satisfies mission unique requirements. The contractor shall describe the application of the components and facilities to provide the following capabilities: ground telemetry processing; spacecraft command and control; device command and control; mission planning, scheduling, and tasking; commercial inference engine integration; command and telemetry database creation, management, analysis and control; and data reduction and analysis.

3.3.1 Ground System Control

The operational ground system software consists of a library of ground station software modules that provide the functionality to operate the system. The contractor shall demonstrate the ability to generate and maintain a ground system application using CGA and the following components:

1. *OAC*: Operations and Control provides scheduling, setup, and control of the system based on ephemeris or timed events.
2. *REM*: Resource Equipment Management determines the availability of ground system hardware and how to configure the ground system.
3. *GSEC*: Ground System Equipment Control provides control and status for the ground system hardware (antenna controllers, receivers, bit/frame syncs, special purpose

processors, switching matrixes, signal generators, and other equipment that provides status information).

4. *DRA*: Data Reduction and Analysis provides long-term archive of all data as well as configurable output formatting and post-processing algorithms.
5. *CEUdrv*: Command Encoder Unit (command uplink formatter) driver provides operational status of the unit.
6. *FEP*: Front End Processor provides the interface to the frame synchronizers.
7. *STKIF*: Provides an interface to the Satellite Toolkit software (running on a PC) to visualize satellite position and attitude

3.3.2 Mission Unique Software

The current version of the application installed at the ground station contains a set of mission unique software components used for real-time command and control of both national program and other sponsors' spacecraft. The contractor shall demonstrate the ability to provide software engineering support and integration for the MUS layer into the CGA based application. This consists of a large library of common satellite, orbital analysis, and mathematical software modules that are developed, updated, and configuration controlled. This layer expands with each new satellite support requirement and is available as a stand-alone library. Examples of software modules that currently reside in the MUS are: reusable code to convert satellite databases from Excel, Access, and Oracle; an Orbital library; socket and serial interface libraries; reusable code for adding new ground equipment; automatic display generation from database input; software simulation capabilities; templates for MUS specific command and telemetry processing; and reusable code for importing mission planning products. The contractor shall be required to maintain the MUS and continue to update the components when required for new spacecraft support or new technological advances.

3.3.3 Satellite Specific Software

The ground station software also consists of satellite specific software, processes and procedures that require maintenance and enhancements. These applications are not generic and therefore are not included in the CGA or MUS. The satellite specific software shall be maintained and updated by the contractor when required for mission applications and new satellite supports. An example of this software is the Upper Stage maneuver verification component. This software was developed in conjunction with NRL scientists to perform analysis of the main engine thrusting. The software predicted the performance of the engine and compared the actual performance to the predicted in real-time results. The software had built in alarm conditions to notify the propulsion engineers if a problem was detected so they could terminate the burn. Associated with the satellite specific software are the satellite specific databases that include: command databases, telemetry databases, CGA procedures, programmable satellite memories, and graphical user interface display creation routines. The contractor shall demonstrate the ability to create new procedures, processing components, and databases that are satellite specific and integrate these components with CGA and MUS to update the ground system.

3.3.4 Data Reduction and Analysis

DRA provides the capability to support offline analysis of telemetry data and monitor data, computation of orbital parameters and conditions, logging of command actions and responses, and support tools used to populate and extract this data from a database management system. The functions of the DRA are: ingestion and long-term archival of all received telemetry, derived telemetry data, memory readouts, and command action/response into the system database and file management products; processing of selected telemetry, memory readout, ephemeris, and command data by: time, type, revolution, satellite, or any combination of the above; analysis of the selected data, to include curve fits, average, minimum, maximum, rate of change, median, sigma, etc.; product generation of the analysis to be printed, plotted, displayed on a graphic terminal, or stored for further analysis. The contractor shall demonstrate the ability to apply, enhance, and maintain the data reduction and analysis components for current spacecraft and show the ability to adapt to new spacecraft supports and requirements using the current DRA as the model for new development.

3.3.5 Tasking Generation Systems

The current ground system consists of several tasking generation systems developed to support mission operations. These systems receive task requests from external users or spacecraft engineers and generate binary loads that are loaded into the spacecraft to be executed by the on-board flight computers. The tasks perform engineering functions, payload reconfigurations and communications (downlink) configurations. Some of the following systems have been in use for many years and only require maintenance to support new requirements or vehicle failures. The other systems are currently in design and development to support upcoming launches. The contractor shall demonstrate the capability to use, maintain, and enhance the following list of task generation systems:

1. CGS : Command Generation System supports the national program. It consists of 11 configurable components and has several external interfaces.
2. TGD – The Task Group Definition system defines payload configurations for the national program.
3. RCGS – The Responsive Command Generation System generates payload tasking for the TacSat-L program.
4. UST_EXT – Upper Stage Extension task generation utilizes aspects of the CGA architecture and spacecraft command language (SCL) to build flight loads that support the extended mission. This system is currently in development.
5. TaskGen-1 – TaskGen-1 creates uplink loads for the TacSat 1 spacecraft.
6. TaskGen-4 TaskGen-4 generates uplink loads for the TacSat 4 vehicle to configure the COMM-X payload.
7. CmdQGen – Command Queue Generator generates uplink loads for the Windsat spacecraft..

3.3.6 COTS Software Integration

The ground system environment is constantly being evaluated and upgraded because of technological advances and commercial software evolutions. The current system and associated components utilize many COTS and shareware products applicable to the functionality in order to reduce the overall development and maintenances costs. Each component is evaluated for use, applicability, and cost. Integration of these products is an ongoing effort by the engineering team. As new versions become available they are evaluated for performance and functionality, and if appropriate, they are integrated into the software baselines. Studies are conducted periodically to determine if a COTS product should be replaced by another or by newly developed code. The contractor shall demonstrate the ability to perform these studies and make recommendations for approval.

3.3.7 Remote Tracking Stations

The contractor shall provide engineering services for operational remote tracking station (RTS) development and deployment. The contractor shall demonstrate and understanding of an operational ground system software and hardware architecture and system engineering related to the design and development of remote tracking stations used for the collection of spacecraft data and real-time command and control as bent-pipe front ends to the Blossom Point tracking facility. The contractor shall demonstrate the capability of using the ground system to operate the RTS's as automated, unmanned facilities. The contractor shall provide services in support of high speed network design and development including the design and development of operational interfaces to external communications facilities as required. These facilities include commercially available global internet and SATCOM facilities. The contractor shall design, develop, deploy and operate the RTS's and Blossom Point as a world wide satellite collection, command and control system. The contractor shall provide the capability to develop a "lights out" operational mode of defined housekeeping functions. The contractor shall provide services in support of high speed network design and development including the design and development of operational interfaces to external systems as required.

3.4 Spacecraft and Payload Integration and Test

The contractor shall provide engineering services for spacecraft and payload integration and test (I&T). The contractor shall provide understanding of an I&T architecture used in the design and development of command and telemetry processing, testing of hardware specific interfaces, and test procedure development from box to system to complete spacecraft/component acceptance testing. The contractor shall demonstrate the ability of using the CGA and the test system specific device control and status libraries to develop systems that satisfy the requirements of full spacecraft development, acceptance testing and pre/post launch processing and analysis. The requirements for Spacecraft and Payload Integration and Test shall be separated into two sections: a) Ground Integration and Test Software; and b) Integration and Test Ground Support Equipment.

3.4.1 Ground Integration and Test Software

The contractor shall provide software engineering and hardware integration expertise in support of the NCST spacecraft and payload development, integration and test efforts. The contractor shall provide personnel experienced with the use of common hardware and software components to support CT&DH, Flight Software, Payload and Spacecraft development, integration & test activities. The contractor shall develop the Ground integration and test software such that it will integrate effectively and efficiently into the CGA based operational ground system to support flight and mission operations. The existing I&T ground software code base represents a CGA application layer that shall be reused and/or adapted to future NCST spacecraft and payload development efforts. The contractor shall provide the software engineering expertise and support to continue the growth and adaptation of the existing NCST reusable code base to new NCST space missions. In support of the I&T Ground Software system deployments, the contractor shall have extensive experience with command formatting, command transmission, telemetry acquisition, telemetry decommutation, telemetry analysis, embedded memory & log handling, GSE control/monitoring, Simulation control/monitoring, time synchronization control/monitoring, and automated test control.

The contractor shall provide the software engineering expertise to support the design, development, test, and deployment of a wide range of spacecraft related integration and test ground software components. The contractor shall provide the expertise and support to generate the following specifications and documentation; system design review presentations, software development plan, software requirements, interface requirements, interface definitions, detailed design, technical notes, unit test results, test plan, test descriptions, test results and user guides. The contractor shall be prepared to tailor the development approach and documentation requirements to be commensurate with sponsor, NCST, budget, schedule and risk constraints. The contractor shall apply the techniques and design approaches necessary to; maximize the application of existing software components, maximize the potential for future reuse, expand the functionality of the existing code base to support new requirements, incorporate generic and non-proprietary ground I&T software components & concepts from other organizations, and adhere to existing and emerging interface standards. NCST recognizes the criticality and costs associated with component and system level test efforts. The contractor shall provide the expertise and support necessary to continuously evaluate the test approach, technique and tools so as to provide incremental improvements in test coverage and test automation while reducing cost and schedule.

The contractor shall provide the test engineering expertise to support the design, development, and deployment of automated test procedures using the scripting language provided by the CGA software. The contractor shall provide the expertise and support to generate the following specifications and documentation; test plans, test descriptions, anomaly reporting and test results. The automated test procedures shall be used to space flight qualify for the CT&DH, Flight Software, Spacecraft and Payload. Furthermore the automated test procedures may be used for space flight qualification of other spacecraft avionic components. The development of the test plans, test descriptions and automated test procedure require a high degree of insight into the spacecraft HW subsystems, spacecraft SW subsystems, GSE, Simulation SW, and I&T Ground SW. The contractor shall provide the expertise and support to work with the Unit Under Test

(UUT) engineers to refine the UUT test plan and test description. The contractor shall develop and deploy the UUT automated test procedures and exercise these procedures as part of the space flight qualification of the UUT.

3.4.2 Integration and Test Ground Support Equipment

The contractor shall provide expertise and support for the specification of the I&T Ground Support Equipment (GSE). The contractor shall provide software engineering expertise and support for the specification, design, development, test and deployment of GSE embedded software. The contractor shall demonstrate the approach of using a common hardware and software design for the development, integration & test of the CT&DH, Flight Software, Payload, and Spacecraft. The contractor shall provide an understanding of the existing NCST I&T GSE which contain common and reusable components used for stimulation and/or monitoring of all UUT interfaces. The GSE capabilities in conjunction with I&T ground and simulation software provide an environment in which all interfaces can be exercised in a flight equivalent fashion. The contractor shall demonstrate the ability to configure the GSE and associated software support modules and provide the functionality required for fully automated design and production testing. Additionally, the contractor shall use the GSE HW and related software components designed to provide a high fidelity spacecraft simulation capability when used in conjunction with a hardware in the loop (HWIL) configuration. The contractor shall provide expertise and support to continue the growth and adaptation of the existing NCST GSE hardware and software architecture to support new NCST spacecraft subsystem and system level testing. The contractor shall provide the expertise and support to evaluate spacecraft system and subsystem test requirements and use this evaluation to develop GSE hardware interface and software specifications.

The contractor shall provide the software engineering expertise to support the design, development, test, and deployment of embedded GSE software. The contractor shall demonstrate an understanding of the internals of the VxWorks operating system including the ability to modify, enhance, and create device specific interfaces for real time data collection and GSE control. The contractor shall provide expertise with the configuration of the VxWorks based GSE, the CGA based test system, the application specific interfaces, and the spacecraft hardware unit under test for performance, environmental, and acceptance testing. The contractor shall provide engineering expertise for the design, development, and configuration management of automated procedures that are used during integration and test in order to use proven and tested sequences during launch and mission operations. The contractor shall provide the ability to modify of the software source and automated procedures to replace the GSE interfaces and simulation practices with real time operational data in order to create operational procedures. The contractor shall be knowledgeable with the process of using common software and procedures for I&T and migrating the source to both the CGA ground station application and other potential ground stations in order to reduce mission operations development cost and risk by using proven techniques.

The contractor shall provide the expertise and support to generate the following specifications and documentation; system design review presentations, software development plan, software requirements, interface requirements, interface definitions, detailed design, technical notes, unit

test results, test plan, test descriptions, test results and user guides. The contractor shall be prepared to tailor the development approach and documentation requirements to be commiserate with sponsor, NCST, budget, schedule and risk constraints. The contractor shall apply the techniques and design approaches necessary to; maximize the application of existing software components, maximize the potential for future reuse, expand the functionality of the existing code base to support new requirements, incorporate generic and non-proprietary embedded GSE software components & concepts from other organizations, and adhere to existing and emerging interface standards.

3.5 Spacecraft Flight Software

3.5.1 Embedded Flight Software Life Cycle Expertise

The contractor shall provide the software engineering expertise to support the design, development, test, and deployment of a wide range of spacecraft related embedded software components. The contractor shall provide engineering services for the development of flight software components for both the spacecraft bus and application specific payloads and experiments. The contractor shall provide the expertise and support to generate the following specifications and documentation; system design review presentations, software development plan, software requirements, interface requirements, interface definitions, detailed design, technical notes, unit test results, test plan, test descriptions, test results and user guides. The contractor must be prepared to tailor the development approach and documentation requirements to be commiserate with sponsor, NCST, budget, schedule and risk constraints.

The contractor shall demonstrate the engineering capability to analyze the flight software library and reapply proven techniques and/or develop new modules to satisfy mission requirements. The contractor must show past experience with the complete development, maintenance, and configuration control process to enable rapid prototyping and reuse of common software tools, standards and proven practices. The contractor shall demonstrate the engineering process of applying real-time operating system enhancements and modifications for use on operational spacecraft and components.

The contractor shall provide software engineering expertise and support to embedded spacecraft and payload control systems. The NCST has directed a 10 year effort to develop a reusable and non-proprietary spacecraft flight software system. This system has supported a wide range of programs from a high reliable NASA manned space system to cost/schedule constrained R&D responsive missions. The contractor shall provide the software engineering expertise and support to continue the growth and adaptation of the existing NCST reusable code base to existing and new NCST space missions.

3.5.2 Embedded Flight Software Engineering Tools

The contractor must show expertise that can be adapted to utilize the existing NCST tool sets that comprise the infrastructure used over the full flight software development life cycle. These tools encompass requirements tracking, interface definition, modeling, simulation, auto-code

generation, auto document generation, operating systems, integrated development environments, computer aided software engineering, compilers, configuration management, problem tracking, unit test tools sets, static code analysis tools, runtime code analysis tools, performance monitoring tools, test requirement tracking, test result tracking and PROM/EEPROM programming techniques. Embedded software support often requires the tight integration with FPGAs and the contractor shall have experience with FPGA capabilities and provide the expertise for developing FPGA based logic modules. In addition to providing expertise required to adequately utilize the existing tools sets, the contractor shall support NCST in expanding the role of automated tools and providing the means to integrate these tools into the NCST software development process.

Tool sets will include but are not limited to:

Databases:	Oracle, Sybase, Microsoft Access, MySQL
Code Analysis Tools:	Lint, Purify, Pure Coverage, Windriver Tornado
CASE:	Rational Rose, Enterprise Architect UML Modeling
CM:	CVS, WinCVS, SVN, TortoiseSVN, Clearcase, SourceSafe CM
Problem Tracking:	ClearDDTS, Bugzilla
Document Generation:	Microsoft Word, ADOBE PDF
Requirements Tracking:	DOORS, SQL and Access Based Databases
Test Tracking:	SQL and Access Based Databases, CGA
Automated Testing:	CGA, C++ Test Coding Standards, CppUnit Unit Testing
Operating Systems:	Solaris, Windows, VxWorks, Realtime and COTS Linux variants
Compilers/Languages:	Macro Assembler, C, C++, Visual Basic, Python, Perl, FORTRAN
Modeling and Simulation:	Matlab/Simulink
EEPROM/PROM Programmers:	BPM Microsystems
IDEs:	Solaris IDE, Microsoft Visual Studio Software Development, IAR, Keil
FPGA:	Xilinx toolsets

3.5.3 Embedded Platforms for Flight Software

To support the Flight Software embedded subsystems, the contractor must show extensive experience with radiation hardened embedded processors, memory constrained systems, processor bandwidth constrained systems, I/O constrain systems, embedded operating systems, command reception & processing, telemetry acquisition & reporting, diagnostics, spacecraft avionics and payload interfaces, memory and log management, redundant systems, fault detection isolation and recovery algorithms, spacecraft subsystem closed loop control, attitude determination & control algorithms, guidance & navigation algorithms, spacecraft autonomy and onboard data reduction & analysis.

The contractor must show the ability to support software components compatible with embedded processors including but not limited to 8051 microcontrollers, R3000 MIPS processors and PowerPC based processors. The contractor shall apply the techniques and design approaches necessary to; maximize the application of existing software components, maximize the potential for future reuse, expand the functionality of the existing code base to support new requirements, incorporate generic and non-proprietary flight components and concepts from other organizations and adhere to existing and emerging interface standards. The requirements, complexity and performance of flight software components are highly dependent on the embedded hardware architecture and hardware interfaces. The contractor must show expertise in the areas of digital hardware design, FPGA capabilities and digital interface protocols to the extent that the contractor can coordinate with digital hardware designers to develop a balanced approach that will help minimize overall system complexity and cost. The specification of the design, development and implementation of the embedded software systems shall require expertise in the area of fault tolerant control systems with emphasis on attitude control, fault tolerance and safety compliance.

3.5.4 Embedded Software System Skill Set

The contractor must show experience with and shall provide software expertise in the following areas:

- Embedded software system design and documentation
- Embedded software development environments
- Embedded software problem tracking, CM and release engineering
- Embedded real-time and near real-time operating systems
- Operating system integration with embedded processors
- Embedded device drivers
- Interrupt service routines
- Exception processing
- Diagnostic tool sets compatible with operating systems, embedded applications, embedded hardware and test sets
- Performance monitoring and performance improvement techniques
- Built-in-tests
- Software and hardware redundancy techniques
- Standardized inter-task and inter-processor communication techniques
- Resource management (memory, logs, parameter tables, configuration tables, priorities, locks, task control)
- Telemetry acquisition, reporting, and logging
- Command acceptance, distribution, disposition, and logging
- Closed loop control in support of spacecraft or payload power, thermal, mechanical, propulsion, ordnance, and radio frequency subsystems
- Attitude determination sensors and algorithms
- Attitude control actuators and algorithms
- Position knowledge algorithms
- Delta-V Control

- Time knowledge and maintenance algorithms
- Payload data interface and data handling techniques
- Hardware protection techniques
- Fault detection, isolation, and recovery techniques
- Autonomous Tasking
- Autocode generation
- Embedded hardware integration
- Embedded hardware testing
- Embedded software test planning and test execution
- Embedded hardware test planning and test execution

3.5.5 Software System Engineering Contributions to System Design

The contractor shall provide software system engineering services in support of spacecraft and subsystem design and development. This support shall be under the direction of the COR and shall include but is not limited to: preparation of technical proposals; flight component software requirements and design; interface control descriptions and documentation; liaison meetings between hardware and structural engineering personnel; test system requirements and design; and spacecraft avionics requirements and design. In addition, the contractor shall provide engineering and development support for system, subsystem and component level prototyping and path-finding tasks.

3.5.6 Flight Software Engineering Contributions to Mission Operations

The contractor shall provide engineering services for the support of spacecraft flight operations from final acceptance testing to launch through mission operations. The contractor shall demonstrate the capabilities related to the development of nominal mission and anomaly resolution procedures, and implementation of automated ground and flight based procedures. The contractor shall provide operational scenario test development for flight hardware, flight software, ground station compatibility and training. The contractor shall provide support to the flight operations team during launch and mission operations as required for the mission or when determined necessary by the COR.

3.6 Other Software

The contractor shall provide engineering services for all software related functions of the NCST when requested by the COR. The contractor shall demonstrate expert capabilities of computer system administration and communication system development. These capabilities should include but not be limited to the following: server configuration and maintenance; workstation configuration and maintenance; relational database design, configuration and maintenance; configuration management; error tracking, reporting, resolution, and documentation; and communication network design, development, administration, and trouble-shooting. To support this area of the SOW the contractor shall provide, as required, software expertise with experience

with real-time embedded systems, reconfigurable computers as well as Windows and Unix-based workstations.

3.6.1 Mission Simulation

The contractor shall provide software engineering expertise and support to the NCST Mission Simulation Software. The NCST approach is to use a common simulation software approach to support the CT&DH, Flight Software, Payload and Spacecraft development, integration and test activities. Furthermore, the NCST approach is to develop the Mission Simulation software such that it will provide a high fidelity spacecraft simulation capability when used in HWIL configurations. The existing mission simulation software code base is comprised of an embedded component and a supporting CGA application layer component. These components shall be reused and/or adapted to future NCST spacecraft and payload development efforts. The contractor shall demonstrate the software engineering expertise and support to continue the growth and adaptation of the existing NCST reusable simulation code base to existing and new NCST space missions. In support of Mission Simulation Software system deployments, the contractor shall have extensive experience with hardware interface protocols, interface testing, spacecraft component modeling, spacecraft dynamics modeling, orbit modeling, sensor field of view modeling, time synchronization, propulsion system modeling, thermal modeling, mechanism modeling, and electrical power system modeling.

The contractor shall provide the software engineering expertise to support the design, development and deployment of the Mission Simulation software components. The contractor shall provide the expertise and support to generate the following specifications and documentation; system design review presentations, software development plan, software requirements, interface requirements, interface definitions, detailed design, technical notes, unit test results, test plan, test descriptions, test results and user guides. The contractor shall be prepared to tailor the development approach and documentation requirements to be commiserate with sponsor, NCST, budget, schedule and risk constraints. The contractor shall apply the techniques and design approaches necessary to; maximize the application of existing software components, maximize the potential for future reuse, expand the functionality of the existing code base to support new requirements, incorporate generic and non-proprietary simulation and modeling software components & concepts from other organizations, and adhere to existing and emerging interface standards.

3.6.2 Infrastructure Support

The contractor shall provide System Administration for all related computer operating systems used in performance of the preceding requirements. The NCST spacecraft and payload software and hardware development efforts require a highly reliable and high capacity server and with an integrated network of workstations. This environment must conform to Navy, NRL and NCST computational security constraints while supporting both a stable production environment and dynamic R&D environment. The contractor shall provide the expertise and support to specify the hardware and network requirements for the NCST spacecraft and payload development

support environment. The contractor shall provide the expertise and support to design, implement, test and maintain the server and workstation system services and administration.

The contractor shall provide Database Design and Administration for all related components used in the performance of the preceding requirements. The NCST spacecraft and payload software development efforts utilize a SQL based schema for the definition of the internal software communication protocol and messages, and the space/ground protocol and messages. The SQL database is used to capture the protocols, packet formats, fields and field constraint definitions of the embedded flight software internal and external interfaces. This information is used to automatically generate source code for flight software data structures, ground software data structures, ground software data handling procedures, ground software interface specification and interface control documents. The contractor shall provide the software engineering expertise, database design expertise and database administration expertise to continue the growth and adaptation of the existing NCST Spacecraft interface database to existing and new NCST space missions.

The contractor shall provide Configuration Management and Defect Tracking for all software, procedures, documentation, plans, and other components used in the performance of the preceding requirements. The NCST spacecraft and payload software development efforts rely heavily on a disciplined configuration management and defect tracking approach. The configuration management and problem reporting approach supports multiple programs utilizing an extensive common code base and mission unique processing. The contractor shall provide the software engineering expertise, configuration management expertise and defect tracking expertise to maintain and improve the existing approach and implementation of the NCST configuration management and defect tracking systems.

The contractor shall provide an expertise in the following components as they apply to the NCST, the subcontractors, and the other government customers:

- 1) Operating Systems – in depth experience with the application and system internals of : Unix, Linux, Sun/Solaris, Wintel, VxWorks, VMS
- 2) Programming Languages – proven development and operational experience with: C, C++, FORTRAN, Java, C#, Visual Basic, Various assembly languages
- 3) Embedded Processor Architectures – expert software development, device control, and system operations of: PowerPC, R3000, 8051, I960, MIPS 3081
- 4) COTS – expertise with operational and administrative uses of: Clearcase, Altivec, Oracle, Sybase, STK, MS-Access
- 5) Networking – complete understanding and proven operational systems built using: MultiSite/MultiVendor routing and service distribution; Cisco 2500 through 7500 series routers; Wide Area Networks (OC31DS#,T1); Multicast data distribution; ATM, 10/100/1000 Ethernet; Firewalls and Data Security; Cryptographic Devices (KG194, KG95, TacLane KG175, KG189, Fastlane KG75)

Digital Converter (A/D, D/A) and FPGA programming

CONTRACT DATA REQUIREMENTS LIST <i>(2 Data Items)</i>					Form Approved OMB No. 0704-0188					
<small>The public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please do not return your form to the above organization. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.</small>										
A. CONTRACT LINE ITEM NO. 0002		B. EXHIBIT A		C. CATEGORY: TDP _____ TM _____ OTHER _____						
D. SYSTEM/ITEM Space Technology Support Services			E. CONTRACT/PR NO. 82-4163-08		F. CONTRACTOR TBD					
1. DATA ITEM NO. A005	2. TITLE OF DATA ITEM Software, Algorithms, Programs, Documentation, Instructions and Source Code			3. SUBTITLE						
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Section 3		6. REQUIRING OFFICE Provided At Time of Award					
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY As Required	12. DATE OF FIRST SUBMISSION See Blk 16		14. DISTRIBUTION					
8. APP CODE		11. AS OF DATE See Blk 16	13. DATE OF SUBSEQUENT SUBMISSION See Blk 16		a. ADDRESSEE		b. COPIES			
16. REMARKS Shall include all computer programs/software, upgrades, algorithms, object , source and executable codes, draft and final user documentation developed under this contract. Delivery shall be made as required by the COR.					COR (See contract Section G-2)		1			
					ACO					
					15. TOTAL →					0
1. DATA ITEM NO. A006	2. TITLE OF DATA ITEM Design Review Materials			3. SUBTITLE						
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Section 3		6. REQUIRING OFFICE To be provided at time of award					
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY As Required	12. DATE OF FIRST SUBMISSION See Blk 16		14. DISTRIBUTION					
8. APP CODE		11. AS OF DATE See Blk 16	13. DATE OF SUBSEQUENT SUBMISSION See Blk 16		a. ADDRESSEE		b. COPIES			
16. REMARKS The contractor shall prepare and present formal review material that explains and defends their designs. This material will be required by the various programs this contract will support and will include but not be limited to Software Requirements Reviews, Preliminary Design Reviews, Critical Design Reviews, Code Walk Throughs, Test Readiness Reviews, and Pre-Ship Reviews. The design review material will be in the Contractors format as approved by the COR.					COR (See contract Section G-2)		1			
					ACO					
					15. TOTAL →					0
G. PREPARED BY NRL Code 3235			H. DATE	I. APPROVED BY		J. DATE				

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <i>(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)</i>				1. CLEARANCE AND SAFEGUARDING a. FACILITY CLEARANCE REQUIRED <p style="text-align: center;">TOP SECRET</p> b. LEVEL OF SAFEGUARDING REQUIRED <p style="text-align: center;">SECRET</p>	
2. THIS SPECIFICATION IS FOR: <i>(X and complete as applicable)</i>			3. THIS SPECIFICATION IS: <i>(X and complete as applicable)</i>		
a. PRIME CONTRACT NUMBER		<input checked="" type="checkbox"/>		a. ORIGINAL <i>(Complete date in all cases)</i>	
b. SUBCONTRACT NUMBER				DATE (YYYYMMDD) 2008/07/10	
b. SUBCONTRACT NUMBER				b. REVISED <i>(Supersedes all previous specs)</i>	
c. SOLICITATION OR OTHER NUMBER		DUE DATE (YYYYMMDD)		REVISION NO.	
N00173-08-R-SE02				DATE (YYYYMMDD)	
c. SOLICITATION OR OTHER NUMBER				c. FINAL <i>(Complete Item 5 in all cases)</i>	
N00173-08-R-SE02				DATE (YYYYMMDD)	
4. IS THIS A FOLLOW-ON CONTRACT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: Classified material received or generated under _____ <i>(Preceding Contract Number)</i> is transferred to this follow-on contract.					
5. IS THIS A FINAL DD FORM 254? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: In response to the contractor's request dated _____, retention of the classified material is authorized for the period of _____.					
6. CONTRACTOR <i>(Include Commercial and Government Entity (CAGE) Code)</i>					
a. NAME, ADDRESS, AND ZIP CODE		b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>	
FOR RFP PURPOSES ONLY, NOT VALID FOR ACTUAL CONTRACT AWARD				N/A	
7. SUBCONTRACTOR					
a. NAME, ADDRESS, AND ZIP CODE		b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>	
N/A				N/A	
B. ACTUAL PERFORMANCE					
a. LOCATION		b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>	
N/A				N/A	
9. GENERAL IDENTIFICATION OF THIS PROCUREMENT PROVIDE SOFTWARE ENGINEERING SUPPORT TO CODE 8200.					
10. CONTRACTOR WILL REQUIRE ACCESS TO:					
	YES	NO	11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:		
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION	<input checked="" type="checkbox"/>		a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY		<input checked="" type="checkbox"/>
b. RESTRICTED DATA		<input checked="" type="checkbox"/>	b. RECEIVE CLASSIFIED DOCUMENTS ONLY		<input checked="" type="checkbox"/>
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION		<input checked="" type="checkbox"/>	c. RECEIVE AND GENERATE CLASSIFIED MATERIAL	<input checked="" type="checkbox"/>	
d. FORMERLY RESTRICTED DATA		<input checked="" type="checkbox"/>	d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE	<input checked="" type="checkbox"/>	
e. INTELLIGENCE INFORMATION			e. PERFORM SERVICES ONLY		<input checked="" type="checkbox"/>
(1) Sensitive Compartmented Information (SCI)	<input checked="" type="checkbox"/>		f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES		<input checked="" type="checkbox"/>
(2) Non-SCI	<input checked="" type="checkbox"/>		g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER		<input checked="" type="checkbox"/>
f. SPECIAL ACCESS INFORMATION		<input checked="" type="checkbox"/>	h. REQUIRE A COMSEC ACCOUNT	<input checked="" type="checkbox"/>	
g. NATO INFORMATION		<input checked="" type="checkbox"/>	i. HAVE TEMPEST REQUIREMENTS		<input checked="" type="checkbox"/>
h. FOREIGN GOVERNMENT INFORMATION		<input checked="" type="checkbox"/>	j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS		<input checked="" type="checkbox"/>
i. LIMITED DISSEMINATION INFORMATION		<input checked="" type="checkbox"/>	k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE		<input checked="" type="checkbox"/>
j. FOR OFFICIAL USE ONLY INFORMATION	<input checked="" type="checkbox"/>		l. OTHER <i>(Specify)</i>	<input checked="" type="checkbox"/>	
k. OTHER <i>(Specify)</i>		<input checked="" type="checkbox"/>	STU/STE III SECURE VOICE CAPABILITY		

12. **PUBLIC RELEASE.** Any information (classified or unclassified) pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual or unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release Direct Through (Specify)

COMMANDING OFFICER, NAVAL RESEARCH LABORATORY, WASHINGTON, DC 20375-5320, CODE 8245

to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review.
*In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

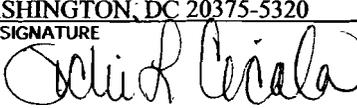
13. **SECURITY GUIDANCE.** The security classification guidance needed for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. (Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.)

Access to classified information is not required for the purpose of submitting a bid/proposal for this statement of work. However, prior to award of contract, the successful contractor will be required to have a TOP SECRET facility clearance, and personnel available with final DoD granted personnel security clearances commensurate with level of access required for performance of contract. US Citizens only.

14. **ADDITIONAL SECURITY REQUIREMENTS.** Requirements, in addition to ISM requirements, are established for this contract. Yes No
(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)

15. **INSPECTIONS.** Elements of this contract are outside the inspection responsibility of the cognizant security office. Yes No
(If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)

16. **CERTIFICATION AND SIGNATURE.** Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.

a. TYPED NAME OF CERTIFYING OFFICIAL	b. TITLE	c. TELEPHONE (Include Area Code)
VICKI CICALA	CONTRACTING OFFICER, SECURITY	(202) 767-2240/2576
d. ADDRESS (Include Zip Code)	17. REQUIRED DISTRIBUTION	
NAVAL RESEARCH LABORATORY 4555 OVERLOOK AVE. SW WASHINGTON, DC 20375-5320	<input checked="" type="checkbox"/> a. CONTRACTOR <input type="checkbox"/> b. SUBCONTRACTOR <input checked="" type="checkbox"/> c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR <input type="checkbox"/> d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION <input type="checkbox"/> e. ADMINISTRATIVE CONTRACTING OFFICER <input checked="" type="checkbox"/> f. OTHERS AS NECESSARY 1226.2, 1223, 8202, 8245	
e. SIGNATURE		
		

PERSONNEL QUALIFICATIONS

General Comments:

These general comments apply to all positions. This section lists the specialized labor categories of key personnel required for performance of the Statement of Work along with the skill sets required for non-key positions. Strict adherence to the listed position guidelines is required, although deviations are allowed but require justification and government approval. The contractor must show the experience and qualifications of the proposed personnel relevant to the tasks set forth in the Statement of Work. The contractor shall provide copies of resumes as evidence which exhibit a thorough knowledge and expertise to perform the required duties of the Key positions. All positions may require some travel both CONUS and overseas. All key positions will require the individual to already hold security clearances commensurate with the level of access required for performance under this contract and in accordance with the attachment (2) DD Form 254. All of the other positions will required the individual to either already hold or be eligible for applicable security clearances.

The following paragraphs set forth the Government's minimum desired requirements deemed necessary to perform the tasks set forth in the Statement of Work.

Labor Categories and Qualifications:

The Contractor shall be capable of providing the personnel according to level-of-effort requirements in the following labor categories and with the experience indicated. Those personnel designated, as "key" shall be available for work efforts on the first day after contract award. Furthermore, key personnel must possess the indicated clearance at the time of contract award and are subject to the provisions listed in Section H-2 of the solicitation. All proposed personnel must be capable of obtaining a Secret clearance.

Project Manager: (Key Personnel)

The Project Manager plans, directs, and controls activities of the program to accomplish technical and financial objectives of the contract. Has responsibility for planning and performance in all of the following functions: Production, Engineering, Staffing, and Financial Control. Reviews and analyzes new technical directives from the customer.. Reviews and submits all regular, special and final reports, approves development schedules and other required documentation associated with contract. This position requires 20 years experience and a Bachelor's degree or an equivalent combination of college-level education, training and/or technical experience managing groups of system and software engineering personnel working diverse projects associated with the development, maintenance, and operation of space, ground, test, avionics, and information systems. Additionally, the Program Manager must have program management experience of at least 15 years executing a government contract responsible for leading and managing technical teams comprised of computer scientists, computer engineers, database analysts and network administrators.

Security Clearance Required: TS/SCI

Senior Systems Engineer: (Key Personnel)

Responsible for the system architecture and design of real-time data acquisition systems for complex spacecraft operational and support, for simultaneous multiple spacecraft processing, flight system bus development, and other spacecraft related processing requirements such and integration, test, LAN/WAN design, etc. as defined in the SOW. The position requires 25 years experience and a Bachelor's degree or an equivalent combination of college-level education, training and/or technical experience. Must have in depth knowledge of systems and software engineering as applied to the development, maintenance, and operation of real time space, ground, test, avionics, telecommunications (terrestrial and space), and encryption/decryption hardware and software systems. Areas of expertise required: spacecraft mission analysis related to ground station design, development, upgrades and enhancements ; in depth knowledge of operating systems, APIs and driver development; design and development of real time systems using embedded processors, Linux, Solaris; in depth knowledge of all aspects of networks and their protocol stacks; experience with the following networking products, functions, techniques and protocols: Cisco 2500 through 7500 series routers, Wide Area Networks (OC31DS#,T1), Multicast data distribution, ATM, 10/100/1000 Ethernet, Data Security, Cryptographic Devices (KG194, KG95,TacLane KG175, KG189, Fastlane KG75), Braxton and Cytec; use of test Equipment from RF Network Analyzer to emulation pods as applicable to spacecraft programs; and evaluation and expertise with use of C++, Boost Library, Python, Ruby, Rails, AJAX and middle ware CORBA for research and development.
Security Clearance Required: TS/SCI

Senior Aerospace Engineer: (Key Personnel)

Responsible for engineering support of the flight and ground system design and development team to assure system integrity, standards are used where practical, technologies are exploited to the required extent, and the system is developed with the goal of reuse of applicable components in both ground and space systems to reduce development time and cost. This position requires 15 years experience and a Master's degree in Aerospace Engineer or similar discipline. Must have in depth knowledge of flight system processors, uplink/downlink interfaces, spacecraft dynamics, ground processing systems and spacecraft simulators. Requires demonstrated experience in software design, implementation, test, and operations of the guidance, navigation and control systems flight software; Areas of expertise required: Guidance, Navigation, and Control Systems Software, Model-based (UML, Simulink) Design and Development; COTS products Matlab/Simulink/Real-time Workshop, Satellite Toolkit (STK), STK/Astrogator; Object-Oriented Analysis/Design: Unified Modeling Language (UML) using Rhapsody and Rose; Programming languages C, C++, C#, JAVA; Expert Systems: Nexpert, Spacecraft Command Language (SCL); WindowsXP, Solaris 2.x, Linux, MacOS; Embedded Processors: PPC 750, MIPS R4000/R3000, RH1750A, Motorola 68000; and Real-time Operating Systems VxWorks.
Security Clearance Required: TS/SCI

Senior Software Engineer I: (Key Personnel)

Responsible for the development and maintenance of the CGA government owned software that provides a set of reusable components that facilitate the development of command, control, and monitoring applications used for spacecraft, and component development, integration & test, and flight operations (pre-launch, launch, mission). Manages a team of software engineers who develop, maintain and enhance CGA at the direction of the NCST software lead engineer and various NRL program managers. Responsible for configuration management, error tracking/reporting, and all other aspects of the CGA libraries, processes, procedures, and COTS additions. This position requires 20 years experience in software development and a Master's degree in Computer Science. Areas of expertise required: Programming Languages: Ada, C, C++, Java, FORTRAN, SQL, Visual Basic, and various shell scripting languages; Operating systems: SUN/Solaris, Linux, Windows, VMS.
Security Clearance Required: TS/SCI

Lead Software Engineer I: (Key Personnel)

Responsible for the design and development of all software related to spacecraft bus functions, instrument control, and onboard data processing. Responsible for flight to ground interface development with special detail to use of standards and reusable components. This position requires 20 years experience in software design and development related to space flight systems and a Bachelor's degree or an equivalent combination of college-level education, training and/or technical experience directing teams of software engineers in the design and development of space, ground, test, avionics, and information systems. This position requires direct leadership experience with design of development of flight software using of the following processors: PowerPC, R3000, 8051, I960, and MIPS 3081. This position requires extensive experience leading a team of software engineers engaged in: embedded software system design, embedded software development environments, embedded real-time and near real-time operating systems, operating system integration with embedded processors, embedded device drivers, interrupt service routines and exception processing activities. Areas of expertise required: Databases: Oracle, Sybase, Microsoft Access, MySQL; Code Analysis Tools: Lint, Purify, Pure Coverage, Windriver Tornado; CASE: Rational Rose, Enterprise Architect UML Modeling; Configuration Management: CVS, WinCVS, SVN, TortoiseSVN, Clearcase, SourceSafe CM; Problem Tracking: ClearDDTS, Bugzilla; Requirements Tracking: DOORS, SQL and Access Based Databases; Test Tracking: SQL and Access Based Databases, CGA; Automated Testing: CGA, C++ Test Coding Standards, CppUnit Unit Testing; Operating Systems: Solaris, Windows, VxWorks, Realtime and COTS Linux variants; Compilers/Languages: Macro Assembler, C, C++, Visual Basic, Python, Perl, ; Modeling and Simulation: Matlab/Simulink; EEPROM/PROM Programmers: BPM Microsystems; IDEs: Solaris IDE, Microsoft Visual Studio Software Development, IAR, Keil; and FPGA experience with Xilinx toolsets
Security Clearance Required: TS/SCI

Senior Software Engineer II: (Key Personnel)

Responsible for all phases of software development, including requirements analysis, software design, implementation, testing and support. This position requires experience with embedded real-time systems, networking and networked applications, scientific applications, graphical user interfaces and automated instrument calibration. This position requires 15 years experience in flight software development and a Bachelor's degree or an equivalent combination of college-level education, training and/or technical experience in the design and development of space systems. Areas of expertise required: Programming Languages: C++, C; Expert Systems: Nexpert, Spacecraft Command Language (SCL); Operating Systems: WindowsXP, Solaris 2.x, Linux, MacOS; Embedded Processors: PPC 750, MIPS R4000/R3000, RH1750A, Motorola 68000; CM Tools: Rational Clearcase, CVS; and VxWorks Operating systems. Security Clearance Required: TS/SCI

Lead Software Engineer II: (Key Personnel)

Responsible for the use of common hardware and software components to support CT&DH, flight software, payload and spacecraft development, integration and test activities. This individual will lead a team in development of ground integration and test software and test procedures and integrate them effectively and efficiently into the CGA based application with particular attention being paid to reuse of I&T software processes and procedures in mission operations. This position requires 20 years experience in spacecraft operation and test and a Master's degree or an equivalent combination of college-level education, training and/or technical experience directing teams of software engineers in the design and development of integration and test systems and procedures. Areas of expertise required: Programming Languages: C, Fortran, Perl, csh, sh; Operating Systems: Sun Solaris (Unix), VxWorks; Computer Science Techniques: Structure Design, Module Reuse; and CM Tools: Rational Clearcase, CVS. Security Clearance Required: TS/SCI

Senior Software Engineer III: (Key Personnel)

Responsible for the development and use all of I&T software processes, procedures, and development methodologies associated with the creation and implementation of system, subsystem, box, and payload testing processing systems. Responsible for using the core CGA processes and tools as the baseline for I&T system development to ensure rapid prototyping capabilities along with reduced schedule, cost and risk to NCST programs. This position requires 15 years experience in spacecraft ground control and test systems and a Bachelor's degree in an engineering discipline. Areas of expertise required: Programming Languages: C, Fortran, Perl, csh, sh; Operating Systems: Sun Solaris (Unix), VxWorks; and CM Tools: Rational Clearcase, CVS. Security Clearance Required: TS/SCI

Lead Software Engineer III: (Key Personnel)

Responsible for leading a team in the development of real time embedded software systems and components for spacecraft operational activities. Responsible for the creation, maintenance, and enhancement of the operational satellite ground system operating systems: Sun Solaris (Unix), VAX/VMS
Security Clearance Required: TS/SCI

Senior Software Engineer IV: (Key Personnel)

Responsible for the development of real time embedded and system software associated with operational satellite ground systems used for command, control, tasking, and monitoring of multiple spacecraft and constellations simultaneously. Responsible for integration of the software system with CGA and the additions to the CGA system that are generic in nature to all ground processing systems. This position requires 15 years experience in satellite ground processing software system development and a Bachelor's degree in an engineering discipline. Areas of expertise required: Programming Languages: C/C++, Java, PERL; Operating Systems: Sun Solaris, LINUX; GUIs: X Windows /Motif, Java; CM Tools: Rational Clearcase, CVS.
Security Clearance Required: TS/SCI

System Administrator

The System Administrator shall possess at least 10 years system administration experience with various types of processors connected via LAN or WAN with different operating systems ranging from Windows based to proprietary versions of evolving products and a Bachelor's degree or an equivalent combination of college-level education, training and/or technical experience. The system administrator shall provide support for the Unix, Linux, Sun/Solaris, Wintel, VxWorks, and VMS operating systems with the following networking components: multisite/multivendor routing and service distribution; Cisco routers; Wide Area Networks; multicast data distribution; ATM, 10/100/1000 Ethernet; firewalls; data security; and cryptographic devices.
Security Clearance Required: Must be able to obtain a SECRET clearance

Senior Software Engineer V

The senior software engineer(s) shall possess at least 10 years of demonstrable experience in software design and development related to spacecraft and/or real time control systems and at least a Bachelor's degree in an engineering discipline. The position requires extensive experience with embedded systems and real-time programming with real-time operating systems like VxWorks. In addition the following areas of expertise are required: Programming Languages: C++, C; Operating Systems: WindowsXP, Solaris 2.x, Linux; and CM Tool Use: Rational Clearcase, CVS.

Security Clearance Required: Must be able to obtain a SECRET clearance

Software Engineer(s)

The software engineer(s) shall possess a minimum of 5 years of experience in the fields of software development. The position requires experience with UNIX and LINUX based machines and the C and C++ programming languages and a Bachelor's degree in an engineering discipline.

Security Clearance Required: Must be able to obtain a SECRET clearance

Configuration Management Specialist

Responsible for the daily operations of the configuration management systems and for establishing configuration management policies and procedures and enforcing those policies across the software development team. The position requires 5 years software configuration management experience using Clearcase, CVS or other similar products in large and diverse software development environments.

Security Clearance Required: Must be able to obtain a SECRET clearance

NON-DISCLOSURE AGREEMENT

I understand that in the performance of my duties under Naval Research Laboratory contract number N00173- * I may have access to information of a sensitive nature including, but not limited to, other organizations' proprietary information, Government procurement sensitive information, source selection information (see Federal Acquisition Regulation 2.101, 3.104-4 and 9.505-4), personally identifiable information subject to the Privacy Act of 1974, and information designated For Official Use Only. I agree that I will access such information only to the extent necessary to perform my duties under the contract. I further agree that I will not disclose or release such information to any person, or other entity, either within or outside of the United States Government, including representatives of the organization by which I am employed, except as necessary to perform my duties under the contract or as expressly authorized in writing by the Contracting Officer.

I understand that any unauthorized disclosure or release of such information may result in the termination of my services at the Naval Research Laboratory. Criminal or civil sanctions may also apply.

In the event I disclose or release any such information described herein, I will advise the Technical Manager or the Contracting Officer's Representative (identified elsewhere in the contract) of the disclosure as soon as practicable. That advice will identify the person or other entity to which the information was disclosed or released and the content of that information.

I understand that, following completion of the contract or if my employment is terminated prior to contract completion, I have a continuing obligation not to disclose or release such information obtained there under.

I understand that my supervisor will monitor my compliance with this nondisclosure agreement.

EMPLOYEE SIGNATURE

DATE

EMPLOYEE NAME (Print)

SUPERVISOR SIGNATURE

DATE

SUPERVISOR NAME (Print)

*To be included at time of award