

2. CONTRACT NUMBER	3. SOLICITATION NUMBER N00173-08-R-SE01	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	5. DATE ISSUED 12/19/2007	6. REQUISITION/PURCHASE NUMBER 56-9313-08
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7. ISSUED BY
Naval Research Laboratory - SSC
Contracts Code 3235, Bldg 1008
Stennis Space Center, MS 39529-5004

8. ADDRESS OFFER TO (If other than Item 7)

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 3 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 See Section L-2 until 4:00PM local time 1/31/2008

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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11. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
<input checked="" type="checkbox"/>	A	SOLICITATION/CONTRACT FORM	1	<input checked="" type="checkbox"/>	I	CONTRACT CLAUSES	13-17
<input checked="" type="checkbox"/>	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
<input checked="" type="checkbox"/>	C	DESCRIPTION/SPECS./WORK STATEMENT	2	<input checked="" type="checkbox"/>	J	LIST OF ATTACHMENTS	18
<input checked="" type="checkbox"/>	D	PACKAGING AND MARKING	3	PART IV - REPRESENTATIONS AND INSTRUCTIONS			
<input checked="" type="checkbox"/>	E	INSPECTION AND ACCEPTANCE	3	<input checked="" type="checkbox"/>	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	18
<input checked="" type="checkbox"/>	F	DELIVERIES OR PERFORMANCE	3	<input checked="" type="checkbox"/>	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	19-26
<input checked="" type="checkbox"/>	G	CONTRACT ADMINISTRATION DATA	4-7	<input checked="" type="checkbox"/>	M	EVALUATION FACTORS FOR AWARD	27-28
<input checked="" type="checkbox"/>	H	SPECIAL CONTRACT REQUIREMENTS	8-12				

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)
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

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
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 type="checkbox"/> ITEM
24. ADMINISTERED BY (If other than Item 7) CODE		25. PAYMENT WILL BE MADE BY CODE
26. NAME OF CONTRACTING OFFICER (Type or print)		27. UNITED STATES OF AMERICA
		28. AWARD DATE

**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 conduct research 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.

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 1221, (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

* 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 TECHNICAL DIRECTION MEMORANDUM (TDM)

- (a) 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 describes work which will accomplish the objectives described in the statement of work;
 - (2) Guidelines to the Contractor, which assist in interpretation of drawings, specifications or technical portions of, work description.
- (b) Technical instructions must be within the scope of work stated in the contract. Technical instructions 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 TDM shall be written by the Contracting Officer's Representative (COR), with the original given to the Contractor and a copy retained in the CORs file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.
- (d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.
- (e) TDMs shall include, but not be limited to, the following information:
- (1) Date of TDM,
 - (2) Contract Number,
 - (3) Reference to the relevant portion or item in the Statement of Work,
 - (4) The specific technical direction or clarification, and
 - (5) The signature of the COR.
- (f) CORs shall retain all files containing TDMs for a period of two (2) years after the final contract completion date.
- (g) The only individual authorized in any way to 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 (10) working days after its receipt.

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).

**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 4,160 total hours of direct labor for the base year, 6,240 total hours of direct labor for option year two and 8,320 total hours of direct labor for option years three through five if exercised by the Government. The total hours of direct labor shall include 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 347 hours per month for the base year, 520 hours per month for option year 2 if exercised and 693 hours per month for option years 3 through 5 if exercised. 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 total level of effort is as follows:

Base Period

<u>Labor Category</u>	<u>Hours</u>
Program Manager/Senior Research Engineer	2080
Program Manager/Senior Systems Engineer	2080
Total	4160

Option 1

<u>Labor Category</u>	<u>Hours</u>
Program Manager/Senior Research Engineer	2080
Program Manager/Senior Systems Engineer	2080
Lead Hardware Design Engineer	1560
Lead Software Engineer	520
Total	6240

Option 2

<u>Labor Category</u>	<u>Hours</u>
Program Manager/Senior Research Engineer	2080
Program Manager/Senior Systems Engineer	2080
Lead Hardware Design Engineer	1560
Lead Software Engineer	1560
Mechanical and Quality Assurance Engineer	520
Research Test Engineer	520
Total	8320

Option 4

<u>Labor Category</u>	<u>Hours</u>
Program Manager/Senior Research Engineer	2080
Program Manager/Senior Systems Engineer	2080
Lead Hardware Design Engineer	1040
Lead Software Engineer	1040
Mechanical and Quality Assurance Engineer	520
Research Test Engineer	1040
Software Engineer	520
Total	8320

Option 5

<u>Labor Category</u>	<u>Hours</u>
Program Manager/Senior Research Engineer	2080
Program Manager/Senior Systems Engineer	2080
Lead Hardware Design Engineer	520
Lead Software Engineer	1040
Mechanical and Quality Assurance Engineer	520
Research Test Engineer	1040
Software Engineer	1040
Total	8320

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

Government facilities and equipment specified or approved for use in the performance of any portion of the contract at the U.S. Naval Research Laboratory (NRL) or any of its field sites may be used by the contractor's personnel on a rent free basis. All such property shall be considered to remain in the possession and control of the NRL for property responsibility and accountability purposes.

H-8 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).

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)
52.204-2	- 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)
52.209-6	- 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)
- 52.223-3 - 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 (JUL 1995)- Alternate I (APR 1984)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
- 52.227-10 - Filing Of Patent Application- Classified Subject Matter (APR 1984)
- 52.227-11 - Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)
(will be included if the successful offeror is a small business or a non-profit organization)
- 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)
- 52.232-18 - Availability Of Funds (APR 1984)
- 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) Alternate I(FEB 2002)
- 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)
- 52.242-1 - 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)
- 52.243-7 - Notification Of Changes (APR 1984) fill in 30
- 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)
- 52.247-1 - 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)
- 252.215-7000 - 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)
- 252.225-7001 - Buy American Act And Balance Of Payments Program (JUN 2005)
- 252.225-7002 - Qualifying Country Sources As Subcontractors (APR 2003)
- 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)
- 252.225-7013 - Duty Free Entry (OCT 2006)
- 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)

- 252.227-7000 - Non Estoppel (OCT 1966)
- 252.227-7001 - Release Of Past Infringement (AUG 1984)
- 252.227-7013 - Rights In Technical Data -- Noncommercial Items (NOV 1995) - Alternate I (JUN 1995)
- 252.227-7014 - Rights In Noncommercial Computer Software And Noncommercial Computer Software Documentation (JUN 1995) - Alternate I (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)
- 252.227-7030 - Technical Data--Withholding Of Payment (MAR 2000)
- 252.227-7034 - Patents--Subcontracts (APR 1984)
- 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 – 6 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 3 Pages.
- J-2** Attachment (2) - DD Form 254, Contract Security Classification Specification, Ser TBD By Security Dated TBDw/Attachments 2 Pages.
- J-3** Attachment (3) – Personnel Qualifications, 3 Pages.
- J-4** Attachment (4) – 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 located at <http://heron.nrl.navy.mil/contracts/repandcerts.htm>.

K-2 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2004)

The fill in information is as follows:

The NAICS code for this acquisition is 541712
The small business size standard is 500 employees

**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

52.204-6 - Data Universal Numbering System (DUNS) Number (OCT 2003)
52.214-34 - Submission Of Offers In The English Language (APR 1991)
52.214-35 - Submission Of Offers In U.S. Currency (APR 1991)
52.215-1 - Instructions To Offerors- Competitive Acquisition (JAN 2004)
52.215-16 - Facilities Capital Cost Of Money (JUN 2003)
52.222-50 - Combating Trafficking In Persons (AUG 2007)
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)

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
Naval Research Laboratory – SSC
Department of the Navy
Stennis Space Center, MS 39529-5004
RFP No. N00173-08-R-SE01 Closing Date: 31 JAN 2008 Time: 4:00PM**

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-15 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 52.222-18 – CERTIFICATION REGARDING KNOWLEDGE OF CHILD LABOR FOR LISTED END PRODUCTS (FEB 2001)

The fill-in information is as follows:

Listed End Product	Listed Countries of Origin

L-7 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-8 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-9 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-10 GOVERNMENT-FURNISHED PROPERTY

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

L-11 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-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 3 COPIES .

(1) The offeror must propose the labor categories in accordance with the Level of Effort Breakdown in Section H. If the offeror uses labor category terminology other than that used in Section H, the offer must provide a matrix clearly relating their proposed labor categories to those stated.

(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 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. In particular, the proposal should indicate specific persons and their qualifications and experience in each task area of the Statement of Work, and the amount of effort each will be performing on the contract. It is essential for the offeror to demonstrate that all key personnel will be capable of obtaining a secret clearance. The offeror shall include each person's education level, experience (both general and project related), and software and hardware specific knowledge when appropriate. The offeror must show the 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 on projects with scientific and technical tasks similar to those required in the Statement of Work. 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, and (3) the project schedule, plans for each task, and approach to each particular scientific task. Prior experience should be identified by citing contracting agency, period of performance of the contract, and a summary of the nature of the work.

(c) Technical Sub factor (3) Management Capability:

The offeror shall provide a detailed management plan. The plan should describe clearly how the program will be managed, how instructions will be communicated by the project manager, how corrections in procedures or individual performance will be implemented, how work performance against schedule will be measured, and how problem areas will be identified and communicated to the COR.

(d) Technical Sub factor (4) Facilities

The Contractor shall perform the work both on-site at NRL and at the Contractor's facility. The Contractor's facility should be located within reasonable commuting time from the NRL facilities in Washington D.C. The Contractor's facility shall be capable of being cleared at the SECRET level.

(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 two contracts or subcontracts completed by the offeror or predecessor companies during the past five years for services similar in nature to this requirement. Include in the two contracts 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 1 COPY

(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 ESTIMATE (FOR EVALUATION PURPOSES ONLY)

The material estimate and other direct 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 and other direct associated expenses.

The Government estimates the material cost for this effort as follows:

Base year:	\$150,000.00
Option 1 (if exercised)	\$200,000.00
Option 2 (if exercised)	\$200,000.00
Option 3 (if exercised)	\$200,000.00
Option 4 (if exercised)	\$150,000.00

(3) TRAVEL ESTIMATE (FOR EVALUATION PURPOSES ONLY)

The material estimate and other direct 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 and other direct associated expenses in accordance with the federal travel guidelines.

The Government estimates the material cost for this effort as follows:

Base year:	\$60,000.00
Option 1 (if exercised)	\$75,000.00
Option 2 (if exercised)	\$80,000.00
Option 3 (if exercised)	\$80,000.00
Option 4 (if exercised)	\$80,000.00

**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. The Technical and Cost factors are each more important than the Small Business Participation factor.

M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The offeror is a Small Business. The technical factors are listed in descending order of importance and when combined are more important than the cost factor.

M-2-1. TECHNICAL/MANAGEMENT

(1) PERSONNEL QUALIFICATIONS

The proposal will be evaluated on the offeror's demonstrated ability to provide personnel with: (1) the appropriate qualifications and experience as set forth in Attachment (3) personnel qualifications, (2) actual relevant experience in the task areas set for in Attachment (1) Statement of Work, and (3) ability to obtain a secret security clearance prior to commencing work.

(2) COMPANY EXPERIENCE

The proposal will be evaluated on the offeror's demonstrated company experience in: performing efforts similar to, or the same as the efforts detailed in the Statement of Work, prior or current programs in the task detailed in the Statement of Work and the project schedule, plans for each task and approach for each particular scientific task.

(3) MANAGEMENT

The proposal will be evaluated on the offeror's demonstrated management ability and success in managing projects of similar complexity and duration as that set forth in the Statement of Work .

(4) FACILITIES

The proposal will be evaluated on the offeror's demonstrated ability to meet the facilities requirements as detailed in Section L-13 (2)(d).

(5) 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).

M-2-2 COST TO THE GOVERNMENT

Proposed estimated cost to the Government. The Government may adjust the proposed cost for purposes of evaluation based upon an evaluation of cost realism. Cost Realism means that the costs in an offeror's proposal are realistic for the work to be performed; reflect a clear understanding of the requirements; and are consistent with the various elements of the offeror's technical proposal. The cost realism evaluation includes an analysis of the adequacy of the hours, labor mix, and other direct costs to perform the work as proposed in the technical proposal as well as the proposed labor and indirect rates. It also includes evaluation of the likelihood that the risks inherent in the offeror's technical approach will result in higher actual costs than anticipated.

M-2-3 SMALL BUSINESS PARTICIPATION

- (a) The extent of participation of small businesses and historically black colleges or universities and minority institutions in performance of the contract will be evaluated on the basis of the proposed extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.
- (b) The extent of participation of small disadvantaged business concerns in performance of the contract will be evaluated on the basis of the proposed extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

M-3 FAR 52.217-5 - EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

Statement of Work

DESIGN OPTIMIZATION, SENSOR FUSION ANALYSIS AND TESTING OF ISR AND EW SENSORS AND SENSOR SYSTEMS

1. INTRODUCTION/BACKGROUND:

Advanced Electronic Warfare (EW) threats to our Navy/Marine Corps aircraft are being fielded at a rapid pace. These threats include next generation Surface to Air Missiles (SAMs) and Directed Energy (DE) weapons. Additionally, today's modern battlespace requires an increase in Intelligence, Surveillance and Reconnaissance (ISR) information gathering and processing to maintain adequate combat theater, zone and platform situational awareness. Protecting our Warfighters from these new threats and providing them with the situational awareness they need to succeed requires the development of advanced technology Visible/Electro-Optical/Infrared (Vis/EO/IR) sensors and sensor suites, as well as the optimization and fusion of sensor information. To develop this next generation of Vis/EO/IR sensors and sensor suites, the Optical Sciences Division of the Naval Research Laboratory (NRL) conducts rapid advanced technology development activities in support of Naval Forces, which includes Navy/Marine Corps aircraft, surface and subsurface platforms, airfields ashore and expeditionary airfields in remote locations. These advanced technology development activities include: (a) research and development of advanced technology concepts, (b) early test and evaluation of prototype systems, (c) evaluation of advanced concept aircraft EW Self-Protection and ISR systems for Navy and Marine Corps aircraft (d) identification of requirements for developing solutions that counter existing and projected threat systems, (e) analysis and evaluation of promising new technologies, (f) development of one-of-a-kind measurement and evaluation processes; and (g) technical management and engineering support to facilitate the transition of advanced technologies into the System Development and Demonstration (SDD) phase of Navy/Marine Corps acquisition programs of record.

2. SCOPE OF WORK:

The purpose of the contract is to acquire highly skilled support personnel, equipment and facilities to support the Optical Sciences Division with a comprehensive, integrated program of systems engineering, technical engineering, engineering analysis, independent assessments, and research activities pertaining to the development, measurement, and evaluation of new and existing airborne systems and avionics for Navy and Marine Corps aircraft into the future. The required engineering efforts and areas of technical investigation will be broad, but will emphasize the optimization of developmental electronic systems, embedded software, and test & evaluation to facilitate the efficient operation and effective exploitation of visible, electro-optic, and infrared (Vis/EO/IR) sensors and sensor systems.

Types of developmental systems and programs requiring support will include, but may not be limited to (a) ISR sensors and systems, (b) manned air/surface platform survivability and EW self protection systems, and (c) unmanned aerial and surface vehicle sensor systems. Additional efforts will be directed at identifying and evaluating what capabilities can be achieved with the addition of alternative technology sensor suites and the use sensor fusion to increase sensor suite capabilities. Initial candidate aircraft will include, but may not be limited to, the EA-6B EA-18G, E-2C, P-3C, P-8A, AV-8B, F/A-18A/B/C/D/E/F and JSF fixed wing aircraft as well as, V-22, SH-60/MH-60, CH-53E/K, CH-

46E, UH-1N/Y, AH-1W/Z rotary wing aircraft and developmental/fielded Unmanned Aerial Vehicles/Unmanned Combat Aerial Vehicles (UAVs/UCAVs).

Technical work under this action will require in-depth expertise in requirements analysis and the evaluation and testing of complex, high resolution Vis/EO/IR sensors. Programmatic work under this action will require in-depth expertise in the Integrated Defense Acquisition Framework. The overall objectives of this effort are the development and testing of Vis/EO/IR sensor systems including but not limited to (a) Laser based Directed Infrared Counter Measures (DIRCM) systems (b) advanced airborne surveillance/reconnaissance systems; (c) the identification and development of state-of-the-art technologies which will provide solutions to current or projected Fleet aircraft and other Naval platform survivability problems; and (d) the implementation, evaluation, and transition of these technologies into engineering development or formal acquisition programs.

The Government anticipates that the work to be performed under this contract will be performed at the contractors site, the Naval Research Laboratory (NRL), Naval Air Systems Command facilities at Naval Air Station (NAS) Patuxent River, MD, Naval Surface Warfare Center Dahlgren, VA, NAS Point Mugu, CA and NAS China Lake, CA, as well as other government sites in pursuit of NRL objectives. Deliverables required under this contract shall include monthly cost and progress reports; a final technical report; both computer and non-computer based algorithms, source code, executable code and documentation; design drawings, documentation, plans and manuals; and task specific technical reports.

3. TASKS:

The statement of work for this effort is designed to obtain Analysis of Alternatives, sensor system design/optimization, sensor fusion analysis, engineering support, flight test and evaluation (T&E) planning and execution, as well as technology transition support for developmental ISR and EW self protection systems. The Contractor shall provide advanced technology engineering support and technology transfer support, as defined in the following Tasks/Subtasks, to facilitate the development, testing and transition of NRL developed systems to Navy/Marine Corps acquisition programs. All tasking, as follows, will be directed through the Contracting Officer Representative (COR) and/or the cognizant government Program Manager (PM).

3.1 Review of Vis/EO/IR Sensor Design Requirements and Analysis of Alternatives

The Contractor shall participate in the analysis of (a) current capabilities, (b) the shortfalls of existing systems, (c) the documentation of requirements, and (d) analysis/evaluation of alternatives in pursuit of the NRL Advanced Technology program mission and goals. The subtasks under Task 3.1 shall be performed on a continuing basis throughout this program to provide periodic updates to the analyses and recommendations to ensure that any development programs initiated as a result of this effort are optimal. Efforts associated with this task shall include the following Subtasks:

3.1.1 Engineering Evaluations of Existing Capabilities

The Contractor shall review existing ISR and EW self protection sensor capabilities within the Navy, other services, and industry. The purpose of this review is to identify cost-effective modifications or upgrades that could be made to existing systems as an alternative to new sensor development. The Contractor shall identify the specific performance deficiencies, both mission degradation and platform survival, and provide an analysis of the technical potential for upgrades of the existing systems to reduce or eliminate the deficiencies. The Contractor shall provide an analysis of the cost, schedule, and performance tradeoffs between these technical alternatives.

3.1.2 Assessment of Ongoing Vis/EO/IR and EW Avionics Systems Acquisition Programs of Record

Contractor shall review current sensor system and EW avionics programs within the Navy and other DOD services to address deficiencies or shortcomings caused by advancements in fielded/projected threat systems. The Contractor shall also assess the impact on existing acquisition programs of record of introducing new Vis/EO/IR systems.

3.1.3 Threat Analysis

The Contractor shall conduct an analysis of fielded and projected new generation threat systems and review requirements for new Vis/EO/IR sensor designs based on this threat analysis. This threat analysis should include Vis/EO/IR sensor/sensor system requirements for aircraft platform protection, aircrew situational awareness and networked/theater situational awareness. The Contractor shall review and analyze mission profiles and Intelligence Agency threat documents relevant to Navy/Marine Corps Combat and Combat Support aircraft (fixed and rotary wing, manned and unmanned). The Contractor shall coordinate the review of requirements based on this threat analysis with the appropriate OPNAV Requirements Officers and NAVAIR Program Managers.

3.1.4 Analysis of Alternatives

The contractor shall conduct an Analysis of Alternatives (AOA) that addresses alternatives to new Vis/EO/IR sensor/sensor system development, such as enhancement of existing sensor systems, alternative technologies, and/or the use of current technologies coupled with a change in tactical employment. This AOA will also address what tradeoffs can be made in the design of new Vis/EO/IR systems to reduce cost, improve usefulness, or otherwise take advantage of the presence of other sensor systems through sensor optimization and sensor fusion.

3.2 Develop ISR Sensor Concepts and Implementation Plans

Based on the work conducted in Task 3.1 and with NRL's approval, the Contractor will develop new ISR sensor concepts and plans for how the sensors will interface with existing Naval Platforms or integrate into emerging Naval Platforms. One of the NRL goals with new sensor development efforts is to fuse the data from the new sensors with other onboard systems in order to greatly increase the overall situational awareness and targeting capabilities of Naval platforms. The ability to overlay multiple, geo-rectified, data sources in real time is a significant increase in current capabilities where sensor data is reviewed sequentially. The contractor will support NRL with the fusion of sensor data as outlined in the sub-tasks below:

3.2.1 System Design and System Performance/ Optimization Review

The Contractor shall support the development of new generation sensor and sensor system payloads for both manned and unmanned aerial platform ISR applications. This support will include a review of proposed designs to analyze the sensor/sensor systems performance optimization and to identify opportunities for performance enhancement using sensor fusion techniques.

3.2.2 ISR Sensor/Sensor System Payload Requirements Analysis and Trade-Off Studies

Currently fielded manned and unmanned aerial platform reconnaissance assets provide generic ISR capabilities for Battle Group Commanders with near real time data flow from sensor to user via data link. In addition to current sensors and sensor systems, aerial platforms could add additional sensors, such as Synthetic Aperture Radars (SARs), Laser based sensors, and Foliage Penetrating Radars

(FOPENs), which when integrated with visible or IR imagery in real time significantly enhance the usefulness of the intelligence product and lead to concepts such as precision strike or counter-fire solutions requiring highly accurate geo-location of targets. The contractor will investigate hardware and software methods for completing real time airborne fusion of data products and the transmission of fused data products to the end user in near real time. Stability of sensor systems and pointing accuracy will be investigated, analyzed, and summarized in trade off studies. The contractor will further support NRL with the integration of approved concepts into designs, construction of prototype systems, and laboratory or onboard ground based testing on ship and aircraft platforms.

3.2.3 ISR Sensor Concept of Operations.

The contractor shall work with the users of both manned aircraft and unmanned systems and review existing ISR and self protection concept of operations (CONOPS) with the Navy, other services, and industry. The objective is to identify cost-effective alternative solutions to performance deficiencies as well as desirable capabilities where technology enhancements could further increase performance. Upon completion of the above objectives, the Contractor shall develop recommendations for technology insertion for incorporating new or improved capabilities. Additionally, the impacts of introducing new or modified systems into current operational systems or into projected systems will be reported.

3.3 Hardware and Software Development for ISR Sensors and Sensor Systems

The Contractor shall support the development, integration and optimization of hardware and software necessary to for advanced concept demonstrations and testing of advanced EW self protection and ISR systems for Navy/Marine Corps aircraft including UAVs. The contractor shall develop algorithms for functions not available in commercial products and shall develop hardware and software solutions necessary to support the integration of Vis/EO/IR sensor systems into research configured aircraft such as the NRL P-3/King Air (C-12), the Army Twin Otter/Huey/Blackhawk, or fleet aircraft such as the Navy F-18A/B/C/D/E/F, Navy/USAF UAV/UCAV aircraft, or into pods which could be carried by these aircraft. The development and integration work will include in air collection of data from reconnaissance sensors such as the CA-270, CA-263, CA-295, CA-279, CA-247, and MX-20 SW cameras and the display of data on NRL screening stations specifically engineered for this task.

3.3.1 Develop Image Screening and Collection Algorithms

The Contractor shall develop algorithms for effective screening of imagery for real time exploitation and analysis. These algorithms shall be developed only in those cases where commercial products are not available. The contractor shall optimize the display for ease of use and clarity of presentation to the image analyst. The purpose of these displays shall be to facilitate target detection and identification and to provide simple means of extracting small image sections for rapid image transmission. The underlying principles of the algorithms shall be fully described in technical reports submitted upon completion of each task.

3.3.2 Develop Embedded Software

The Contractor shall develop embedded software for the real time operation and control of Vis/EO/IR electronics systems and subsystems utilizing to the greatest extent possible Commercial-Off-The-Shelf hardware and Real-Time Operating System application development environments. The contractor shall develop applications utilizing vxWorks to control software for the following interfaces and components: MIL-STD-1553; SVME-179; SVME-783; MU1119/A Memory Unit; Honeywell Embedded GPS/INERTIAL navigational unit; CA-263/270/295 Sensors; Advanced Recce Compression Hardware (ARCH) suite; Solid State Recorder; and MIDL Common Data Link (CDL).

3.3.3 Software Integration

The contractor shall develop software for integration of Vis/EO/IR systems with Navy tactical aircraft, including but not limited to F/A-18 E/F, AV-8B, V-22, P-3, UAV/UCAV, and other developmental sea/air platforms. Integration shall include software development for:

- Advanced EW and Vis/EO/IR systems for UAVs/UCAVs
- New generation ISR systems/subsystems
- Integration of digital framing cameras with Reconnaissance Management Systems (RMS) or Fusion Processor (FP) Systems
- Integration of ball gimbal based, digital, step-stare systems with RMS or FP capabilities
- Integration of RMS/FP systems with aircraft mission computers, TAMPS, CDL, INS,
- Electronic Warfare Systems
- Recorders and Environmental Control Systems (ECS).
- Real time autonomous control of digital framing cameras or ball gimbal based sensor systems.
- Custom electronics with very high bandwidths circuits.

3.3.4 Contractor Developed Hardware/Software Designs and Prototypes

When required, the Contractor shall provide detailed designs necessary to meet rapid prototyping goals for unique, one-of-a-kind systems. In addition, the Contractor shall be responsible for design, development, and prototype of hardware and software and for their testing. As systems reach a level of maturity to support transition of the system to industry or the Fleet, the contractor shall provide engineering support and documentation necessary to support a smooth transition. Following transition, the contractor shall provide support until transition has reached a sustaining level and can be considered complete

3.4 Vis/EO/IR Sensor/Sensor System Test Support

The Contractor shall provide research, development and sensor/sensor system test support required for new sensor/sensor system development, optimization, and sensor fusion. The support shall include measurements and analysis to support the development of next generation sensors/sensor systems at NRL.

3.4.1 Develop Test Documentation

The Contractor shall develop plans for testing of components, subsystems, and systems as required to support the system development and technology transfer. The Contractor will document all testing in formal reports.

3.4.2 Laboratory and Field Testing

The Contractor shall perform laboratory measurements on components and subsystems as required, shall analyze the results of these efforts, and shall prepare results describing these activities. The Contractor shall also participate in system field/flight tests by developing test plans, installing equipment into aircraft, operating equipment during tests, analyzing test results, and preparing reports on the tests

3.5 Final Prototype Sensor System Design, Development, Optimization and Test

Installation

To facilitate the development of new sensors/sensor systems and to provide a means to evaluate new and/or refurbished systems, the Contractor shall design and construct prototype Vis/EO/IR reconnaissance, or other avionics system installations, for both NRL research configured P-3 aircraft, research configured C-12 aircraft and for various podded systems suitable for flight on a variety of tactical Naval aircraft as well as unmanned aircraft. Efforts associated with this task shall include the following:

3.5.1 Design, fabrication, and installation of unique, one-of-a-kind devices for flight testing or ground support.

3.5.2 Modification of aircraft or pod systems for testing of advanced technology Vis/EO/IR systems and subsystems.

3.5.3 Installation of equipment on aircraft or in pods to meet test, measurement and evaluation goals.

3.5.4 Provide drawings and structural analysis necessary to obtain required Navy or FAA flight certifications for aircraft modifications, payload or pod designs.

3.5.5 Development, control, and archive of engineering drawings and analysis for fabrication of new designs, modifications, and refurbishment.

3.6 Research, Engineering, Test, Measurement and Evaluation of Foreign Exploitation Systems and Subsystems

Interface with Foreign Governments to share research, development, testing, and evaluation concepts, data, and planning. NRL frequently interfaces with Canada, United Kingdom, Australia, New Zealand and several NATO allies to share advanced Vis/EO/IR technology, test, measurement and evaluation methodology, and potential applications of system development on current and near term country-unique aircraft platforms. The Contractor shall support the implementation of international Memorandums of Understanding/Agreement (MOUs/MOAs), bilateral Cooperative Research and Development Agreements (CRADAs), Project Arrangements (PAs), requirements definition and test/evaluation plans. Additionally, for purposes of risk reduction, the contractor shall schedule, coordinate, and conduct joint test, measurement, and evaluation efforts with the ABCA and NATO countries as directed by the government.

3.6.1 Foreign Cooperative Test and Foreign Material Exploitation Measurement and Evaluation

The Contractor shall perform engineering analysis, independent evaluations, and resolution of programmatic issues for Foreign Cooperative Test (FCTs) and Foreign Material Exploitation (FME) programs. The contractor shall design, structure and conduct FCT/FME testing on a variety of foreign advanced technology products/systems and devices.

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 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				E. CONTRACT/PR NO. PR 56-9313-08			F. CONTRACTOR									
1. DATA ITEM NO. A001	2. TITLE OF DATA ITEM Monthly Cost Report					3. SUBTITLE										
4. AUTHORITY <i>(Data Acquisition Document No.)</i> N/A			5. CONTRACT REFERENCE SOW Para 2.0			6. REQUIRING OFFICE NRL Code *										
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY Monthly		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							
							Draft	Reg	Final	Repro						
16. REMARKS The Contractor shall provide a monthly cost and performance report by the 15th day after the first full month of performance and every 15th day of the month thereafter. The report shall be in the Contractor's format as approved by the COR. The report shall include a labor report for the Contractor's personnel cost, consultant cost and subcontractor costs, travel, materials and equipment costs. * To be provided at time of award						COR (See contract section G-2)		1								
						ACO (Trans Only)										
						15. TOTAL						0	1	0		
1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Quarterly Progress Report					3. SUBTITLE										
4. AUTHORITY <i>(Data Acquisition Document No.)</i>			5. CONTRACT REFERENCE SOW Para 2.0			6. REQUIRING OFFICE NRL Code *										
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY Quarterly		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							
							Draft	Reg	Final	Repro						
16. REMARKS The Contractor shall provide a Quarterly Progress Report by the 15 day after the first full quarter of performance and 15 days after every quarter thereafter. The report shall be in the Contractors format as approved by the COR. The report shall in a summary of the activities for each quarter including brief statements of progress, problems and plans for the next quarter. * To be provided at time of award						COR (See contract section G-2)		1								
						ACO (Trans Only)										
						15. TOTAL						0	1	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

CONTRACT DATA REQUIREMENTS LIST <i>(1 Data Item)</i>					Form Approved OMB No. 0704-0188				
The public reporting burden for this collection of information is estimated to average 110 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.									
A. CONTRACT LINE ITEM NO. 0002		B. EXHIBIT A		C. CATEGORY: TDP _____ TM _____ OTHER _____					
D. SYSTEM/ITEM			E. CONTRACT/PR NO. PR 56-9313-08		F. CONTRACTOR *				
1. DATA ITEM NO. A003	2. TITLE OF DATA ITEM Technical Report(s)		3. SUBTITLE						
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Tasks 3.1, 3.2, 3.3, 3.4, 3.5, 3.6		6. REQUIRING OFFICE NRL Code *				
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	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	16. REMARKS		a. ADDRESSEE	b. COPIES			
						Draft	Final	Reg	Repro
<p>The Contractor shall provide Technical reports for each specific task. The reports shall be in the Contractor's format as approved by the COR and shall be provided as required upon completion of task or sub-task. The reports shall include but not be limited to:</p> <p>Task 3.1 - the Contractor shall provide a comprehensive report on the results of the review of sensor design requirements and analysis of alternatives. The report shall detail any studies or analyses conducted in support of the review and systems assessments. The report shall include an assessment of the performance limitations of current systems and identification of the technology needs. The report shall also include a report on the alternative technologies investigated with an assessment of their efficacy compared to EO/IR approaches.</p> <p>Task 3.2 - the contractor shall provide a comprehensive report that documents the new sensor concepts and how these sensors would interface with existing or emerging platforms. The report should also provide an analyses of the platform payload requirements and examine the trade-offs that can or must be made.</p> <p>Task 3.3 - the contractor shall provide a written report documenting the hardware designs, source code and all algorithms developed.</p> <p>Task 3.4 - the contractor shall provide test plans for each test; all reduced data in electronic form and all raw data and video of the measurements and tests; analytical reports on the performance of the systems and on the implications of the measurements for the development of the EO/IR systems. The reports shall include instrumentation descriptions, calibration and alignment procedures, spatial, spectral and temporal information and supporting meteorological data; documentation of all software developed for interfaces between the data communications equipment and data terminal equipment, and between the measurement instrumentation. Written final test reports describing the test set-up, data analysis, results and conclusions. The Contractor shall also write and present papers at professional symposia as appropriate.</p> <p>Task 3.5 - the contractor shall report on each design and evaluation. The Contractor shall provide design drawings for all hardware units and sub-assemblies, source code for all embedded software, users manuals for all simulations developed and comprehensive reports on all analyses, describing the analytical methodology, the results and conclusions. The Contractor shall deliver reports as appropriate on the analyses, tests and measurements done to support the development of the systems designs.</p> <p>Task 3.6 - the contractor shall report on all foreign interfacing.</p>					COR (See contract section G-2)		1		
					ACO (Trans Only)				
					15. TOTAL				
G. PREPARED BY NRL Code 3235			H. DATE	I. APPROVED BY		J. DATE			

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

<p align="center">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></p>		<p>1. CLEARANCE AND SAFEGUARDING</p>	
		<p>a. FACILITY CLEARANCE REQUIRED SECRET</p> <p>b. LEVEL OF SAFEGUARDING REQUIRED SECRET</p>	
<p>2. THIS SPECIFICATION IS FOR: <i>(X and complete as applicable)</i></p>		<p>3. THIS SPECIFICATION IS: <i>(X and complete as applicable)</i></p>	
<p>a. PRIME CONTRACT NUMBER</p>		<p><input checked="" type="checkbox"/> ORIGINAL <i>(Complete date in all cases)</i></p>	<p>DATE (YYYYMMDD) 2007/11/07</p>
<p>b. SUBCONTRACT NUMBER</p>		<p><input type="checkbox"/> REVISED <i>(Supersedes all previous specs)</i></p>	<p>REVISION NO. DATE (YYYYMMDD)</p>
<p><input checked="" type="checkbox"/> c. SOLICITATION OR OTHER NUMBER 56-9313-08</p>	<p>DUE DATE (YYYYMMDD)</p>	<p><input type="checkbox"/> FINAL <i>(Complete Item 5 in all cases)</i></p>	
<p>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.</p>			
<p>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 _____</p>			
<p>6. CONTRACTOR <i>(Include Commercial and Government Entity (CAGE) Code)</i></p>			
<p>a. NAME, ADDRESS, AND ZIP CODE FOR RFP PURPOSES ONLY, NOT VALID FOR ACTUAL CONTRACT AWARD</p>		<p>b. CAGE CODE</p>	<p>c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i> N/A</p>
<p>7. SUBCONTRACTOR</p>			
<p>a. NAME, ADDRESS, AND ZIP CODE N/A</p>		<p>b. CAGE CODE</p>	<p>c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i> N/A</p>
<p>8. ACTUAL PERFORMANCE</p>			
<p>a. LOCATION N/A</p>		<p>b. CAGE CODE</p>	<p>c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i> N/A</p>
<p>9. GENERAL IDENTIFICATION OF THIS PROCUREMENT</p>			
<p>10. CONTRACTOR WILL REQUIRE ACCESS TO:</p>			
<p>a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>		<p>11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:</p>	
<p>b. RESTRICTED DATA <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>b. RECEIVE CLASSIFIED DOCUMENTS ONLY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>d. FORMERLY RESTRICTED DATA <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>c. RECEIVE AND GENERATE CLASSIFIED MATERIAL <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>e. INTELLIGENCE INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>(1) Sensitive Compartmented Information (SCI) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>e. PERFORM SERVICES ONLY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>(2) Non-SCI <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p>		<p>f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>f. SPECIAL ACCESS INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>g. NATO INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>h. REQUIRE A COMSEC ACCOUNT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>h. FOREIGN GOVERNMENT INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>i. HAVE TEMPEST REQUIREMENTS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>i. LIMITED DISSEMINATION INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>j. FOR OFFICIAL USE ONLY INFORMATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>		<p>k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO</p>	
<p>k. OTHER <i>(Specify)</i></p>		<p>l. OTHER <i>(Specify)</i> STU III VOICE CAPABILITY</p>	

DD FORM 254, DEC 1999

PREVIOUS EDITION IS OBSOLETE.

Reset

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 5661

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 SECRET facility clearance, and personnel available with final DoD granted personnel security clearances commensurate with level of access required for performance of contract.

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)

NAVAL RESEARCH LABORATORY
 4555 OVERLOOK AVE. SW
 WASHINGTON, DC 20375-5320

e. SIGNATURE



17. **REQUIRED DISTRIBUTION**

- a. CONTRACTOR
- b. SUBCONTRACTOR
- c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR
- d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION
- e. ADMINISTRATIVE CONTRACTING OFFICER
- f. OTHERS AS NECESSARY 1226.2, 5602, 5661

DESIGN OPTIMIZATION, SENSOR FUSION ANALYSIS AND TESTING OF ISR AND EW SENSORS AND SENSOR SYSTEMS

PERSONNEL QUALIFICATIONS

A secret clearance is required prior to commencing work.

Note: A Bachelor or Master of Engineering degree is considered the same as a Bachelor or Master of Science in Engineering degree.

1. Senior Research Engineer: Individuals should have at least 15 years experience in research, engineering and technical support for advanced development programs in Vis/EO/IR Systems, and at least 10 years experience in aircraft and system test, measurement, and evaluation. Individuals must have substantial experience in avionics weapons systems research, development, testing and acquisition requiring knowledge of the programmatic requirements of DOD 5000 series directives, strategic planning, and advanced management. Experience in the development phases of programs such as TARPS-CD and SHARP are highly desirable. Individuals should possess in-depth knowledge of Naval Aviation programs centered around TACAIR avionics and systems integration, software development and integration, and Electronic Warfare related systems. Individuals must also have direct experience as well as staff management experience in performing hardware development and/or data analysis in Electronic Warfare or Avionics Systems and demonstrated experience in developing and writing planning documents such as Test and Evaluation Master Plans (TEMP) and/or acquisition program documentation. Individuals must possess a PhD in aeronautical/aerospace engineering or mechanical/material engineering. A Masters of Science degree in aeronautical/aerospace engineering or mechanical/material engineering plus an additional 5 years of related experience may be substituted for a PhD. Experience as a Naval Aviator/Naval Flight Officer is highly desirable. Experience at a military systems command as an Aeronautical Engineering Duty Officer highly desirable.

2. Senior Systems Engineer: Individuals should have at least 10 years experience leading major research, development, test, and evaluation programs, and at least 10 years experience in systems planning, research, development and engineering, including measurement and evaluation of complex systems and equipment. Individuals must have in-depth knowledge of Electronic Warfare (EW) aircraft self protection systems acquisition including engineering development, production and test and evaluation of aircraft EW self protection sensors, sensor systems, and EW countermeasure systems. Knowledge is required of DOD, OSD, OPNAV and NAVAIR organizations along with a working knowledge of systems acquisition reform initiatives and related documentation requirements. Experience should include demonstrated ability to formulate, lead and manage a multi-disciplined team toward the efficient and successful accomplishment of stated goals and objectives. Individuals must possess a Master of Science degree in an engineering field. Experience as a Naval Aviator/Naval Flight Officer is highly desirable. Experience as a DOD Senior Program Manager is highly desirable.

3. Lead Hardware Design Engineer: Individuals should have at least 10 years experience in providing engineering and technical support to advanced technology research, development, test and evaluation programs for real time avionics systems. Individuals must have at least 10 years experience leading or managing design, development, and analysis of embedded hardware and software systems including radar and Vis/EO/IR threat warning, simulator, and reconnaissance systems. Individuals must also have substantial experience in the development of embedded microprocessor systems including 8,16, and 32 bit design and DSP design, in digital design including VHDL, FPGA/ASIC/VLSI, VME/ISA/USB/PCI, Ethernet and graphics, and in developing analog systems including low noise/low power design, analog filter design, and A/D and D/A conversion. Individuals must also have experience in software and algorithm design and analysis with current experience in C/C++, assembly language, real-time OS or "OS-less", and Ethernet stack. Individuals must also have experience in Windows application development using Borland C++ builder, Borland Delphi, and Microsoft Visual C++ and experience in schematic capture and printed circuit board design using Protel, Orcad or View logic software. Individuals must have a Masters of Science degree in Engineering or Science. A Bachelor of Science degree in science or engineering plus an additional 3 years of Vis/EO/IR related experience may be substituted for the Masters of Science degree.

4. Lead Software Engineer: Individuals should have at least 10 years experience in providing engineering and technical support to advanced technology research, development, test and evaluation programs for real time avionics systems. Individuals must have substantial experience developing real time software for aerospace applications, experience as a programmer on all phases of project development for real time telemetry data capture storage and distribution systems, and experience with embedded and systems software development for aerospace applications using C, C++ in vxWorks operating system environment. Individuals must also have experience as a team leader responsible for the design implementation and documentation of software for transmission of data over an X.25 network and a separate TCP/IP network using assembly and FORTRAN languages. Individuals must have a Masters of Science degree in Engineering or Science. A Bachelor of Science degree in science or engineering plus an additional 3 years of Vis/EO/IR related experience may be substituted for the Masters of Science degree.

5. Mechanical and Quality Assurance Engineer: Individuals should possess at least 5 years of demonstrated experience in both the coordination and development of unique Research and Development systems and the installation of these systems into P-3/C-12/other test bed aircraft, or into pods suitable for flight on Navy Tactical or Research aircraft. Individuals should possess at least 5 years of demonstrated experience in the area of Quality Assurance of both installed aircraft systems and unique, one-of-a-kind aircraft test installations. Prior flight experience in Navy P-3/S-3/C-12/other research aircraft is desirable. Individuals must have as a minimum a Bachelor of Science degree in an engineering field, preferably Systems Engineering. These educational requirements may be waived if the experiential requirements listed above are met.

6. Research Test Engineer: Individuals should have at least 5 years experience providing analytic and technical support to research, development, test, and evaluation for advanced development programs. Individuals must have substantial experience in planning, coordinating, and directing test, measurement and evaluation programs. Experience directing operational testing is highly desirable. Individuals must have experience writing test plans and collecting and reducing the final data report on test results. Individuals must have experience with either rotary or fixed wing aircraft. Experience working with simulators is highly desirable.

7. Software Engineer: Individuals should have at least 5 years experience providing engineering and technical support to advanced technology research, development, test and evaluation programs for real time avionics systems. Individuals must have substantial experience in software development, checkout, integration and test for Vis/EO/IR systems and devices. Individuals must have experience in firmware development, checkout, test and integration for the video subsystem of the Shared Reconnaissance Pod (SHARP) as well as experience leading the programming on a program such as the Marine Corps Dragon Warrior Unmanned Aerial Vehicle (UAV) ground control station. Individuals must also have experience in software development using C, C++ in multiple processor hardware platforms with WinNT and Win2000 operating system environments. Individuals must have a Masters of Science degree in Engineering or Science. A Bachelor of Science degree in science or engineering plus an additional 3 years of Vis/EO/IR related experience may be substituted for the Masters of Science degree.

Note: "Should" means that the stated qualification is strongly desired but not mandatory. The degree to which proposed personnel satisfy such qualifications will influence scoring. "Must" indicates a mandatory requirement; failure to satisfy such a requirement will render the entire proposal unacceptable.