

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING DO-C9	PAGE OF PAGES 1 35
2. CONTRACT NUMBER	3. SOLICITATION NUMBER N00173-08-R-JR03	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	5. DATE ISSUED 29 FEB 08	6. REQUISITION/PURCHASE NUMBER 56-9006-08	
7. ISSUED BY CONTRACTING OFFICER NAVAL RESEARCH LABORATORY 4555 OVERLOOK AVE SW WASHINGTON, DC 20375-5320		CODE N00173	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 BLDG 222, RM 115 until 4:00PM local time 31 MAR 08
(Hour) (Date)

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

10. FOR INFORMATION CALL:	A. NAME JERRY RILES	B. TELEPHONE (NO COLLECT CALLS)		C. E-MAIL ADDRESS jerry.riles@nrl.navy.mil
		AREA CODE 202	NUMBER 767	EXT. 0667

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OFFER (Must be fully completed by offeror)

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

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)
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.	17. SIGNATURE
15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.				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)	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 (Signature of Contracting Officer)	28. AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

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

B-1 SUPPLIES/SERVICES AND COSTS

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	ESTIMATED COST PLUS FIXED FEE
0001	The Contractor shall perform provide research and support support in the area of Optical Techniques, Devices, and Measurements in accordance with Section C.	\$	\$	\$
000101	AA: To Be Completed at Time of Award.			
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>

C-3 SUBCONTRACTING PLAN

Subcontracting Plan _____ dated _____ is hereby incorporated by reference and made a material part of this contract.

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

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 award through one year thereafter. Each Option, if exercised, shall extend the term an additional year.
- (b) The principal place of performance of this contract shall be NRL, Washington, DC

F-3 PLACE OF DELIVERY - FOB DESTINATION

The contractor shall deliver supplies, all transportation charges paid, to destination in accordance with the clause in Section F of the Schedule titled FAR 52.247-34 FOB Destination (NOV 1991).

Receiving Officer

Naval Research Laboratory

Contract Number

ATTN: *

CODE: *

LOCATION: *

Bldg. 49

4555 Overlook Avenue, SW

Washington DC 20375-5320

(* To be filled in at time of award.)

SECTION G
CONTRACT ADMINISTRATION DATA

G-1 PROCURING OFFICE REPRESENTATIVE

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

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

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

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

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

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

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

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

G-3 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-4 CONTRACTOR-ACQUIRED PROPERTY

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

Items to be Acquired	Estimated Cost
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*

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

(b) This authorization does not constitute any consent required pursuant to the contract clause entitled "Subcontracts" (FAR 52.244-2). Advance notification or requests for consent pursuant to that clause shall be directed to the administrative contracting officer (ACO).

(c) Pursuant to the contract clause entitled "Government Property" (FAR 52.245-1), title to the property shall vest in the Government.

(d) Prior to acquisition of any item of Industrial Plant Equipment, the Contractor must comply with the requirements of Department of Defense Federal Acquisition Regulation Supplement (DFARS 245.302-1(b)(1)(A). (See DFARS 245.301 for definition of "Industrial Plant Equipment.")

G-5 SUBCONTRACTORS/CONSULTANTS

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

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

Subcontractor/Consultant Name	Estimated Cost
-------------------------------	----------------

(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
Physical Electrical Engineer	
Senior Technician	
Data Anayst	

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 124,800 total hours of direct labor for the base year, and 124,800 hours for each option year, if exercised, including subcontractor direct labor for those subcontractors specifically identified in the Contractor's proposal as having hours included in the proposed level of effort. A breakdown of labor categories and hours is set forth in paragraph (k) below.
- (b) The level of effort for this contract shall be expended at an average rate of 10,400 hours per month. It is understood and agreed that the rate of hours per month may fluctuate in pursuit of the technical objective, provided such fluctuation does not result in the use of the total hours of effort prior to the expiration of the term of the contract.
- (c) The Contractor is required to notify the Contracting Officer when any of the following situations occur, or are anticipated to occur: If during any three consecutive months the monthly average is exceeded by 25% or, if at any time it is forecast that during the last three months of the contract less than 50% of the monthly average will be used during any given month; or, when 85% of the total level of effort has been expended.
- (d) If, during the term of the contract, the Contractor finds it necessary to accelerate the expenditure of direct labor to such an extent that the total hours of effort specified would be used prior to the expiration of the term, the Contractor shall notify the Contracting Officer in writing, setting forth the acceleration required, the probable benefits which would result, and an offer to undertake the acceleration at no increase in the estimated cost or fixed fee together with an offer setting forth a proposed level of effort, cost breakdown, and proposed fixed fee for continuation of the work until expiration of the term hereof. The offer shall provide that the work proposed will be subject to the terms and conditions of this contract and any additions or changes required by then current law, regulations, or directives, and that the offer, with a written notice of acceptance by the Contracting Officer, shall constitute a binding contract. The Contractor shall not accelerate any effort until receipt of such written approval by the Contracting Officer. Any agreement to accelerate will be formalized by contract modification.
- (e) The Contracting Officer may, by written order, direct the Contractor to accelerate the expenditure of direct labor such that the total hours of effort specified in paragraph (a) above would be used prior to the expiration of the term. This order shall specify the acceleration required and the resulting revised term. The Contractor shall acknowledge this order within five days of receipt.
- (f) If the total level of effort specified in paragraph (a) above is not provided by the Contractor during the term of this contract, the Contracting Officer shall either (i) reduce the fixed fee of this contract as follows:
- $$\text{Fee Reduction} = \text{Fixed Fee} \times \frac{(\text{Required LOE Hours} - \text{Expended LOE Hours})}{\text{Required LOE Hours}}$$
- or (ii) subject to the provisions of the clause of this contract entitled "Limitation of Cost," require the Contractor to continue to perform the work until the total number of hours of direct labor specified in paragraph (a) shall have been expended, at no increase in the fixed fee of this contract.
- (g) In the event the government fails to fully fund the contract in a timely manner, the term of the contract may be extended accordingly with no change to cost or fee. If the government fails to fully fund the contract, the fee will be adjusted in direct proportion to that effort which was performed.
- (h) Notwithstanding any of the provisions in the above paragraphs, the Contractor may furnish hours up to five percent in excess of the total hours specified in paragraph (a) above, provided that the additional effort is furnished within the term hereof, and provided further that no increase in the estimated cost or fixed fee is required, and no adjustment in the fixed fee shall be made provided that the Contractor has delivered at least 95% of the level of effort required in paragraph (a) above.

- (i) It is understood that the mix of labor categories provided by the Contractor under the contract, as well as the distribution of effort among those categories, may vary considerably from the initial mix and distribution of effort which was estimated by the government or proposed by the Contractor.
- (j) Nothing herein shall be construed to alter or waive any of the rights or obligations of either party pursuant to the Clause entitled "Limitation of Costs" or "Limitation of Funds," either of which clauses as incorporated herein applies to this contract.
- (k) The anticipated breakdown by labor category of the total annual level of effort is as follows:

CATEGORY	BASE	OPT 1	OPT 2	OPT 3	OPT 4
Physicist/Electrical Engineer I	6,240	6,240	6,240	6,240	6,240
Physicist/Electrical Engineer II	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer III	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer IV	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer V	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer VI	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer VII	6,240	6,240	6,240	6,240	6,240
Physicist/Electrical Engineer VIII	4,160	4,160	4,160	4,160	4,160
Physicist/Electrical Engineer IX	4,160	4,160	4,160	4,160	4,160
Research Chemist I	4,160	4,160	4,160	4,160	4,160
Research Chemist II	4,160	4,160	4,160	4,160	4,160
Engineering Associate I	4,160	4,160	4,160	4,160	4,160
Engineering Associate II	4,160	4,160	4,160	4,160	4,160
Engineering Associate III	4,160	4,160	4,160	4,160	4,160
Engineering Associate IV	4,160	4,160	4,160	4,160	4,160
Engineering Associate V	4,160	4,160	4,160	4,160	4,160
Engineering Associate VI	4,160	4,160	4,160	4,160	4,160
Data Analyst I	4,160	4,160	4,160	4,160	4,160
Data Analyst II	4,160	4,160	4,160	4,160	4,160
Senior Technician I	4,160	4,160	4,160	4,160	4,160
Senior Technician II	4,160	4,160	4,160	4,160	4,160
Senior Technician III	4,160	4,160	4,160	4,160	4,160
Electronics Technician I	4,160	4,160	4,160	4,160	4,160
Electronics Technician II	4,160	4,160	4,160	4,160	4,160
Electronics Technician III	4,160	4,160	4,160	4,160	4,160
Electronics Technician IV	4,160	4,160	4,160	4,160	4,160
Technician I	4,160	4,160	4,160	4,160	4,160
Technician II	4,160	4,160	4,160	4,160	4,160
Technician III	4,160	4,160	4,160	4,160	4,160
TOTAL	124,800	124,800	124,800	124,800	124,800

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

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

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

H-5 ELECTRONIC AND INFORMATION TECHNOLOGY (EIT)

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

H-6 OPTION TO EXTEND THE TERM OF THE CONTRACT

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

First Option

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

Second Option

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

Third Option

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

Fourth Option

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

H-7 ON-SITE USE OF GOVERNMENT PROPERTY

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

H-8 REPRESENTATIONS AND CERTIFICATIONS

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

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

H-9 SUBCONTRACTING PLAN

The contractor's Comprehensive Small Business Subcontracting Plan is incorporated into this contract in accordance with DFARS SUBPART 219.7 *Test Program for Negotiation of Comprehensive Small Business Subcontracting Plans*.

H-10 PROTECTION OF HUMAN SUBJECTS

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

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

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

**PART II - CONTRACT CLAUSES
SECTION I
CONTRACT CLAUSES**

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

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

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

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

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

52.202-1	-	Definitions (JUL 2004)
52.203-3	-	Gratuities (APR 1984)
52.203-5	-	Covenant Against Contingent Fees (APR 1984)
52.203-6	-	Restrictions On Subcontractor Sales To The Government (SEP 2006)
52.203-7	-	Anti-Kickback Procedures (JUL 1995)
52-203-8	-	Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997)
52.203-10	-	Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997)
52.203-12	-	Limitation On Payments To Influence Certain Federal Transactions (SEP 2007)
52.203-13	-	Contractor Code Of Business Ethics And Conduct (DEC 2007)
52.203-14	-	Display Of Hot-line Poster(s) (DEC 2007)

- 52.204-2 - Security Requirements (AUG 1996)
- 52.204-4 - Printed Or Copied Double-Sided On Recycled Paper (AUG 2000)
- 52.204-7 - Central Contractor Registration (JUL 2006)
- 52.204-9 - Personal Identity Verification Of Contractor Personnel (SEP 2007)
- 52.209-6 - 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)
- 52.215-11 - Price Reduction For Defective Cost Or Pricing Data - Modifications (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)
(*will be included if the successful offeror does not propose facilities capital cost of money*)
- 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)
- 52.219-4 - Notice Of Price Evaluation Preference For HUBZone Small Business Concerns (JUL 2005) Offeror elects to waive the evaluation preference.
- 52.219-8 - Utilization Of Small Business Concerns (MAY 2004)
- 52.219-9 - Small Business Subcontracting Plan (NOV 2007) - Alternate II (OCT 2001)
- 52.219-25 - Small Disadvantaged Business Participation Program-Disadvantaged Status And Reporting (OCT 1999)
- 52.222-2 - Payment For Overtime Premiums (JUL 1990) -The Use Of Overtime Is Authorized Under This Contract If The Overtime Premium Does Not Exceed "0"
- 52.222-3 - Convict Labor (JUN 2003)
- 52.222-21 - Prohibition Of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (MAR 2007)
- 52.222-35 - Equal Opportunity For Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
- 52.222-37 - Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-39 - Notification Of Employee Rights Concerning Payment Of Union Dues Or Fees (DEC 2004)
- 52.222-50 - Combating Trafficking In Persons (AUG 2007)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention And Right-To-Know Information (AUG 2003)

- 52.223-6 - Drug-Free Workplace (MAY 2001)
- 52.223-14 - Toxic Chemical Release Reporting (AUG 2003)
- 52.225-13 - Restrictions On Certain Foreign Purchases (FEB 2006)
- 52.227-1 - Authorization And Consent (DEC 2007)- Alternate I (APR 1984)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (DEC 2007)
- 52.227-10 - Filing Of Patent Application- Classified Subject Matter (DEC 2007)
- 52.227-11 - Patent Rights - Ownership by the Contractor (DEC 2007)
- 52.228-7 - Insurance - Liability To Third Persons (MAR 1996)
- 52.230-2 - Cost Accounting Standards (APR 1998)
- 52.230-3 - Disclosure And Consistency Of Cost Accounting Practices (APR 1998)
- 52.230-6 - Administration Of Cost Accounting Standards (APR 2005)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-17 - Interest (JUN 1996)
- 52.232-20 - Limitation Of Cost (APR 1984) (*Applicable when the contract or task order is fully funded*)
- 52.232-22 - Limitation Of Funds (APR 1984) (*Applicable when the contract or task order is not fully funded*)
- 52.232-23 - Assignment Of Claims (JAN 1986) Alternate I (APR 1984)
- 52.232-25 - Prompt Payment (OCT 2003)
- 52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (OCT 2003)
- 52.233-1 - Disputes (JUL 2002) - Alternate I (DEC 1991)
- 52.233-3 - Protest After Award (AUG 1996) - Alternate I (JUN 1985)
- 52.233-4 - Applicable Law For Breach Of Contract Claim (OCT 2004)
- 52.237-2 - Protection Of Government Buildings, Equipment And Vegetation (APR 1984)
- 52.237-3 - Continuity Of Services (JAN 1991)
- 52.242-1 - Notice Of Intent To Disallow Costs (APR 1984)
- 52.242-3 - Penalties For Unallowable Costs (MAY 2001)
- 52.242-4 - Certification of Final Indirect Costs (JAN 1997)
- 52.242-13 - Bankruptcy (JUL 1995)
- 52.243-2 - Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
- 52.243-6 - Change Order Accounting (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)
- 52.246-25 - Limitation Of Liability - Services (FEB 1997)
- 52.247-1 - Commercial Bill Of Lading Notations (FEB 2006)
- 52.247-63 - Preference For U. S. Flag Air Carriers (JUN 2003)
- 52.249-6 - Termination (Cost-Reimbursement) (MAY 2004)
- 52.249-14 - Excusable Delays (APR 1984)
- 52.251-1 - Government Supply Sources (APR 1984)
- 52.252-6 - Authorized Deviations in Clauses (APR 1984)(fill in Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2))
- 52.253-1 - Computer Generated Forms (JAN 1991)

b. DEPARTMENT OF DEFENSE FEDERAL ACQUISITION REGULATION CLAUSES**DFARS CLAUSE TITLE**

- 252.201-7000 - Contracting Officer's Representative (DEC 1991)
- 252.203-7001 - Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related Felonies (DEC 2004)
- 252.203-7002 - Display Of DoD Hotline Poster (DEC 1991)
- 252.204-7000 - Disclosure Of Information (DEC 1991)
- 252.204-7003 - Control Of Government Personnel Work Product (APR 1992)
- 252.204-7004 - Alternate A Central Contractor Registration (SEP 2007)
- 252.204-7005 - Oral Attestation Of Security Responsibilities (NOV 2001)
- 252.205-7000 - Provision Of Information To Cooperative Agreement Holders (DEC 1991)
- 252.209-7004 - Subcontracting With Firms That Are Owned Or Controlled By The Government Of A Terrorist Country (DEC 2006)
- 252.211-7003 - Item Identification And Valuation (JUN 2005) (*fill in none* in (c)(1)(ii) and (c)(1)(iii))
- 252.211-7007 - Item Unique Identification of Government Property (SEP 2007) (*fill in none*)
- 252.215-7000 - Pricing Adjustments (DEC 1991)
- 252.215-7004 - Excessive Pass-Through Charges (APR 2007)
- 252.219-7003 - Small Business Subcontracting Plan (DoD Contracts) (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)
- 252.225-7004 - Report Of Intended Performance Outside The United States And Canada- Submission After Award (MAY 2007)
- 252.225-7006 - Quarterly Reporting Of Actual Contract Performance Outside The United States (MAY 2007)
- 252.225-7012 - Preference For Certain Domestic Commodities (JAN 2007)
- 252.225-7031 - Secondary Arab Boycott Of Israel (JUN 2005)
- 252.225-7043 - Antiterrorism/Force Protection Policy For Defense Contractors Outside The United States (MAR 2006) (*fill in* : Naval Criminal Investigative Service (NCIS), Code 24, telephone, DSN 228-9113 or commercial (202)433-9113)
- 252.226-7001 - Utilization of Indian Organizations, Indian-Owned Economic Enterprises, And Native Hawaiian Small Business Concerns (SEP 2004)
- 252.227-7013 - Rights In Technical Data -- Noncommercial Items (NOV 1995)
- 252.227-7014 - Rights In Noncommercial Computer Software And Noncommercial Computer Software Documentation (JUN 1995)
- 252.227-7016 - Rights In Bid Or Proposal Information (JUN 1995)
- 252.227-7019 - Validation Of Asserted Restrictions--Computer Software (JUN 1995)
- 252.227-7030 - Technical Data--Withholding Of Payment (MAR 2000)
- 252.227-7037 - Validation Of Restrictive Markings On Technical Data (SEP 1999)
- 252.227-7038 - Patent Rights-Ownership By The Contractor (Large Business) (DEC 2007)
- 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)
- 252.242-7004 - Material Management And Accounting System (NOV 2005)
- 252.243-7002 - Requests For Equitable Adjustment (MAR 1998)
- 252.244-7000 - Subcontracts For Commercial Items And Commercial Components (DoD Contracts) (JAN 2007)
- 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/sizestandardstopics/>.

(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 - 11 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 2 Pages.
- J-2** Attachment (2) - DD Form 254, Contract Security Classification Specification, Ser 015-08 Dated 20 Feb 2008, 2 Pages.
- J-3** Attachment (3) – Personnel Qualifications, 6 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 below:

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

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

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

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

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

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

(i) Paragraph (c) applies.

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

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

FAR CLAUSE #	TITLE	DATE	CHANGE

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

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

The fill in information is as follows:

- (a) (1) The NAICS code for this acquisition is 541712
- (2) The small business size standard is 500 Employees

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

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

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

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

I. DISCLOSURE STATEMENT—COST ACCOUNTING PRACTICES AND CERTIFICATION

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

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

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

(c) Check the appropriate box below:

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

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

(ii) One copy to the cognizant Federal auditor.

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

Date of Disclosure Statement: _____

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

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

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

Date of Disclosure Statement: _____

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

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

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

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

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

II. COST ACCOUNTING STANDARDS—ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

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

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

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

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

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

No
 Yes

(End of provision)

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

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

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

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

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

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

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

No
 Yes

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

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

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

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

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

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.acqnet.gov/far>
<http://heron.nrl.navy.mil/contracts/home.htm>

FAR CLAUSE TITLE

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

DFAR CLAUSE TITLE

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

L-2 INSTRUCTIONS FOR SUBMISSION OF PROPOSALS/OFFERS

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

Contracting Officer, ATTN: Code 3230:JR
RFP No. N00173- 08-R-JR03 Closing Date: 31 Mar 2008 Time: 4:00pm
Naval Research Laboratory
4555 Overlook Avenue, S.W.
Washington, D.C. 20375

Proposals may be hand delivered to the Contracting Office, NRL, 4555 Overlook Avenue, S.W., Washington, D.C. 20375, Building 222, Room 115 between the hours of 8AM until 4PM, local time, excluding weekends and federal holidays. NRL is a controlled-access facility. Photo identification will be required. Report first to Building 72, Visitor Control for access to NRL. After receiving a Visitor Pass, proceed directly to Building 222, Room 115, Contracting Office Receptionist to deliver the proposal. 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. Directions and additional information about NRL is available at <http://www.nrl.navy.mil/content.php?P=PLANNINGVISIT>.

If facsimile proposals are authorized, contracting officers may request offeror(s) to provide the complete; original signed proposal at a later date.

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) Provide information described below
- (c) See Section L-13, Volume II, Business Proposal. More detailed information may be required and requested if and when it is deemed necessary for evaluation of a specific proposal.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Date _____
Printed Name and Title _____
Signature _____

(End of identification and assertion)

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

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

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

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

L-9 GOVERNMENT-FURNISHED PROPERTY

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

L-10 INQUIRIES CONCERNING THE RFP

Any questions concerning the RFP must be submitted in writing to the Contracting Officer representative at the contact location noted in blocks 7 and 10 of the Standard Form 33, *Solicitation, Offer and Award*, **no less than fifteen (15) days before closing**. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

L-11 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-12 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:

1. PERSONNEL QUALIFICATIONS

The proposal should clearly demonstrate the offeror's ability to provide personnel with: (1) the appropriate qualifications set forth in Attachment No.2 of the Solicitation; The proposal should indicate the specific personnel to be assigned to this effort, their background and pertinent experience, and the amount of effort each will be performing on this contract. This will include the education level, experience (both general and project related), and availability of sufficient key project professional and technical personnel by the prime contractor as well as any proposed subcontractors (2) actual relevant experience in the technical and scientific areas set forth in the Statement of Work; and, (3) the ability to obtain a SECRET clearance of key personnel prior to commencing work. well as any proposed subcontractors.

2. COMPANY EXPERIENCE:

The proposal should demonstrate the offeror's company experience in performing projects requiring scientific and technical effort which is closely similar or related to the effort required by the Statement of Work. This description should clearly show the relationship between the company's experience and the tasks required under the Statement of Work; the particular sciences addressed (e.g., design and fabrication of fiber optic sensors and sensor systems); and, provide details, such as project descriptions and identification of the sponsoring agencies.

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 **three (3)** contracts or subcontracts completed by the offeror or predecessor companies during the past **five (5)** years for services similar in nature to this requirement. Include in the **three (3)** 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-13 VOLUME II - BUSINESS PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES

(1) COST PROPOSAL

(a) 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.

(b) It is requested that the offeror provide one copy of their cost proposal on a PC formatted disk or CD ROM using software that is compatible with Microsoft Excel V 5.1.2600.

(c) The following Travel and Material estimates are for evaluation purposes only. The Government estimates the travel and material costs for this effort to be as shown in the matrix below:

	BASE	OPTION 1	OPTION 2	OPTION 3	OPTION 4
Materials	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000
Travel	\$200,000	\$200,000	\$20,000	\$200,000	\$200,000

SECTION M EVALUATION FACTORS FOR AWARD

M-1 EVALUATION

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

M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor.

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 set forth in Attachment No.2 of the Solicitation; The proposal should indicate the specific personnel to be assigned to this effort, their background and pertinent experience, and the amount of effort each will be performing on this contract. This will include the education level, experience (both general and project related), and availability of sufficient key project professional and technical personnel by the prime contractor as well as any proposed subcontractors (2) actual relevant experience in the technical and scientific areas set forth in the Statement of Work; and, (3) the ability to obtain a SECRET clearance of key personnel prior to commencing work. well as any proposed subcontractors.

2. COMPANY EXPERIENCE:

The proposal will be evaluated on the offeror's demonstrated company experience in performing projects requiring scientific and technical effort which is closely similar or related to the effort required by the Statement of Work. This description should clearly show the relationship between the company's experience and the tasks required under the Statement of Work; the particular sciences addressed (e.g., design and fabrication of fiber optic sensors and sensor systems); and, provide details, such as project descriptions and identification of the sponsoring agencies.

3. 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-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

OPTICAL TECHNIQUES, DEVICES, AND MEASUREMENTS

1.0 Background

The Naval Research Laboratory (NRL) carries out a variety of research, development, and applications-oriented activities in the generation of sensing systems, integrated optics and communication systems. The research, both theoretical and experimental, is concerned with discovering and understanding the basic principles and mechanisms involved in optical devices, materials and phenomena. This work statement describes research to develop and produce optical techniques which are the subject of certain key research projects at the Naval Research Laboratory, Washington D.C.

2.0 Scope

2.1 These research efforts include a number of inter-related tasks that vary in both their technical dimensions and deliverable products. However, several tasks may support the same mission and must be coordinated or interfaced. These tasks include device research and development. The uniqueness of necessary experimental equipment dictate that a major portion of the tasks be performed at the Naval Research Laboratory. These tasks will deal with a number of programs including fiber optic acoustic sensors, electro-magnetic sensors, fiber optic sensors for smart structures, chemical sensors, biological agent sensors, and high-speed optical modulators for sensing and communication links. In most of the sensor programs, emphasis will be placed on signal processing, both electronic and optic (wavelength division multiplexing), and system integration as well as the development of the transducer work will involve system integration of a unique sensor design with an appropriate interrogation system to process sensor data. Sensor interrogation may require implementation of novel electronic and optical signal processing techniques, (such as wavelength division multiplexing) optimized for a particular application. Prototype versions of these systems will be field tested and the performance evaluated. The work on high speed optical modulators will focus on the design, fabrication, evaluation, and analysis of their performance. The design, fabrication and evaluation of new optical devices and electro-optic circuits in the areas of microwave photonics, laser transmitters, signal processing, microwave generation and microwave systems (e.g. radar and electronic warfare) are required. The development and fabrication of mid-infrared (2-12 μm) optical fibers and waveguide devices for IR-transmitting optical links, bright infrared sources, optical switching and other applications is also required.

The work will involve (a) field measurements and analysis of signatures, propagation effects, devices, and sensors, and (b) laboratory measurements and analysis of optical devices, systems and optical phenomena including development of detection algorithms and analysis of sensor characteristics/performance. In addition, the work will support the measurement programs by providing for the design and construction of electronic circuitry for control of optical systems. The work shall be performed at field sites in the US, at foreign sites, at sea, and at the Naval Research Laboratory (NRL), Washington, DC.

3.0 REQUIREMENTS

3.1 Development of Integrated Optic Phase Shifters, Frequency Shifters, and Modulators.

The contractor shall design, develop, fabricate and test optical components for integrated optical devices for phase shifting, frequency shifting, and high speed modulation of light. These components may be produced using both titanium diffused waveguides in lithium niobate and proton exchanged guides in either lithium niobate or lithium tantalate; other waveguide materials may be used as required.

3.2 Development and Testing of Fiber Optic Sensors and Systems for Point/Distributed Strain Sensing.

The contractor shall develop, assemble and test fiber optic sensors and sensor systems optimized for the sensing of various strain fields of interest to the Navy. These types of sensors include all fiber sensors that can detect strain levels in the microstrain, nanostrain and picostrain regime depending upon the application. Applications include structural integrity, static and dynamic load analysis and structural security monitoring. Both interferometric and non-interferometric sensors, such as fiber optic Bragg grating sensors shall be investigated. Detailed analysis of requirements of the strain monitoring application shall be provided by the contractor to produce the optimum system engineering and design approach. Development of these sensors shall include the fabrication of the opto-electronic system necessary to interrogate large arrays of these sensors for distributed strain mapping. The contractor shall investigate novel approaches to allow surveillance grade sensing with short gauge length of fiber for a range of Naval applications. The contractor shall develop techniques and approaches to ground based monitoring for intrusion/tunnel detection, using continuous lengths of fiber employing interferometry. The contractor shall develop and test various interrogation/multiplexing approaches for such systems as well as detection algorithms.

The contractor shall develop and test the appropriate optical interrogation techniques including frequency division multiplexing (FDM), time division multiplexing (TDM), wavelength division multiplexing (WDM), best suited for the particular application. The overall system design shall maximize the number of sensors that can be interrogated from a single optical fiber or pair of optical fibers. For structural monitoring the complete system, including the display of the data, must be provided, including real time shape analysis of structures from the strain measurements.

The contractor shall develop techniques and approaches to the fabrication of Bragg grating arrays which would result in high strength, low cost arrays for various sensing applications. The contractor may also be asked to develop techniques to incorporate these devices in various sensor system for Navy applications.

3.3 Development and Testing of Fiber Optic Acoustic Sensors.

The contractor shall develop fiber optic acoustic sensors and sensor systems for Navy surveillance and Anti Submarine Warfare (ASW) applications. The transducers range from conventional hydrostatic (pressure) acoustic sensors to sensors measuring acoustically induced acceleration, velocity or displacement. Fiber optic acoustic applications also include mobile (platform mounted) and fixed (seabed mounted) sensor arrays. Initial prototypes must be fabricated and tested, and packaged devices will be tested at Navy calibration facilities. The contractor shall design, test and package interrogation and multiplexing approaches tailored to these transducers for evaluation in field test environments. Support of these field tests must also be provided. The contractor will be responsible for the development of demultiplexing and demodulation systems for fiber optic acoustic sensor systems. The contractor may also be asked to perform data analysis and performance verification of the acoustic fiber optic sensor design and compile the results in a test report.

The contractor shall investigate optical sources suitable for interferometric sensing. The contractor may be responsible for fabricating and characterizing fiber laser for both optical source and as sensors for various sensing applications. They may also be asked to develop components and circuits to improve the performance of fiber laser by reducing their inherent noise or stabilizing their output.

The contractor shall also perform research in the area of bio-chemical sensing, by developing methods to fabricate and test IR fiber microtips for near field infrared microscopy which utilizes sub-diffraction limit resolution. The contractor shall fabricate the IR fiber microtips and implement them in near field microscopy systems in collaboration with groups such as that at the Vanderbilt Free Electron Laser Center with intent of achieving spectroscopy with sub- μm resolution in the infrared.

3.4 Development and Analysis of Fiber Optic Electro-magnetic and Environmental sensors.

The contractor shall design and develop interferometric fiber optic magnetometers with increased performance for field deployable use. The fiber optic transducer and interrogating electro-optic system must be tailored for applications including the detection of underwater targets in shallow water environments and for heading sensors for towed arrays. Improvements must be provided in the areas of threshold detection and bandwidth. Data analysis from various field tests of fiber optic magnetometers shall be performed to determine system performance and optimization of algorithms for target detection and localization. Analysis of environmental geo-magnetic data from fiber optic magnetometer arrays shall be required to assess hardware and environmental limitations to non-acoustic undersea surveillance systems. In the area of fiber optic based heading sensors, systems for all optical towed arrays shall be developed, this includes both the transducer and the passive multiplexing approach required for these systems.

The contractor shall carry out analysis, design, integration, development, and test activities required to apply optical sciences to the area of pressure sensing. Prototype units must be designed, fabricated and tested for Navy applications.

The contractor shall carry out analysis, design, integration, development, and test activities required to apply optical sciences to the area of chemical sensing for applications such as monitoring of the environment. The contractor shall develop sensors to identify situations such as water in fuel, heavy metals in solution and dense non-aqueous liquids. The contractor shall use various sensing techniques to include refractive index measurements, visible light spectroscopy, infra-red spectroscopy, Raman spectroscopy, and Fourier transform infrared spectroscopy. The contractor shall develop techniques to perform the sensing remotely with optical fibers. The contractor shall operate government provided equipment to include diode lasers, choppers, lock-in amplifiers, radiometric/interferometric probes, spectrometers and computer software for statistical analysis.

3.5 The development of photonic systems.

The contractor shall perform research in the area of optical devices and electro-optic circuits for microwave photonics, optical communication, and other optical systems. The contractor shall investigate the application of optics and fiber optics to microwave and communication systems. The contractor shall carry out analysis, design, test, and integration of component(s) and explore the system applications of laser transmitters, signal processing elements, microwave systems (e.g. radar and electronic warfare), optical fiber amplifiers, solid state lasers, quantum well modulators, free space and fiber optic communications, photodetectors and photoreceivers, fiber lasers, ultrafast communications, modulation and demodulation of light at microwave and millimeter-wave frequencies, GaAs MEMS, photonic analog-to-digital conversion, optical add/drop filters, time and wavelength-domain multi/demultiplexers, photonic control of phased array antenna systems, properties of optical fiber, and integrated optical devices for high-speed applications. New components and techniques shall be developed and studied to provide the optical carriers with the required parameters for the associated systems. New optical signal distribution systems shall be developed and studied to implement the required signal processing and distribution functions for Navy applications.

3.6 Field Measurements and Analysis for infrared signatures, electro-optical sensing and optical devices.

3.6.1 Infrared Signatures

The contractor shall perform measurements of the electro-optical (ultraviolet through infrared) signatures of aircraft, missiles, guns, bomb blasts, backgrounds and any other sources of infrared radiation significant to the design and development of detection and countermeasure systems. The contractor shall assemble the required instrumentation, calibrate and align the instrument~, provide for shipment to the appropriate sites, assemble and test the instruments, and perform the required measurements. The measurements will be performed at US land sites, at foreign sites, aboard ship, or at NRL, Washington, DC.

The measurements shall include spatial, spectral, and temporal information. Supporting meteorological instrumentation must be included in the measurement program. A target tracking system must be utilized. The contractor shall be responsible for the on-site maintenance of the instrumentation used for the measurements. The contractor shall additionally perform the data reduction as required and provide analysis support of the data.

3.6.2 Electro-optical sensor testing.

The contractor shall conduct laboratory, rooftop, field, and airborne tests to analyze the performance of electro-optical sensors. Some rooftop data must be collected from rooftop pads on NRL buildings. Field tests will be conducted at NRL Chesapeake Bay Division, Naval Air Warfare Center, Patuxent River, MD, and Naval Air Warfare Center, China Lake CA. The contractor shall operate electro-optical sensors and record digital data using government equipment such as Redundant Array of Independent Disks (RAID) computer disks and AMPEX DCRSi™ tape recorders. The contractor shall implement signal processing algorithms on computers for real-time display and analysis of optical imagery.

3.6.3 Optical Devices Measurements

The contractor shall perform transmission measurements on optical devices at field sites. The contractor shall be capable of operating, maintaining, calibrating, and aligning transportable spectrum and sensors, automated data acquisition systems, broad band radiation sources, and detection system. The contractor shall assemble the measurement system, acquire the data, and assist in the reduction and analysis of the data.

3.7 Laboratory Measurements for infrared sources, laser countermeasures, electro-optical sensors

3.7.1 Infrared Sources

The contractor shall conduct measurements on laser and other infrared light sources. The contractor shall assemble and maintain the instrumentation needed to excite and sustain the sources. The contractor shall investigate alternate light sources for airborne infrared countermeasure systems and assess their suitability for use in systems.

3.7.2 Laser Countermeasure Measurements and Components.

The contractor shall investigate the means for countermeasuring laser guided or laser directed threats to US aircraft. The types of threat systems are rangefinders, designators, beam riders, and passive sensors and detectors. Threat systems shall be characterized as available, and their susceptibilities assessed. Countermeasure approaches shall be assessed and technologies critical to their employment shall be identified. Components and devices necessary for demonstrating countermeasure concepts and passive IR countermeasure techniques shall be developed and demonstrated.

3.7.3 Electronics for electro-optical sensors.

The contractor shall design, fabricate, customize, troubleshoot, maintain and operate custom electronic circuitry for operating electro-optical sensors and for processing information from these sensors. The contractor's responsibilities shall include applications programming in support of experimental computer controlled electro-optical sensor systems. The contractor shall implement both hardware and algorithms for operating electro optical sensors and processing the video images from these sensors. The contractor shall design electrical circuits. The contractor shall use government provided equipment including test electronics such as, oscilloscopes, logic analyzers voltmeters and custom computer interface boards. The contractor shall perform embedded system development including micro controllers as well as real-time programming techniques and operating systems such as VXWORKS, QNX™, etc. The contractor shall perform analog circuit development involving high speed analog to digital conversion and signal conditioning.

3.7.4 Electro-optical device and sensor testing.

The contractor shall conduct laboratory and rooftop tests to analyze the performance of electro-optical devices and sensors. Some data must be collected from rooftop pads on NRL buildings. The contractor shall operate electro-optical sensors and record digital data using government equipment such as RAID computer disks and AMPEX DCRS1~ tape recorders. The contractor shall implement signal processing algorithms on computers for real-time display and analysis of optical imagery. The contractor must determine component specifications, acquire components, assemble circuits, test these circuits, and correct deficiencies.

3.8 Laboratory Measurements of Infrared Signatures

3.8.1 Infrared Range

The contractor shall operate and maintain an Infrared Range Facility. The contractor will assist users in the mounting of models, instrumenting the model and making all necessary electrical, mechanical, and plumbing connections to the customer's model. The contractor will organize, direct and facilitate the taking of data during the operation of the Infrared range. The contractor shall also maintain and operate a UV/VIS/IR spectrophotometers and related equipment needed to measure the properties of paints and low observable materials.

3.9 Research and Development of Communication Systems

The contractor shall conduct research in fiber optic and free space transmission links and the necessary components of the each. The contractor will investigate and develop optical and electro-optical devices such as modulated laser transmitters, Erbium-doped fiber amplifiers, Raman amplifiers, and photodiode receivers. The contractor shall characterize and improve the performance of said devices, which are critical in the development of low noise communication systems.

3.10 Sensor Measurements, Analysis, and Development

3.10.1. Reconnaissance System Integration

The contractor shall assemble cameras, sensors, electronics, and other subsystems into pods and aircraft, providing for the mechanical fit and providing the cabling for control signals, data streams, and power. The contractor shall also perform installation of components such as optical windows, antennas, and vibration isolation mounting brackets needed for equipment support.

3.10.2. Sensor Field and Flight Testing

The contractor shall support field and flight testing of sensors by designing and assembling the utilities such as power and temporary shelter needed at experimental field sites and in support of flight test programs. The contractor shall operate visible and infrared band sensor systems in field measurement trials, perform analysis, and provide reports on the acquired data. The contractor shall provide for the safe storage and shipment of equipments needed for field measurements, shall assemble the equipments at the field sites, and shall disassemble and return the equipment to NRL as needed on completion of the measurement program.

3.10.3. Laboratory Measurements

The contractor shall perform laboratory measurements of optical and infrared sensor systems and of sensor components such as focal plane arrays. The contractor shall design experimental approaches, conduct experiments, and analyze the test results. The contractor shall perform laboratory measurements of infrared guided missile seeker heads, including imaging seeker systems, and shall perform analyses of the test data.

3.10.4. Image Analysis

The contractor shall analyze multispectral image data, and investigate techniques for image fusion of these data. The contractor shall investigate the resolution and target detection capability using multispectral and multiframe image data.

3.10.5. Instrumentation

The contractor shall perform calibration, alignment, and repair of electronic circuits in electro-optical instrumentation, and shall design, assemble, and construct specialty electronic circuits as required. The contractor shall maintain a capability to troubleshoot and repair electronic instruments.

3.11 Research and Development of Infrared-Transmitting Fibers and Devices

The contractor shall conduct research and development in the area of mid-IR transmitting optical fibers and planar waveguide devices. This work will include the development of methods to purify, fabricate and fiberize chalcogenide materials (S, Se, or Te-based) as well as tellurite materials (based on TeO_2). These materials will be either undoped, to serve as IR transmission conduits, or will be doped with various rare earth elements (e.g. Pr, Er) to be light sources in the infrared. The contractor shall also characterize the fiber properties and light emission properties such as efficiency and lifetime of the doped optical fibers, and develop ways to utilize them as practical IR sources or amplifiers. The contractor shall also study the nonlinear properties of these fibers to determine their utility for novel optical devices.

In addition, the contractor shall conduct research and development in the area of novel infrared planar waveguide structures, by utilizing thin film samples made in-house, and developing methods to locally modify the refractive index using high intensity radiation. The contractor shall characterize these structures and investigate ways to utilize them for high speed optical switching and other related applications.

3.12 Organic Opto-electronic Materials and Devices

The contractor will synthesize, purify and characterize organic electronic and optoelectronic materials such as novel electron transporters with high mobilities and electron affinities. The development of the new materials will include carrier transporters with good thermal and morphological stability. The contractor will modify the optical and electrical properties of transparent conducting polymers via molecular engineering. These polymers will be evaluated as potential transparent electrode materials for all plastic electro-optic devices such as organic light-emitting diodes (OLEDs). OLEDs with an "inverted structure" (metal cathode at the bottom, transparent anode on top) will be fabricated and characterized in comparison to a control device with the regular structure (transparent anode at the bottom, metal cathode on top). The contractor will optimize the device structures for high electroluminescence quantum efficiency and long-term stability. The contractor shall build on active matrix arrays which will be developed elsewhere. The active matrix-OLED devices will be tested for luminous power efficiency, brightness and degradation effects.

3.13 Chemical, Biological and Radiation Sensing

The contractor shall design and develop optical techniques to be used in the area of chemical and biological sensing. These techniques may utilize luminescent quantum dots used in conjunction with biological molecules and may involve a wide range of spectroscopic techniques, including, for example, fluorescence resonance energy transfer.

The contractor shall design and develop software to control commercial scientific equipment, experimental instrument prototypes and the nanochannel glass draw tower facility. Applications for this software include the control of radiation sensing and imaging devices. The contractor will design and fabricate specialized nanochannel glass materials using the draw tower facility. Applications for the nanochannel glass materials include chemical sensing and fiberoptic communications.

The contractor shall assist in the design and development of chemical and biological detection systems such as laser interrogation and characterization of individual aerosol particles. Activities include: system analysis using commercial optical ray-tracing software and customized simulation of specific hardware, data analysis, detection algorithm development and sensor performance evaluation..

3.14 Infrared Source Development and Testing

The contractor shall develop laser and other infrared light sources to be used in airborne infrared countermeasures and other applications. The contractor shall conduct measurements on prototype devices. The contractor shall assemble and maintain the optical and electronic instrumentation needed to excite and sustain the sources. That shall include both optical pumping by a variety of solid state and diode sources, as well as electrical injection. Measurements to be performed shall include photoluminescence and electroluminescence spectroscopy, lasing spectroscopy, light-light and light-current characteristics, near-field and far-field measurements. Other characterization shall include such properties as the non-radiative lifetimes, internal losses, and anti-guiding parameters.

3.14.1 Infrared Source Fabrication

The contractor shall optimize the processing of semiconductor infrared sources for efficient thermal management. Molecular beam epitaxy shall be carried out to grow quantum heterostructures with favorable properties, and the MBE machine and laboratory shall be maintained. Metal, dielectric, and semiconductor thin film depositions will also be carried out by a variety of methods such as e-beam evaporation, sputtering, and thermal evaporation. The contractor shall carry out device cleaving and epitaxial-side-down soldering. The contractor shall design masks and pattern of one-dimensional and two-dimensional gratings using methods such as optical and e-beam lithography, and wet chemical etching as well as reactive ion etching.

3.14.2 Novel Photonic Materials Fabrication and Testing

The contractor shall design, fabricate, and test novel electronic and optoelectronic components including photonic bandgap devices based on non-standard material systems such as nitride-containing III-V compounds and diamond. Methods for etching novel wide-gap III-V materials will be developed and optimized, employing such techniques as inductively-coupled reactive ion etching and capacitively-coupled reactive ion etching. Other responsibilities will include mask design and development, as well as patterning by e-beam and optical lithography. Fabricated devices will be characterized by such methods as atomic force microscopy, scanning electron microscopy, ellipsometry, and various other microscopy techniques. Optical characterization of the fabricated devices will also be carried out by a variety of methods.

3.14.3 Optical Limiter Materials Characterization

The contractor shall prepare samples of optical limiter materials and perform measurements of their linear and nonlinear optical properties. The contractor shall be responsible for operating, maintaining, calibrating, and aligning the radiation sources, including lasers and optical parametric oscillators, sensors, automated data acquisition systems, and detection systems. The contractor shall assemble and calibrate the measurement systems, acquire the data, and assist in the reduction and analysis of the data. The contractor shall perform the design, development, integration and assembly of optical limiter modules suitable for both internal and field tests. The contractor shall ensure the suitability of the limiter modules in cooperation with personnel performing field tests.

3.14.4 Polymer Optical Materials Development

The contractor shall prepare and conduct the optical characterization of polymer/dye materials suitable for optical limiting. The contractor shall be responsible for operating and maintaining polymer extrusion and molding equipment to achieve close control over both the polymer properties and the concentration and aggregation of dye material. The contractor shall be capable of operating, calibrating, and aligning the lasers, sensors, data acquisition and detection systems required for the optical characterization. The contractor shall fabricate the samples, acquire and analyze the optical data and elucidate the photophysics of different polymer/host combinations. The contractor shall cooperate closely with collaborators who use the results of this work to produce nanostructured materials.

3.15 Optical Glass Formulations for Sensor Technologies

The contractor shall develop glass compositions for radiation sensing and tagging, tracking and locating (TTL) technologies. Glass compositions will include copper-doped fused quartz, high rare-earth-content glasses and glasses containing nanocrystallites designed to impart the optical properties required for their use in sensing systems. The contractor shall formulate glass compositions and fabricate sensor elements using the specialty glasses. The contractor shall perform experimental measurements and analyze test results using the various glass formulations. The contractor shall work closely with collaborators to develop optical sensors with improved performance characteristics.

4.0 Deliverables

The contractor shall provide the following, in accordance with Exhibit (A), Contract Data Requirements Lists:

4.1 Monthly cost reports within 15 days of the close of each monthly reporting period. This report shall include a report of all labor expenditures (person, hours worked, and cost); materials (description, cost, and use on contract); and travel (person's name, dates of trip, reason for trip, and cost).

4.2 Monthly labor reports within 15 days of the close of each monthly reporting period. This report shall include a report of all labor hours worked (person, hours worked).

4.3 Quarterly letter/technical reports, that shall include progress made for the quarter and work planned for the following quarter. These reports shall also include a description Of all comprehensive findings obtained on the contract during the contract's current reporting period, as determined in the execution of the research described in Section 3.0 herein, and, in addition, all drawings and/or test results obtained.

4.4 A final technical report to the COR within sixty days of completion of this contract. This report shall include a comprehensive summary of findings on this contract.

4.5 A Monthly On-Site labor report to the COR within 15 days of the close of each monthly reporting period. This report shall include a report of all on-site labor.

CONTRACT DATA REQUIREMENTS LIST

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 440 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 _____
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D. SYSTEM/ITEM OPTICAL TECHNIQUES	E. CONTRACT/PR NO. N00173-08-R-JR03	F. CONTRACTOR TBD
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1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM MONTHLY COST REPORTS	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE SOW 4.1	6. REQUIRING OFFICE NRL CODE 5670
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7. DD 250 REQ NO	9. DIST STATEMENT REQUIRED	10. FREQUENCY MTHLY	12. DATE OF FIRST SUBMISSION 45 DAC AWD	14. DISTRIBUTION		
8. APP CODE		11. AS OF DATE 45 DAC AWD	13. DATE OF SUBSEQUENT SUBMISSION SEE BLK 16	a. ADDRESSEE	b. COPIES	
					Draft	Final

16. REMARKS Report shall include monthly and summary labor expenditures (person, hours worked, cost), materials (description, cost, contract use), travel (name, date of trips, reason for travel, cost), ovhd, etc. Report due NLT 15th day after close of month.	AO, CODE 5602		1	
	COR, CODE 5670		1	
	15. TOTAL →	0	2	0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO. A003	2. TITLE OF DATA ITEM MONTHLY HOURS REPORT	3. SUBTITLE
---------------------------------	--	--------------------

4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE SOW 4.2	6. REQUIRING OFFICE NRL CODE 5670
---	---	---

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY MTHLY	12. DATE OF FIRST SUBMISSION 15 DAC AWD	14. DISTRIBUTION		
8. APP CODE		11. AS OF DATE 15 DAC AWD	13. DATE OF SUBSEQUENT SUBMISSION SEE BLK 16	a. ADDRESSEE	b. COPIES	
					Draft	Final

16. REMARKS Report shall include total labor hours charged to contract within the previous m.onth. Report shall include employee's name and number of hours). Report due NLT 15th day of each month.	AO, CODE 5602		1	
	15. TOTAL →	0	1	0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO. A004	2. TITLE OF DATA ITEM TECHNICAL REPORTS	3. SUBTITLE
---------------------------------	---	--------------------

4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE SOW 4.3	6. REQUIRING OFFICE NRL CODE 5670
---	---	---

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY QTRLY	12. DATE OF FIRST SUBMISSION 3 MAC AWD	14. DISTRIBUTION		
8. APP CODE		11. AS OF DATE 3 MAC AWD	13. DATE OF SUBSEQUENT SUBMISSION QTRLY	a. ADDRESSEE	b. COPIES	
					Draft	Final

16. REMARKS Contractor shall provide quarterly letter technical reports	COR, CODE 5670		1	
	15. TOTAL →	0	1	0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO. A005	2. TITLE OF DATA ITEM FINAL TECHNICAL REPORT	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE SOW 4.4	6. REQUIRING OFFICE NRL CODE 5670
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7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY OTIME	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 N/A	a. ADDRESSEE	b. COPIES	
					Draft	Final

16. REMARKS Contractor shall provide a Final Technical report upon completion of the contract. Contract shall be submitted NLT 60 days after contract completion.				
	15. TOTAL →	0	0	0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY Code 5670	H. DATE	I. APPROVED BY	J. DATE
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DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <i>(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)</i>				1. CLEARANCE AND SAFEGUARDING a. FACILITY CLEARANCE REQUIRED <div style="text-align: center; font-weight: bold; font-size: 1.2em;">TOP SECRET</div> b. LEVEL OF SAFEGUARDING REQUIRED <div style="text-align: center; font-weight: bold; font-size: 1.2em;">SECRET</div>							
2. THIS SPECIFICATION IS FOR: <i>(X and complete as applicable)</i>				3. THIS SPECIFICATION IS: <i>(X and complete as applicable)</i>							
a. PRIME CONTRACT NUMBER				<input checked="" type="checkbox"/>		a. ORIGINAL <i>(Complete date in all cases)</i>		DATE (YYYYMMDD) 2008/02/20			
b. SUBCONTRACT NUMBER						b. REVISED <i>(Supersedes all previous specs)</i>		REVISION NO. DATE (YYYYMMDD)			
<input checked="" type="checkbox"/>		c. SOLICITATION OR OTHER NUMBER NOO173-08-R-JR03		DUE DATE (YYYYMMDD)				c. FINAL <i>(Complete Item 5 in all cases)</i> DATE (YYYYMMDD)			
4. IS THIS A FOLLOW-ON CONTRACT?				<input type="checkbox"/> YES		<input checked="" type="checkbox"/> NO. If Yes, complete the following: Classified material received or generated under _____ <i>(Preceding Contract Number)</i> is transferred to this follow-on contract.					
5. IS THIS A FINAL DD FORM 254?				<input type="checkbox"/> YES		<input checked="" type="checkbox"/> NO. If Yes, complete the following: In response to the contractor's request dated _____, retention of the classified material is authorized for the period of _____.					
6. CONTRACTOR <i>(Include Commercial and Government Entity (CAGE) Code)</i>											
a. NAME, ADDRESS, AND ZIP CODE				b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>					
FOR RFP PURPOSES ONLY, NOT VALID FOR ACTUAL CONTRACT AWARD						N/A					
7. SUBCONTRACTOR											
a. NAME, ADDRESS, AND ZIP CODE				b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>					
N/A						N/A					
8. ACTUAL PERFORMANCE											
a. LOCATION				b. CAGE CODE		c. COGNIZANT SECURITY OFFICE <i>(Name, Address, and Zip Code)</i>					
N/A						N/A					
9. GENERAL IDENTIFICATION OF THIS PROCUREMENT RESEARCH TO DEVELOP AND PRODUCE OPTICAL TECHNIQUES THAT ARE SUBJECT TO KEY RESEARCH AT NRL.											
10. CONTRACTOR WILL REQUIRE ACCESS TO:				YES	NO	11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:				YES	NO
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION					<input checked="" type="checkbox"/>	a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY					<input checked="" type="checkbox"/>
b. RESTRICTED DATA					<input checked="" type="checkbox"/>	b. RECEIVE CLASSIFIED DOCUMENTS ONLY					<input checked="" type="checkbox"/>
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION					<input checked="" type="checkbox"/>	c. RECEIVE AND GENERATE CLASSIFIED MATERIAL				<input checked="" type="checkbox"/>	
d. FORMERLY RESTRICTED DATA					<input checked="" type="checkbox"/>	d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE					<input checked="" type="checkbox"/>
e. INTELLIGENCE INFORMATION						e. PERFORM SERVICES ONLY					<input checked="" type="checkbox"/>
(1) Sensitive Compartmented Information (SCI)					<input checked="" type="checkbox"/>	f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES				<input checked="" type="checkbox"/>	
(2) Non-SCI				<input checked="" type="checkbox"/>		g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER					<input checked="" type="checkbox"/>
f. SPECIAL ACCESS INFORMATION					<input checked="" type="checkbox"/>	h. REQUIRE A COMSEC ACCOUNT					<input checked="" type="checkbox"/>
g. NATO INFORMATION					<input checked="" type="checkbox"/>	i. HAVE TEMPEST REQUIREMENTS					<input checked="" type="checkbox"/>
h. FOREIGN GOVERNMENT INFORMATION					<input checked="" type="checkbox"/>	j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS					<input checked="" type="checkbox"/>
i. LIMITED DISSEMINATION INFORMATION					<input checked="" type="checkbox"/>	k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE					<input checked="" type="checkbox"/>
j. FOR OFFICIAL USE ONLY INFORMATION					<input checked="" type="checkbox"/>	l. OTHER <i>(Specify)</i>					
k. OTHER <i>(Specify)</i>					<input checked="" type="checkbox"/>						

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 5670

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

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

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

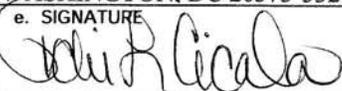
14. ADDITIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract. Yes No
 (*If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide 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 (<i>Include Area Code</i>)
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

<input checked="" type="checkbox"/>	a. CONTRACTOR
<input type="checkbox"/>	b. SUBCONTRACTOR
<input checked="" type="checkbox"/>	c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR
<input type="checkbox"/>	d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION
<input type="checkbox"/>	e. ADMINISTRATIVE CONTRACTING OFFICER
<input checked="" type="checkbox"/>	f. OTHERS AS NECESSARY 1226.2, 5602, 5670,

PERSONNEL QUALIFICATIONS

PHYSICIST/ELECTRICAL ENGINEER I:

Doctorate in Physics/Engineering with at least 5 years experience in the area of integrated optics and thin film devices and characterization. Should have hands on experience with optical measurements of integrated optic devices. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

PHYSICIST/ELECTRICAL ENGINEER II

Master of Science Degree with at least 10 years experience in the area of fiber optic sensors. Knowledge and experience in the understanding, characterization and modeling of noise in fiber optic electro-magnetic and other interferometric sensors. Background in fiber optic interferometry and sensor fabrication. Background in the area of deployable fiber optic sensor systems. Experience in field testing of fiber optic interferometric sensor systems is essential. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

PHYSICIST/ELECTRICAL ENGINEER III

Doctorate in Physics/Engineering with at least 10 years experience in the area of fiber optic sensing. Background in fiber optic interferometry and sensor fabrication. Knowledge and experience of fiber optic electro-magnetic sensing including the transduction mechanisms and the interrogation of these sensors. Experience in the area of passive demodulation of fiber optic sensors specifically electro-magnetic sensors. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

PHYSICIST/ELECTRICAL ENGINEER IV

Master or Doctorate level in Physics/Engineering with at least 5 years experience in the area of fiber optics. Background in fiber optic interferometry and sensor fabrication. Knowledge and experience in the area of fiber optic sensors, their fabrication and their characterization. Experience in the area of fiber components and devices.

PHYSICIST/ELECTRICAL ENGINEER V

M.S. in physics/Engineering or equivalent. Minimum of ten years experience in device physics and data collection with knowledge of analog and digital electronics for data acquisition and related software. Knowledge of multi-spectral electro-optical sensors. Experience with MSDOS, and Windows. Should also have the ability to develop electronic hardware and software for data acquisition.

PHYSICIST/ELECTRICAL ENGINEER VI

Master or Doctorate level in Physics/Engineering or equivalent with at least 3 years experience in the area of optical fiber devices and systems, their fabrication and their characterization. Experience in the area of optical components and devices. Experience in the area of testing optical systems.

PHYSICIST/ELECTRICAL ENGINEER VII

M.S. or Ph.D. or equivalent experience in physics or electrical engineering. Specialized experience in electro-optics, infrared (IR) signatures, IR simulation, IR detectors, IR sensor design and measurements of electro-optical phenomenon from uv through IR. Extensive experience in signal processing techniques, modeling of missile and aircraft signature, and simulation of sensor performance.

PHYSICIST/ELECTRICAL ENGINEER VIII

Ph.D. or equivalent experience in physics, chemistry or physical chemistry. Specialized experience is required in: physical chemistry, chemical instrumentation, spectroscopy for the design and preparation of new chemical systems through molecular engineering ; polymerization of novel organic systems and thin film deposition of conjugated organic systems such as fullerenes, phthalocyanines, etc. and the preparation of characterization of these samples for optical devices ; experience in high vacuum deposition systems and in the setup and operation of nonlinear optical experiments to study optical limiting, second harmonic generation , etc.

PHYSICIST/ELECTRICAL ENGINEER IX

M.S. or Ph.D. in Engineering/Physics or equivalent. Minimum of three years experience in vapor deposition of organic materials. Experience in the area of characterization of organic materials. Working experience with polymer electroluminescence devices.

RESEARCH CHEMIST I

Ph. D. chemist with more than ten years of experience in the research and development of nonlinear optical techniques and lasers for pointing, ranging, and targeting applications. Thorough working knowledge of solid-state laser design as well as familiarity with such nonlinear optical processes as stimulated Raman and Brillouin scattering, parametric frequency conversion, and four wave mixing. Experience in chemical research involving full cell electrode ReD, optical spectroscopy picosecond laser experiments, and optical hole burning experiments. Extensive experience with CW (Ar+ and Kr+), pulsed (N2 and Nd:YAG), and dye (linear and ring configuration) lasers, high-resolution optical techniques, cryogenics, spectroscopy, electrochemistry, catalysis, colloid chemistry, and applications of computers to experimental automation and theoretical modeling. His/her work in the field must be of such significance and competence as to have established him/her as an authority in nonlinear optical techniques and lasers for pointing, ranging, and targeting applications. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

RESEARCH CHEMIST II

Master or Doctorate level with experience in the area research and development of sensors for IR spectroscopy and the remote detection of hydrocarbons.

ENGINEERING ASSOCIATE I

Bachelor's degree in Physics/Engineering with at least five years experience in the field of fiber optics, fiber optic sensing and acoustic sensing. Knowledge and experience of transduction mechanisms and operation of fiber optic acoustic sensors. Knowledge of requirements of Navy acoustic sensor systems. Experience of field deployable fiber optic acoustic sensor systems is essential.

ENGINEERING ASSOCIATE II

Bachelor's degree in Physics/Engineering with at least five years experience in fiber optic sensors, fiber optic strain sensors and optical interrogation of fiber optic sensors. Knowledge and experience of remote interrogation approaches of fiber interferometric sensors, multiplexing of fiber sensors and electronic implementation of noise reductions schemes. Experience in the area of fiber optic Bragg grating sensors for strain measurement, as well as multiplexing approaches for fiber optic Bragg grating sensors. Experience in the area of field deployable fiber optic sensor systems is essential. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

ENGINEERING ASSOCIATE III

Bachelors/Masters degree in Physics/Engineering with 3 years experience in the area of developing interrogation systems for fiber optic Bragg grating sensors. Knowledge and experience in the area of computer based systems for interrogating and measuring strain levels from multiplexed fiber Bragg grating arrays. This scientist must have good written and oral communications skills as evidenced by publications and presentations at conferences.

ENGINEERING ASSOCIATE IV

B.S. in Engineering or equivalent. Minimum of three years experience in electronics. Knowledge of design, fabrication, and operation of digital circuits. Knowledge of and hardware implementation experience in analog buffering and analog-to-digital conversion. Experience with ORCAD, UNIX, C/C++, XWindows, MSDOS, and networking software.

ENGINEERING ASSOCIATE V

Bachelors/Masters degree in Physics/Engineering or equivalent with 3 years of experience in the area of material sciences, optical sensors and/or sensing technology. Experience in the area of field testing optical systems.

ENGINEERING ASSOCIATE VI

B.S. in Electrical Engineering or equivalent. Minimum of ten years experience in solid-state rare earth laser compounds and mid-infrared detector materials. Working knowledge of electro-optic, magnetic, cryogenic, electronic, and digital electronic equipment. Knowledge and experience in the maintenance and operation of infrared lasers.

DATA ANALYST/COMPUTER SPECIALIST I

M.S. in Electrical Engineering/physics or equivalent. Minimum of three years experience in signal processing and data collection with knowledge of analog and digital electronics for data acquisition and related software. Knowledge of signal processing for multi-spectral electro-optical sensors. Experience with UNIX, C/C++, MATLAB, MSDOS, and Windows NT.

DATA ANALYST/COMPUTER SPECIALIST II

Senior programmer with a minimum of 5 years experience in machine level programming and graphical user interfaces. Experience with UNIX, C/C++, XWindows, MSDOS, Windows NT, Open VMS, Fortran, Ethernet hardware and software

SENIOR TECHNICIAN I

At least 10 years of experience as an electronics technician on military electro-optics, radars, and weapon systems for Navy, civilian, and research and development communities. Experience in optical sensors and systems for missile approach warning. Proficient in the safe and proper operation of tools and equipment used in electronics, metal working, woodworking, and automotive/heavy equipment repair. Must be flight qualified or capable of passing the Navy requirements to be flight qualified in order to act as operators of the electro-optical sensors on an NRL P-3 aircraft and have electrical engineering skills for operating and maintaining these sensors. Must indicate if he has a current qualification as a project specialist or, if not, whether each is known to have an existing condition that would prevent qualification as a project Specialist. The qualification for project specialist are governed by OPNAVINST 3710.7N. Good written and communications skills for developing technical briefings and reports as demonstrated by previous reports under previous contracts.

SENIOR TECHNICIAN II

At least ten years of experience as an electronics technician on military electro-optics, radars, and aircraft systems for Navy, civilian, or research and development communities. Proficient in the safe and proper operation of tools and equipment used in electronics, metal working, woodworking, and automotive/heavy equipment repair. Experience in aircraft power and systems interface as demonstrated under previous contracts.

SENIOR TECHNICIAN III

At least ten years of experience as an engineering technician on electronics design, fabricating and trouble-shooting of electronics for Navy, civilian, or research and development communities. Experience in analog, digital, and computer fundamentals. Experience with ORCAD design software, surface mounting of electronics components, and PC board layout and populating. Good written and communications skills for developing report.

ELECTRONICS TECHNICIAN I

At least five years experience in the area of electro-optics or electronics. Experience in the area of electronic circuit construction and testing. Experience in the area of circuit design and fabrication. Basic background in analog and digital circuitry.

ELECTRONICS TECHNICIAN II

At least eight years of experience as an electronics technician on electronics design, fabricating and trouble-shooting of electronics for Navy, civilian, or research and development communities. Experience in analog, digital, and computer fundamentals. Experience with design software and surface mounting of electronics components. Good written and communications skills for developing report.

ELECTRONICS TECHNICIAN III

At least ten years of experience in aircraft, shipboard, ground vehicle, subsurface, and shore-based electronic and mechanical systems installations. Must have at least ten years of experience providing field and laboratory support for scientific research and development activities in support of scientific programs using P-3 aircraft. Skills shall include systems integration, test and evaluation, instrumentation, optics, radar, navigation, project/program management, test planning and preparation, test execution, and project logistics.

ELECTRONICS TECHNICIAN IV

At least ten years of experience in melting glasses of consistent high optical quality for use in perform processing. Experience in making performs utilizing traditional and non-traditional methods, which are virtually free of defects. Knowledge of different preform making processes including core-injection, spin-cast, and spin-cast-fill techniques. Experience in the design and construction of glass melting furnaces and the collapse units.

TECHNICIAN I

At least ten years experience in the area of the fabrication of fiber optic sensors. Should be both knowledgeable and experienced in the area of handling optical fiber and fiber optic transducers. Should have experience in the area of packaging and field testing fiber optic interferometric sensors. Should be familiar with standard fusion machines and standard techniques for transducer and sensor packaging.

TECHNICIAN II

At least two years experience in the area of fiber optics, electro-optics or electronics. Experience in the area of sensors or communication systems. Experience in the area of packaging and field testing optical devices. Background in analog and digital circuitry would be useful for prototype fabrication and testing.

TECHNICIAN III

At least eight years of experience in coordinating programs for various contractor statement of work tasks. General knowledge of administrative office procedures and experience executing these procedures.