

<b>SOLICITATION, OFFER AND AWARD</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING D0-C9	PAGE OF PAGES 1 30
2. CONTRACT NUMBER	3. SOLICITATION NUMBER N00173-08-R-JS09	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	5. DATE ISSUED 12/03/08	6. REQUISITION/PURCHASE NUMBER 55-7062-08	
7. ISSUED BY Contracting Officer Naval Research Laboratory Attn: Code 3220.JS Washington, D.C. 20375-5326		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 4 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Bldg. 222, Room 115 until 4:00 pm local time 01/07/09  
(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 Jamie Brown	B. TELEPHONE (NO COLLECT CALLS)		C. E-MAIL ADDRESS jamie.brown@nrl.navy.mil
		AREA CODE 202	NUMBER 767	EXT. 4597

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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)	<input checked="" type="checkbox"/> 10 CALENDAR DAYS (%)	<input type="checkbox"/> 20 CALENDAR DAYS (%)	<input type="checkbox"/> 30 CALENDAR DAYS (%)	<input type="checkbox"/> CALENDAR DAYS (%)
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14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

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

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

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

**B-1 SUPPLIES/SERVICES AND COSTS**

<b>ITEM NUMBER</b>	<b>SUPPLIES/SERVICES</b>	<b>ESTIMATED COST</b>	<b>FIXED FEE</b>	<b>ESTIMATED COST PLUS FIXED FEE</b>
0001	The Contractor shall provide research and development for advanced information technology and associated applications in accordance with the Statement of Work, Attachment (1).	\$	\$	\$
0002	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP
<b>TOTAL ESTIMATED COST PLUS FIXED FEE</b>		<b>\$</b>	<b>\$</b>	<b>\$</b>

\* *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 23 June 2008 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/14onsite.htm>

**SECTION D  
PACKAGING AND MARKING**

**D-1 PACKAGING AND MARKING**

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

**SECTION E  
INSPECTION AND ACCEPTANCE**

**E-1 INSPECTION AND ACCEPTANCE CLAUSES INCORPORATED BY REFERENCE**

**FAR CLAUSE    TITLE**

52.246-8        -    Inspection Of Research And Development - Cost Reimbursement (MAY 2001)

**DFARS CLAUSE    TITLE**

252.246-7000   -    Material Inspection And Receiving Report (MAR 2008)

**E-2 INSPECTION AND ACCEPTANCE**

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

**SECTION F  
DELIVERIES OR PERFORMANCE**

**F-1 DELIVERIES OR PERFORMANCE CLAUSES INCORPORATED BY REFERENCE:**

**FAR CLAUSE    TITLE**

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

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

**F-2 PERIOD AND PLACE OF PERFORMANCE**

(a) The term of this contract is from date of contract award through 12 (twelve) months thereafter, with (4) options that will extend the period of performance for an additional (12) twelve months each, if exercised.

(b) The principal place of performance of this contract shall be the Naval Research Laboratory, Washington, D.C.

**SECTION G**  
**CONTRACT ADMINISTRATION DATA**

**G-1 PROCURING OFFICE REPRESENTATIVE**

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

Security Matters- Contracting Officer for Security, Code 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.

- (3) The research and development effort under this contract may be sponsored by more than one activity and different activities may be interested in different aspects of the overall effort. In such case, a TDM will be used to identify that portion of the effort of interest to the sponsoring activity and to insure the cost of that portion of the effort is appropriately allocated to the sponsoring activity's funds.
- (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 COR's file. TDMs may also be issued by electronically signed email to the Contractor with a printed copy retained in the COR's 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, or
  - (5) If issued under (a)(3) above, the sponsoring activity, the portion of the effort of interest to the sponsoring activity and the accounting classification reference number (ACRN) to be charged, and
  - (6) 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 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-5 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-6 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-7 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-8 PAYMENT AND VOUCHER INSTRUCTIONS**

In accordance with the contract clause, *Electronic Submission of Payment Requests and Receiving Reports* (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.

<b>ROUTING TABLE</b>	
<b>DATA REQUIRED FOR SUBMISSION OF INVOICE TO WAWF</b>	
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.

<b>Send More Email Notifications</b>	
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
Sr. Subject Matter Expert	*
Senior Computer Scientist	*
Senior Engineer/Analyst	*
Senior Research Analyst	*
Contract Manager	*

**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 156,320 total hours of direct labor for the Basic award, 156,320 for each of the four Option Years, 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 13,027 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 level of effort is as follows:

Task	Labor Category	<u>Labor Hours</u> <u>Basic Award and</u> <u>each Option, if</u> <u>exercised</u>
3.1	Systems Engineer/Scientist	3,840
	Sr. Subject Matter Expert (Asymmetric Warfare)	1,920
	Senior Research Analyst	3,840
	Research Analyst	3,840
	Research & Evaluation Specialist	3,840
	Systems Engineer	3,840
	Senior Project Manager	1,920
	Subject Matter Expert (Military Systems)	3,840
	Database Administrator	1,920
	Geospatial Systems Analyst	3,840
	Certified Performance Technologist	1,920
	3.2	Engineer/Computer Scientist
3.3	Computer Scientist/Electrical Engineer/Computer Engineer	9,600
3.3.1	Computer Scientist/Software Engineer	3,840
3.4	Computer Scientist/Engineer/Mathematician	3,840
	Computer Scientist/Computer Engineer	1,920
3.5	Physicist/Electrical Engineer I	1,550
	Physicist/Electrical Engineer II	1,550
	Physicist/Oceanographer	1,920
	Physicist/Computer Scientist	1,920
3.6	Computer Scientist	1,920
	Engineer/Computer Scientist	5,760
3.7	Senior Computer Scientist	1,920
	Computer Scientist	1,920
	Engineer/Computer Scientist	1,920
	Electrical Engineer	1,920
3.8	Computer Engineer	1,920
	Senior Engineer/Analyst	1,920
	Engineer/Computer Scientist	1,920
3.9	Cognitive Scientist	3,840
	Computer Scientist	3,840
3.10	Computer Scientist	1,920
	Software Developer	1,920
3.11	Computer Engineer	2,020
3.12.1	Senior Analyst I	1,920
3.12.2	Senior Analyst II	1,920
3.12.3	Senior Analyst III	1,920
3.12.4	Senior Analyst IV	1,920
3.12.5	Senior Research Analyst	3,840
3.12.6	Computer Scientist I	1,920
	Electrical Engineer	1,920

	Software Engineer	1,920
3.12.7	Experimentation and Testing Engineer	1,920
3.13	Conference/Program Coordinator	3,360
3.14	Engineer/Computer Scientist	26,880
	Network Engineer/Computer Scientist	<u>3,840</u>
	<b>TOTAL</b>	<b>156,320</b>

#### 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 fax: 301-206-9789.]

#### H-5 ELECTRONIC AND INFORMATION TECHNOLOGY (EIT)

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

#### H-6 OPTION TO EXTEND THE TERM OF THE CONTRACT

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

##### First Option

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

##### Second Option

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

### Third Option

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

### Fourth Option

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

### H-7 ON-SITE USE OF GOVERNMENT PROPERTY

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

### H-8 PROTECTION OF HUMAN SUBJECTS

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

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

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

## H-9 ORGANIZATIONAL CONFLICT OF INTEREST - NON-DISCLOSURE OF INFORMATION

In the performance of the contract, the contractor may have access to information of a sensitive nature including, but not limited to, other organizations' proprietary information, Government procurement sensitive information, source selection information (see Federal Acquisition Regulation 2.101, 3.104-4 and 9.505-4), information subject to the Privacy Act, and information designated For Official Use Only. The contractor agrees that such information will be accessed only to the extent necessary to perform the contract and further agrees that such information will not be disclosed or released to any person or other entity, either within or outside of the United States Government, except as necessary to perform the contract or as expressly authorized in writing by the Contracting Officer.

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

Following completion of the contract, the contractor shall have a continuing obligation not to disclose or release such information obtained there under.

## 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

<u>FAR CLAUSE</u>	<u>TITLE</u>
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 (APR 2008)
- 52.204-9 - Personal Identity Verification Of Contractor Personnel (SEP 2007)
- 52.204-10 - Reporting Subcontract Awards (SEPT 2007)
- 52.209-6 - Protecting The Government's Interest When Subcontracting With Contractors Debarred, Suspended, Or Proposed For Debarment (SEP 2006)
- 52.211-15 - Defense Priority And Allocation Requirements (APR 2008)
- 52.215-2 - Audit And Records-Negotiation (JUN 1999)
- 52.215-8 - Order Of Precedence - Uniform Contract Format (OCT 1997)
- 52.215-10 - Price Reduction For Defective Cost Or Pricing Data (OCT 1997)
- 52.215-11 - Price Reduction For Defective Cost Or Pricing Data - Modifications (OCT 1997)
- 52.215-12 - Subcontractor Cost Or Pricing Data (OCT 1997)
- 52.215-13 - Subcontractor Cost Or Pricing Data Modifications (OCT 1997)
- 52.215-14 - Integrity Of Unit Prices (OCT 1997)
- 52.215-15 - Pension Adjustments And Asset Reversions (OCT 2004)
- 52.215-17 - Waiver Of Facilities Capital Cost Of Money (OCT 1997)  
( 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 (APR 2008) - Alternate II (OCT 2001)
- 52.219-16 - Liquidated Damages-Subcontracting Plan (JAN 1999)
- 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)
- 52.222-19 - Child Labor – Cooperation With Authorities And Remedies (FEB 2008)
- 52.222-21 - Prohibition Of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (MAR 2007)
- 52.222-35 - Equal Opportunity For Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
- 52.222-37 - Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, And Other Eligible Veterans (SEP 2006)
- 52.222-39 - Notification Of Employee Rights Concerning Payment Of Union Dues Or Fees (DEC 2004)
- 52.222-50 - Combating Trafficking In Persons (AUG 2007)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention And Right-To-Know Information (AUG 2003)

- 52.223-6 - Drug-Free Workplace (MAY 2001)
- 52.223-10 - Waste Reduction Program (AUG 2000)
- 52.223-14 - Toxic Chemical Release Reporting (AUG 2003)
- 52.225-13 - Restrictions On Certain Foreign Purchases (JUNE 2008)
- 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)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-17 - Interest (JUN 1996)
- 52.232-20 - Limitation Of Cost (APR 1984) (*Applicable when the contract or task order is fully funded*)
- 52.232-22 - Limitation Of Funds (APR 1984) (*Applicable when the contract or task order is not fully funded*)
- 52.232-23 - Assignment Of Claims (JAN 1986) Alternate I (APR 1984)
- 52.232-25 - Prompt Payment (OCT 2003)
- 52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (OCT 2003)
- 52.233-1 - Disputes (JUL 2002)
- 52.233-3 - Protest After Award (AUG 1996) - Alternate I (JUN 1985)
- 52.233-4 - Applicable Law For Breach Of Contract Claim (OCT 2004)
- 52.242-1 - Notice Of Intent To Disallow Costs (APR 1984)
- 52.242-3 - Penalties For Unallowable Costs (MAY 2001)
- 52.242-4 - Certification of Final Indirect Costs (JAN 1997)
- 52.242-13 - Bankruptcy (JUL 1995)
- 52.243-2 - Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
- 52.244-2 - Subcontracts (JUN 2007) - Alternate I (JUN 2007)
- 52.244-5 - Competition In Subcontracting (DEC 1996)
- 52.244-6 - Subcontracts For Commercial Items (MAR 2007)
- 52.245-1 - Government Property (JUN 2007)
- 52.246-23 - Limitation Of Liability (FEB 1997)
- 52.247-1 - Commercial Bill Of Lading Notations (FEB 2006)
- 52.247-63 - Preference For U. S. Flag Air Carriers (JUN 2003)
- 52.249-6 - Termination (Cost-Reimbursement) (MAY 2004)
- 52.249-14 - Excusable Delays (APR 1984)
- 52.251-1 - Government Supply Sources (APR 1984)
- 52.252-6 - Authorized Deviations in Clauses (APR 1984)( fill in Defense Federal Acquisition Regulation Supplement (48 CFR Chapter 2))
- 52.253-1 - Computer Generated Forms (JAN 1991)

**b. DEPARTMENT OF DEFENSE FEDERAL ACQUISITION REGULATION CLAUSES**

**DFARS CLAUSE    TITLE**

- 252.201-7000 - Contracting Officer's Representative (DEC 1991)
- 252.203-7001 - Prohibition On Persons Convicted Of Fraud Or Other Defense Contract Related Felonies (DEC 2004)
- 252.204-7000 - 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 (AUG 2008) (*fill in none* in (c)(1)(ii) and (c)(1)(iii) )
- 252.215-7000 - Pricing Adjustments (DEC 1991)
- 252.215-7002 - Cost Estimating System Requirements (DEC 2006)
- 252.219-7003 - Small Business Subcontracting Plan (DoD Contracts) (APR 2007)
- 252.219-7004 - Small Business Subcontracting Plan (Test Program) (APR 2007)
- 252.223-7004 - Drug-Free Work Force (SEP 1988)
- 252.223-7006 - Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993)
- 252.225-7004 - Report Of Intended Performance Outside The United States And Canada- Submission After Award (MAY 2007)
- 252.225-7006 - Quarterly Reporting Of Actual Contract Performance Outside The United States (MAY 2007)
- 252.225-7012 - Preference For Certain Domestic Commodities (MAR 2008)
- 252.225-7013 - Duty Free Entry (OCT 2006)
- 252.225-7031 - Secondary Arab Boycott Of Israel (JUN 2005)
- 252.227-7000 - Non Estoppel (OCT 1966)
- 252.227-7001 - Release Of Past Infringement (AUG 1984)
- 252.227-7013 - Rights In Technical Data -- Noncommercial Items (NOV 1995)
- 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)
- 252.227-7030 - 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 and Receiving Reports (MAR 2008)
- 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/sizestandardsttopics/>.

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

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

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

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

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

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

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

- (a) *Definitions.* "Ozone-depleting substance", as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as –
- (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or
  - (2) Class II, including, but not limited to, hydrochlorofluorocarbons.
- (b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

**WARNING**

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

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

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

- J-1** Attachment (1) - Statement Of Work - 11 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 3 Pages.
- J-2** Attachment (2) - DD Form 254, Contract Security Classification Specification, Ser 068-08 Dated 2008/07/02 - 2 Pages.
- J-3** Attachment (3) – Personnel Qualifications, 13 Pages.
- J-4** Attachment (4) – Non-Disclosure Agreement, 1 Page.
- J-5** Attachment (5) – Accounting and Appropriation Data- 1 page. \*

*(\* To be included at time of award)*

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

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

In accordance with FAR 4.1201, prospective contractors must complete electronic annual representations and certifications via the Online Representations and Certifications Application (ORCA) at <http://orca.bpn.gov> in conjunction with required registration in the Central Contractor Registration (CCR) at [http://www.ccr.gov\\_database](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.

[ ] Yes [ ] No

If the offeror checked "Yes" above, the offeror shall—

- (1) Prepare the price proposal in response to the solicitation using the changed practice for the period of performance for which the practice will be used; and
- (2) Submit a description of the changed cost accounting practice to the Contracting Officer and the Cognizant Federal Agency Official as pricing support for the proposal.

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

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

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

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

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

**FAR CLAUSE    TITLE**

- |           |   |   |
|-----------|---|---|
| 52.204-6  | - | Data Universal Numbering System (DUNS) Number (APR 2008)  |
| 52.215-1  | - | Instructions To Offerors- Competitive Acquisition (JAN 2004)  |
| 52.215-5  | - | Facsimile Proposals (OCT 1997)  |
|           |   | Paragraph (c) is completed as follows: (202) 767-0430 (primary) or (202) 767-0494 (alternate). In addition proposals may be transmitted by e-mail to Jamie.Brow@nrl.navy.mil (primary) or Jan.Bays@nrl.navy.mil (alternate) in either Microsoft Word (2000 or earlier) or pdf format. |
| 52.215-16 | - | Facilities Capital Cost Of Money (JUN 2003)   |
| 52.219-24 | - | Small Disadvantaged Business Participation Program - Targets (OCT 2000)   |
| 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 (MAY 2008)  
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 3220.JS**

**RFP No. N00173-08-R-JS09**

**Closing Date: January 7,  
2009**

**Time: 4:00 p.m.,  
local time**

**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, EMERGENCY PREPAREDNESS, AND ENERGY PROGRAM USE (APR 2008)

Any contract awarded as a result of this solicitation will be  DX rated order;  DO rated order certified for national defense, emergency preparedness, and energy program 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 in Section L-12.

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

The Government contemplates award of a Cost-Plus-Fixed-Fee Term type 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 GOVERNMENT-FURNISHED PROPERTY**

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

**L-9 INQUIRIES CONCERNING THE RFP**

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

## **L-10 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-11 VOLUME I - TECHNICAL/MANAGEMENT PROPOSAL**

REQUIRED COPIES: 1 ORIGINAL AND 4 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:

### **PERSONNEL QUALIFICATIONS**

Provide resumes for all management, technical, and project personnel. Demonstrate experience, clarity, conciseness and relevancy to all tasks of Attachment (1), Statement of Work (SOW). Demonstrate personnel qualifications, which meet the basic requirements of the RFP, Attachment (1), SOW, and Attachment (3), Personnel Qualifications. Provide documentation in the form of specific work experience and publications. Personnel proposed will be evaluated on education, training, and professional affiliations.

### **CORPORATE EXPERIENCE**

Provide documentation on recent experience (within the past 5 years) in successfully performing projects and tasks relevant to those described in the SOW, Attachment (1). Provide company qualifications, background, and related experience to demonstrate the understanding of the technical problems related to the tasks. Describe projects involving research in all task areas: communication networks and discrete-event dynamic systems, voice/data integration, distributed systems, modeling and simulation, protocol development, security, parallel processing, and projects relevant to the use of emerging gigabit fiber optic networking technologies.

Proposals should identify related work via contract numbers, Government agency/commercial entity, dollar amounts, dates of performance, names and telephone numbers of technical personnel if government and/or commercial procuring and technical personnel. Proposal should include a brief summary of the relevant work performed under each contract.

## **CORPORATE MANAGEMENT/RESOURCES**

Provide documentation to show proposed project organization as it demonstrates assignment of personnel, defines their roles in accomplishing the project, and assures adequate resources to guarantee effective continuity of effort throughout the duration of the project. The management plan must establish the means for project monitoring and control. The proposal must demonstrate the contractor's ability to identify delays, problem areas, and development of contingency plans or alternatives courses of action promptly in order to ameliorate possible roadblocks/delays in accomplishing the project. Show facilities available to provide timely support in conjunction with assigned tasks.

## **L-12 VOLUME II - BUSINESS PROPOSAL**

REQUIRED COPIES: 1 ORIGINAL AND 4 COPIES

### **(1) COST PROPOSAL**

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

### **(2) SMALL BUSINESS PARTICIPATION**

(a) In addition to complying with the clause at FAR 52.219-9, Small Business Subcontracting Plan (APR 2008) with its Alternate II (OCT 2001), proposals must include information to permit evaluation of the extent of participation of small businesses and historical black colleges or universities and minority institutions in performance of the contract. Participation to be identified may be in the form of a joint venture, teaming arrangement, or subcontract. Small business concerns that are not required by FAR 52.219-9 to submit a subcontracting plan must indicate the extent to which proposed joint ventures, teaming arrangements, or subcontracts are with historically black colleges or universities and minority institutions. Information provided should include the extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

(b) Proposals must also include information to permit evaluation of the extent of participation of small disadvantaged business concerns in performance of the contract. See the provision at FAR 52.219-24, Small Disadvantaged Business Participation Program--Targets (OCT 2000), and the clause at 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (OCT 1999). Any targets will be incorporated into and become part of any resulting contract. Information provided should include the extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

**L-13 TRAVEL AND MATERIAL ESTIMATES - FOR EVALUATION PURPOSES ONLY**

The travel and material set forth below must be included in each offeror's cost proposal. During the term of the contract, the contractor will be reimbursed actual and verifiable travel and material expenses.

- a) The Government estimates the travel costs for this effort to be \$200,000.00 per year.
- b) The Government estimates the material costs for this effort to be \$500,000.00 per year.
- c) The travel and material estimates are direct costs and the offeror should add applicable indirect costs, if any.

**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, cost and other factors considered. The Government reserves the right to make award to other than the low offeror. The technical considerations are more important than the cost factor. The closer the technical scores of the various proposals are to one another, the more important the cost considerations become.

**M-2 EVALUATION FACTORS FOR AWARD**

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor. The technical subfactors are listed in descending order of importance. The technical subfactor (1) is significantly more important than subfactor (2). Subfactor (2) is significantly more important than subfactors (3).

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

The proposed personnel will be evaluated on the experience and qualifications of the proposed personnel relevant to the proposed task; the quantity and quality of the Offeror's corporate experience relevant to the proposed task; and the previous experience of the key personnel including the degree to which they meet the requirements set forth in the Personnel Qualifications.

**(2) CORPORATE EXPERIENCE**

Corporate experience will be evaluated on recent experience (within the past five years) in successfully performing projects and tasks relevant to those described in the statement of work. Company qualifications, background, and related experience that demonstrate an understanding of the technical problems in each task area will be evaluated.

(3) CORPORATE MANAGEMENT/RESOURCES

Corporate Management/Resources will be evaluated on the soundness of the offeror's approach for accomplishing each task of the statement of work. Proposed project organized as it demonstrates assignment of personnel, defines their roles in accomplishing the project, and assures adequate resources to guarantee effective continuity of effort through the duration of the projects will be evaluated. The adequacy of the proposed facilities will be evaluated on the availability to provide timely support in conjunction with assigned tasks.

**M-2-2 COST TO THE GOVERNMENT**

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

**M-2-3 SMALL BUSINESS PARTICIPATION**

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

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

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

## **STATEMENT OF WORK**

### 1.0 INTRODUCTION

The Information Technology Division (Code 5500) is the Naval Research Laboratory's (NRL's) principal investigator in the areas of information architecture and related technology. These areas include design and development of information processing systems, decision support systems, database structure and mining, applications of parallel and distributed computing and the design software to use such systems. Information architecture research includes the communications and networking required to provide fast, reliable, authenticated and often secure transfer of data among various parts of an overall system, incorporating assets ranging from massively parallel computing system to Naval assets deployed in hostile military environments. Human interface research ranging from voice and tactile to the development of interactive virtual environments is an integral part of the work. Information processing research includes traditional signal analysis and extends to various automated reasoning techniques. Information assurance and security, real time processing, simulation and modeling, multilevel secure database structures, progressive motion imagery, compression and decompression, and robotics are also integral parts of the Division's research thrusts.

### 2.0 SCOPE

The contractor shall provide associated research and development for a wide range of NRL research activities. The following task areas and descriptions indicate the specific nature of these research efforts.

### 3.0 TASKS

#### 3.1 Systems Engineering and Research in Modeling and Simulation (M&S) for Training, Analysis, Acquisition and Experimentation Applications.

The contractor shall provide systems engineering and research into the development of M&S tools and systems including algorithms and models, techniques, custom database design/development/implementation, and concepts for various defense applications and component systems. These systems may be either a stand-alone or distributed configuration. The contractor shall design interfaces among software and hardware systems. The contractor shall test and evaluate dimensions of the system output to the user. Typical of the systems to be interfaced are geographic information system (GIS) tools, application servers, military planning tools, and all-source information operations intelligence. Custom databases will be required for analytical support and computational capability in the areas of modeling and simulation, statistics, project data, information reports, and other mathematical estimations.

The contractor shall participate in the planning of research initiatives; in model development and review; in design and implementation of experimental software; and in analysis of research results to assess earned value. The contractor shall provide technical risk assessments of programs, technologies, and techniques. The contractor shall provide literature reviews/product reviews, model enhancements; and interface design documentation.

The contractor shall be responsible for project management duties in support of the work performed under this contract. Duties shall encompass project formulation and planning, coordination with project sponsors and potential end-users, project presentations/briefings, contract solicitation, proposal evaluation, source selection, contract monitoring, performance reporting, budget formulation, and budget execution. The contractor shall analyze and evaluate the outcomes of research projects and operations, assess methods of program development and execution, and propose and implement approved recommendations to enhance organizational effectiveness and efficiency.

Contractor research and development in geographic information systems and sciences shall include exploring spatial statistics and the characteristics of geography on human behavior, data visualization and user centric views of the world, spatial data accuracy and the effects it has on modeling, investigating new methods for information access and dissemination, and GIS Data mining and knowledge discovery. The contractor shall also provide generic and specific support to aid in research to others including capturing, storing, analyzing and managing data and associated attributes which are geospatially referenced. This task shall also require building and maintaining core geographic information systems using traditional map libraries to enable access and organization, as well as supporting the vision of Service Oriented Architectures (SOA) as a technology that makes new services available and possible for geographic research agendas. As the broader field of geographic information sciences grows and as its users become more sophisticated and demanding the contractor shall identify new avenues for research and associated applications.

The contractor shall provide expertise in transitioning science and technology products into fieldable systems that shall include training analyses to identify and recommend content and design for training courses/courseware for intended end users in either experimental or fully operational settings. The results of each specified analysis shall be documented in a technical report that provides a detailed recommendation of training deliverables for research, analysis, design, and development of a training program, including next-steps in support of a full operational capability, as required.

3.2 Conduct research in, and development of, Intelligent Information Systems for Decision Support and provide technical support in the design, modeling, development and analysis of Distributed Simulation Systems.

The contractor shall provide research and development of intelligent information systems for the Naval and DOD communities. These intelligent systems will operate in a distributed network to support military decision-making processes. The contractor shall conduct research, prototyping, development, and, where appropriate, extend the state-of-the-art with regard to technologies that enable software components to be embedded with intelligent processes/algorithms that are capable of operating in a distributed environment. In the area of distributed simulation systems, the contractor shall conduct research and development to NRL in the design and analysis of advanced distributed simulation systems. The contractor shall also conduct research and development to NRL in the design and development of simulation models, as well as develop systems to support advanced visualization techniques and multi-media displays for distributed simulations. The contractor shall also contribute to technical studies that deal with identifying deficiencies in decision support systems as well as M&S systems, and research the application of intelligent software systems to rectify those deficiencies, and if applicable, develop software prototypes and systems that ultimately demonstrate that advanced capability.

### 3.3 Research and Development of Virtual and Augmented Reality Systems and Applications.

The contractor shall provide research and development of virtual reality (VR) and augmented reality (AR) systems. The contractor shall design algorithms to build the virtual or augmented reality environments and the systems to utilize them. Typical algorithms would include tracking and registration for AR, information filtering and display, collaboration in 3D worlds, scientific visualization, and multimodal interaction techniques. The contractor shall also design and implement software architectures to create these VR and AR systems. The contractor shall use NRL chosen software including in-house developed systems for VR and AR. The contractor shall implement hardware systems to realize these designs using commercially available components. The contractor shall design device interfaces and will conduct user evaluation studies of these software and systems. Typical of the devices are head-worn and other mobile see-through displays, immersive VR displays, wearable computers, tracking systems for AR and VR, and pen-based or glove-based interaction systems.

#### 3.3.1 Research and Development of Visual Information Interfaces for Data Analysts

The contractor shall provide research and development of visual analytics systems. The contractor shall design data models, visual representations, and interaction methods for working with such data. Typical algorithms include display techniques for data and attributes associated with the data, information filtering or selection, aggregation of fusion of data streams, and interaction techniques. Data attributes include uncertainty and behavior over time.

Interaction techniques include 2D, 3D, and multi-modal techniques. The contractor will use NRL-chosen software, including systems developed in-house and open source libraries. The contractor shall conduct user evaluation studies of these algorithms and systems.

#### 3.4 Research in the area of composability, as related to simulation systems

The contractor shall perform research in the applicability of M&S, and non-M&S composable practices and procedures. The ultimate goal of this research is to determine whether there is any merit in adapting and adopting composability practices from related, and non-related disciplines for general use and standardization within the M&S community. In addition, the contractor shall perform research in determining where there are technology gaps in M&S composability, and how they might be filled.

#### 3.5 Data Specification and Delivery for Distributed Applications.

The contractor shall provide research and development of the process of extracting data specifications for all elements of the natural environment relevant to Naval operations and research. The final specification must be consistent with national and international standards and expressed in an appropriate engineering language such as one based on UML standards. The resulting specification should be proven relevant to acquisition, analysis and training. Further, the contractor shall provide an environment concept model designed to assist application developers in expressing both data and effects model requirements. This environment concept model must be developed in an appropriate engineering specification language.

#### 3.6 Design and Development of Information Security Capabilities

The contractor shall provide research and development of a variety of information security capabilities. The contractor shall perform analysis and deployment of security vulnerability assessment tools. The contractor shall be responsible for tracking security advisories and developing software for security assessments on a wide range of platforms. The contractor shall perform vulnerability scans on NRL systems and work with system administrators to resolve a variety of security issues.

#### 3.7 Research and Development of Immersive Simulation

The contractor shall provide research and development of virtual environments simulating real world interactions and teleoperation of remotely controlled vehicles. The contractor shall design algorithms to build the environment consisting of, but not limited to, a three-dimensional space for visual, audio, and tactile user interface devices. Typical algorithms would include collision detection and handling, full body avatar control, and realistic weapons aiming.

The contractor shall contribute to the design and implementation of the software architectures used to create the virtual environments. The contractor shall use NRL chosen rendering software, an example being Gamebryo. The contractor shall design device interfaces for the virtual environment and experimental tests to determine the behavioral fidelity of the output to the user. Typical of the devices to be interfaced are real-time tracking systems, custom measurement devices, instrumented weapons props, and wireless transmitters.

### 3.8 Research and Development of Sensor Systems and Their Operation for Robotics

The contractor shall provide research and development of algorithms that provide sensor processing for control of mobile robots and other autonomous systems. This work includes the development of sensor interpretation procedures for the robot's vision sensors and interfaces for various devices such as manipulators. A particular focus of the work is the interpretation of range images. The contractor shall provide support in the design and development of interfaces between the autonomous systems and various robot-mounted devices. Interface design will include both algorithms and the hardware on which they are to operate.

### 3.9 Research and Development in Artificial Intelligence

The contractor shall provide research in design, implementation, integration, and evaluation of artificial intelligence algorithms and prototypes based on these algorithms. Specific areas of interest include mixed-initiative and multi-modal reasoning, case-based reasoning, machine learning, planning, machine vision, computational linguistics, cognitive science, and related topic areas. Existing competency in Java and C++ programming is required, or will be required in developing these algorithms and prototypes.

### 3.10 Research in the Development, Integration, and Evaluation of Intelligent Decision Aids

The contractor shall provide research in design, implementation, integration, and evaluation of decision aids prototypes. Specific areas of interest include mixed-initiative and multi-modal reasoning frameworks, case-based reasoning, machine learning, knowledge management, planning, qualitative process modeling, and related topic areas. Competency in Java and C++ programming is required in developing these prototypes.

### 3.11 Research and Development in Voice Biometric System.

The contractor shall provide research in efforts to implement a reliable and user-friendly speaker verification system. Specifically, the contractor shall implement the government-furnished voice processing algorithm in the portable PC.

### 3.12 Research and Development in Communication Systems

The contractor shall provide research and development efforts in five areas: management of distributed networks; modeling and simulation of computer and communication-based systems; protocol development for communication networks; design and development of advanced RF and wireless communications systems and networks, and development of algorithms and hardware for communication networks. These networks include satellite, wireless, and mobile ad hoc networks as well as wired networks with fixed infrastructure.

#### 3.12.1 Research in Management of Distributed Networks

The Contractor shall develop and evaluate new techniques for the management of distributed communication networks and computer networks. Here the concept of management includes:

- Monitoring and modification of resources supporting fixed-infrastructure networks
- Automatic configuration and adaptive re-configuration of wireless ad hoc mobile networks
- Policy-based management of how the aggregate capacity of network links is shared by multiple users and applications
- Cross-layer protocol coupling strategies as may be required to adapt MAC-layer link properties in response to routing-layer traffic demand.
- Automated control of beam-hopped, electronically-steered antenna arrays (ESA) or sectorized directional antennas as required to support mobile ad hoc networks.

The emphasis is on technology that supports tactical military networks in situations where there is no reliable commercial communication network infrastructure. In this situation, network-centric operations will have to depend on networks that are supported via heterogeneous wireless communication equipment present on battlefield platforms, such as tanks, HMMWVs, AAVs, aircraft and UAVs, and ships. Each node will have the potential to route data packets among its outgoing links to other neighbor platforms. One-hop connectivity to all neighbors cannot be assumed. Since these platforms may be in constant motion, the connectivity between routers may be in a constant state of change. Routing tables must adapt automatically, frequently, and with little time delay. Nodes must automatically determine which nodes are neighbors, based on link quality,

The contractor shall develop distributed, automated management and control schemes for the types of networks referenced above. The networks must be able to automatically configure and adaptively reconfigure without human intervention. The optimization metric that drives network reconfiguration may

vary from one scenario to other, but generally will depend on a weighted combination of the following:

- Ability to achieve complete network connectivity via multi-hop relaying (routing)
- Ability to adapt to and support the offered traffic load (the load is assumed to change during the operational scenario and the network is expected to change routing and, where possible, adapt MAC-layer resources to optimize the shared use of channel capacity.
- Ability to provide the required quality of service to the applications sharing the network.
- Ability to meet anti-jam and/or limited-probability of detection objectives.

The contractor shall develop management and control schemes and mathematical models for heterogeneous networks that use high- and low-bandwidth channels and that support voice, data, imagery, and video. The contractor shall explore new approaches to exploit the potential synergism between networking and signal processing. The contractor shall research key issues relating to the distributed control of communication and the communication complexity of control. In systems of this type, multiple decision-making entities are distributed across the geographically dispersed system. Therefore, this task will involve developing a means not only for optimizing decision making but, also, for evaluating that the implementation of any decision is synergistic, synchronized, and coordinated. The contractor shall develop mathematical performance models where appropriate, and efficient simulation models shall be developed where necessary. The contractor shall evaluate the performance of data systems in terms of throughput, delay, packet loss, packet latency histograms, etc. Distributed network applications of interest include radio networks, satellite networks, wireline networks, fiber optic networks, and hybrid networks containing two or more of voice, data, imagery, and video media.

### 3.12.2 Modeling and Simulation of Computer and Communication Based Systems

The contractor shall provide research and development for a broad spectrum of simulation technology and model development with a focus on military systems that rely on digital communication techniques. One important area for applying modeling and simulation is for mobile, ad hoc, wireless networks. Here simulation will be used to determine the performance and reliability of protocols that control auto-configuration, adaptive reconfiguration, quality of service, changes in resource allocation, and directional antenna control under conditions of varying traffic load, different mixtures of traffic flows, node failures, exit and re-entry of nodes into the network, etc. The contractor may choose the modeling techniques employed, subject to review by the COR; however, NS2 and OPNET are preferred so that software that is developed is transferable to NRL in-house simulators. Future military communication systems will focus on higher data

rates and internetworking among multi-banded systems (e.g., UHF, L-, C-, X-, and K-bands) with heterogeneous radios. Some of these performance trades can be done analytically while others will have to be done by simulation. The contractor shall model a variety of data transport services, such as unicast, multicast, anycast, and broadcast, either analytically or via simulation. The contractor shall model an integrated services network architecture (voice, data, and imagery) for low and high data rate network applications. This integrated-service network shall be simulated and include multi-media services over mixed media communication systems. Internetworking protocols need to be designed to have this overall communication system architecture operate in an efficient and timely manner.

### 3.12.3 Protocol Development for Communication Networks

The Contractor shall design protocols that will operate over a wide range of network types, including wire, fiber, and mobile, ad hoc wireless. Targeted protocol layers include:

- Medium-Access (MAC)
- Management of contention on shared RF channels; hidden and exposed node effects; adaptive schedules for pointing beam-hopped ESA antennas.
- Link
- Network
- Adaptive routing across multi-band and mixed heterogeneous systems; quality of service routing; flow control
- Transport
- End-to-end reliability; ordering; admission control; multicast; anycast
- Agent (application)
- Cross-layer (multi-layer) interaction management.

The goal is to support a wide variety of Navy applications, e.g., surveillance data, tactical data, video teleconferencing, etc. The contractor shall develop protocols for the management of all the communication resources over a given network or multiplicity of networks. The management of these resources needs to be automated to the maximum extent with as little human interaction as possible. These protocols shall be evaluated via simulation with respect to performance criteria that will be developed separately as appropriate for each case study.

### 3.12.4 Software & Hardware Development for Communication Networks

The Contractor shall develop the target software required to implement the algorithms and protocols developed under Tasks 3.11.1 - 3.11.3. The software consists of non-real-time prototype software designed to execute in a simulation environment as well as real-time software designed to execute in a multi-tasking real-time environment. The contractor shall develop and document a high level

software design for each protocol and algorithm. The contractor shall produce source code that can be compiled for and executed in both simulation and real-time environments. The contractor shall verify software functionality and operation. The contractor shall document the software in detail. The contractor shall develop hardware for prototype components needed for laboratory and field tests.

#### 3.12.5 Research in Wireless, Mobile Ad-Hoc and Sensor Networks

The Contractor shall address some of the basic research issues associated with mobile, "ad-hoc" wireless networks (i.e., mobile wireless networks that are not supported by fixed base stations) and sensor networks. Algorithms are needed for routing, channel access, admission control, and flow control. In addition, there is a need for multimedia applications support, e.g., the delivery of a common tactical picture to command centers and to individual warriors. The information systems to be studied must be supported by heterogeneous networks that use a variety of high- and low-bandwidth channels. Complex integrated traffic requirements must be supported, including voice, data, image, and video. Mechanisms to provide individualized services to users with different needs and different capabilities are needed. Both unicast and multicast applications shall be studied. Our goal is the development of principles, algorithms, and tools for the design, evaluation, and operation of mobile, wireless ad-hoc networks and sensor networks. A crucial aspect of the proposed research is the development of networking techniques for networks that include "small" mobile users, including individual warriors, and/or sensors. In networks that consist (solely or partially) of small mobile users, and/or sensors, operation is ultimately limited by the constraint of finite battery life at the individual users. Thus, there is a need to develop networking techniques that make efficient use of the limited energy that is available. The study of energy-efficient communication as a network control issue impacts directly on the other fundamental issues proposed for study, namely network architecture, information distribution, and multicasting. The ad-hoc and sensor network environments are sufficiently different from that of wired networks, or even cellular wireless networks, that drastically different approaches may be needed. The contractor shall focus on basic research issues that are considered to be the most prominent, distinguishing, and fundamental for ad-hoc and sensor networks, and that lead to new questions that simply did not exist until now in more traditional network architectures.

#### 3.12.6 Research, Design, and Development of Cyber-Attack Technologies related to Mobile Ad Hoc Networks

The contractor shall provide research in design and development of cyber-attack technologies on mobile ad hoc networks. This shall include development of new and unique attacks that are specific to mobile ad hoc networks, as well as implementation of existing or theoretic attacks that are unique to mobile ad hoc

networks. Although the scope of the task shall span the range of cyber-attacks, a specific focus will be on worm propagation across mobile ad hoc networks under a variety of circumstances (e.g., varying routing protocols, varying movement models, varying network densities, varying subnetting schemes, use of multicast). The contractor shall also develop analysis and visualization tools for assessing the efficacy of attacks and defenses related to mobile ad hoc networks.

### 3.12.7 Experimentation and Testing

The Contractor shall provide engineering support for experimentation and testing in laboratory and field environments. This includes hardware and software support, planning and logistics for large field demonstrations, operators for mobile communications equipment, and data analysis.

### 3.13 Organize workshops, symposia, and program reviews, including site preparation, technical agenda development, and providing support for technical demonstrations.

The contractor shall coordinate conferences and meetings to support the research efforts conducted by NRL in performing the Statement of Work of this contract. The contractor shall locate and secure the conference facilities and coordinate the conference with other groups and individual participants.

### 3.14 Hardware and Software System Design and Maintenance

NRL maintains a variety of heterogeneous, highly distributed networked systems for the development of technical programs. These systems range from state-of-the-art ATM, GE, streams and optical networks with high end workstations, servers and parallel processing systems. These networked systems are often clustered within a workgroup as a number of workstations running off a server with a storage farm. Requirements exist to implement scalable state-of-the-art capabilities; design, reconfigure and maintain distributed systems; update older configurations and generally maintain systems at current or recent versions of the operating systems and file management systems. The overall systems include:

- iSCSI, GE, FC networks
- WDM and "all-optical" networks
- SMPTE 292M networked imagery
- Legacy: 10/100 Ethernet, Super-(GSN) and AppleTalk protocols
- Remote access systems (ssh, RDP and VPN, etc.)
- NFS, AFS and MR-AFS distributed file systems
- Kerberos distributed authentication services
- LDAP and Active Directory

- Solaris, MacOSX, Vista, Win XP, Server 2003 R2, and Linux Operating Systems
- MPP Systems and Servers: SGI, Sun, Intel, etc.
- Network Appliance filers, Nexsan high density disk arrays, and Adic FileServ and VolServe archives

The contractor shall design, configure, reconfigure, update and maintain individual networked groups, maintain close to current revisions of operating systems and adapt to the full range of available local and wide area networks in support of work performed under this contract. The contractor shall ensure that all information is backed up at defined intervals and that future needs are anticipated and reported as needed. The contractor shall develop and maintain complete site documentation for the configuration of the system and provide on-line documentation for start-up and shut-down of all systems. The contractor shall develop growth plans based on current usage so that future system and software needs can be put into the budget.

# CONTRACT DATA REQUIREMENTS LIST

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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 Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. 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 address. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0002				<b>B. EXHIBIT</b> A		<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER _____																			
<b>D. SYSTEM/ITEM</b>				<b>E. CONTRACT/PR NO.</b> 55-7062-08		<b>F. CONTRACTOR</b>																			
<b>1. DATA ITEM NO.</b> A001		<b>2. TITLE OF DATA ITEM</b> Algorithm, Model, and Protocol Design Documentation				<b>3. SUBTITLE</b>																			
<b>4. AUTHORITY (Data Acquisition Document No.)</b>				<b>5. CONTRACT REFERENCE</b> Tasks 3.1 through 3.13 and 3.15		<b>6. REQUIRING OFFICE</b> NRL Code 5580																			
<b>7. DD 250 REQ</b> LT		<b>9. DIST STATEMENT REQUIRED</b>		<b>10. FREQUENCY</b> ASREQ		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		<b>14. DISTRIBUTION</b>																	
<b>8. APP CODE</b> N/A				<b>11. AS OF DATE</b> ASREQ		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> ASREQ		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><b>a. ADDRESSEE</b></td> <td colspan="2" style="text-align: center;"><b>b. COPIES</b></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Draft</td> <td style="text-align: center;">Final</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Reg</td> <td style="text-align: center;">Repro</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">1</td> <td></td> </tr> </table>		<b>a. ADDRESSEE</b>		<b>b. COPIES</b>				Draft	Final			Reg	Repro			1	
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<b>1. DATA ITEM NO.</b> A002		<b>2. TITLE OF DATA ITEM</b> Algorithm, Model, and Protocol Documentation				<b>3. SUBTITLE</b>																			
<b>4. AUTHORITY (Data Acquisition Document No.)</b>				<b>5. CONTRACT REFERENCE</b> Tasks 3.1 through 3.13 and 3.15		<b>6. REQUIRING OFFICE</b> NRL Code 5580																			
<b>7. DD 250 REQ</b> LT		<b>9. DIST STATEMENT REQUIRED</b>		<b>10. FREQUENCY</b> ASREQ		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		<b>14. DISTRIBUTION</b>																	
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<b>16. REMARKS</b>								NRL Code 5580																	
Documentation shall include commented source code.								15. TOTAL →																	
								1																	
<b>1. DATA ITEM NO.</b> A003		<b>2. TITLE OF DATA ITEM</b> See Block 16				<b>3. SUBTITLE</b>																			
<b>4. AUTHORITY (Data Acquisition Document No.)</b>				<b>5. CONTRACT REFERENCE</b> Tasks 3.1 through 3.13 and 3.15		<b>6. REQUIRING OFFICE</b> NRL Code 5580																			
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<b>16. REMARKS</b>								NRL Code 5580																	
Test Plan, Evaluation Procedure, and Test Plan Results Documentation								15. TOTAL →																	
								1																	
<b>1. DATA ITEM NO.</b> A004		<b>2. TITLE OF DATA ITEM</b> Architecture and Interface Documentation				<b>3. SUBTITLE</b>																			
<b>4. AUTHORITY (Data Acquisition Document No.)</b>				<b>5. CONTRACT REFERENCE</b> Tasks 3.1 through 3.13 & 3.15		<b>6. REQUIRING OFFICE</b> NRL Code 5580																			
<b>7. DD 250 REQ</b> LT		<b>9. DIST STATEMENT REQUIRED</b>		<b>10. FREQUENCY</b> ASREQ		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		<b>14. DISTRIBUTION</b>																	
<b>8. APP CODE</b> N/A				<b>11. AS OF DATE</b> ASREQ		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> ASREQ		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><b>a. ADDRESSEE</b></td> <td colspan="2" style="text-align: center;"><b>b. COPIES</b></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Draft</td> <td style="text-align: center;">Final</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Reg</td> <td style="text-align: center;">Repro</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">1</td> <td></td> </tr> </table>		<b>a. ADDRESSEE</b>		<b>b. COPIES</b>				Draft	Final			Reg	Repro			1	
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<b>G. PREPARED BY</b> Code 5880				<b>H. DATE</b> 7/29/2008		<b>I. APPROVED BY</b>		<b>J. DATE</b>																	

<b>17. PRICE GROUP</b>
<b>18. ESTIMATED TOTAL PRICE</b>

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# CONTRACT DATA REQUIREMENTS LIST

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A. CONTRACT LINE ITEM NO.		B. EXHIBIT		C. CATEGORY:		
0002		A		TDP _____ TM _____ OTHER _____		
D. SYSTEM/ITEM			E. CONTRACT/PR NO.		F. CONTRACTOR	
			55-7062-08			
1. DATA ITEM NO.	2. TITLE OF DATA ITEM		3. SUBTITLE			
A005	Briefing Materials on Results of Research					
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE		6. REQUIRING OFFICE	
			Tasks 3.1 through 3.13		NRL Code 5580	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION	
LT		ASREQ	ASREQ		a. ADDRESSEE	
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION			b. COPIES
N/A		ASREQ	ASREQ		Draft	Final
16. REMARKS					Reg	Repro
					NRL Code 5580	1
					15. TOTAL	1
1. DATA ITEM NO.	2. TITLE OF DATA ITEM		3. SUBTITLE			
A006	Monthly Technical Reports					
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE		6. REQUIRING OFFICE	
			Tasks 3.1 through 3.13 and 3.15		NRL Code 5580	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION	
LT		MONTHLY	30 DAC		a. ADDRESSEE	
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION			b. COPIES
N/A		See below			Draft	Final
16. REMARKS					Reg	Repro
Reports shall be delivered no later than five working days after the end of each month. The report shall contain the technical progress of the previous unreported period and any problems encountered or anticipated.					NRL Code 5580	1
					15. TOTAL	1
1. DATA ITEM NO.	2. TITLE OF DATA ITEM		3. SUBTITLE			
A007	System Configuration Documentation					
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE		6. REQUIRING OFFICE	
			Tasks 3.1 through 3.13 and 3.15		NRL Code 5580	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION	
LT		ASREQ	ASREQ		a. ADDRESSEE	
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION			b. COPIES
N/A		ASREQ	ASREQ		Draft	Final
16. REMARKS					Reg	Repro
Include System Growth Plans and System Start-up/Shut-down documentation.					NRL Code 5580	1
					15. TOTAL	1
1. DATA ITEM NO.	2. TITLE OF DATA ITEM		3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE		6. REQUIRING OFFICE	
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION	
					a. ADDRESSEE	
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION			b. COPIES
					Draft	Final
16. REMARKS					Reg	Repro
					15. TOTAL	
G. PREPARED BY			H. DATE	I. APPROVED BY		J. DATE
Code 5880			7/29/2008			

17. PRICE GROUP
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**CONTRACT DATA REQUIREMENTS LIST**  
(2 Data Items)

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*OMB No. 0704-0188*

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<b>A. CONTRACT LINE ITEM NO.</b> 0002	<b>B. EXHIBIT</b> A	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER _____
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<b>D. SYSTEM/ITEM</b>	<b>E. CONTRACT/PR NO.</b> 55-7062-08	<b>F. CONTRACTOR</b>
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<b>1. DATA ITEM NO.</b> A008	<b>2. TITLE OF DATA ITEM</b> Monthly Financial Report	<b>3. SUBTITLE</b>
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<b>17. PRICE GROUP</b>
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<b>4. AUTHORITY (Data Acquisition Document No.)</b>	<b>5. CONTRACT REFERENCE</b> All Tasks	<b>6. REQUIRING OFFICE</b> NRL Code 5580
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<b>18. ESTIMATED TOTAL PRICE</b>
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<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b>	<b>10. FREQUENCY</b> MTHLY	<b>12. DATE OF FIRST SUBMISSION</b> 30 DAC	<b>14. DISTRIBUTION</b>	
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> See below	<b>13. DATE OF SUBSEQUENT SUBMISSION</b>	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>

<b>16. REMARKS</b> The contractor shall deliver a monthly financial report no later than five working days after the end of each month in the following format:  1) A copy of each invoice submitted for payment, and  2) A report of actual expenditures by month for each sponsor and each sponsor's task. The format will be designated by the COR in accordance with Government procedures and the particular needs of the task sponsor. Reports of actual expenditures will include forecasts by month through the end of each task's period of performance, updated as required. Actual expenditures shall be reported for any previous unreported periods for each sponsor and each sponsor's task along with a comparison to the expenditure plan. Government task managers identified upon contract award shall receive financial reports relevant to their funded tasks. The contractor shall provide all reports and a summary to the COR's administrative contract monitor.	<b>15. TOTAL</b> →				
	NRL Code 5580			1	

<b>17. PRICE GROUP</b>
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<b>1. DATA ITEM NO.</b> A009	<b>2. TITLE OF DATA ITEM</b> Monthly on-Site Labor Hours Report	<b>3. SUBTITLE</b>
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<b>17. PRICE GROUP</b>
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<b>4. AUTHORITY (Data Acquisition Document No.)</b>	<b>5. CONTRACT REFERENCE</b> All Tasks	<b>6. REQUIRING OFFICE</b> NRL Code 5580
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<b>18. ESTIMATED TOTAL PRICE</b>
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<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b>	<b>10. FREQUENCY</b> MTHLY	<b>12. DATE OF FIRST SUBMISSION</b> 30 DAC	<b>14. DISTRIBUTION</b>	
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> See below	<b>13. DATE OF SUBSEQUENT SUBMISSION</b>	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>

<b>16. REMARKS</b> The contractor shall deliver a monthly on-site labor hours report no later than five working days after the end of each month. The report shall include the following data:  1) Reporting period, contract number, contract value, current funding, Funding expended in reporting period, cumulative expended to date, and report submission date.  2) Labor data (including subcontractors): Report employee name, number of hours, and total hours billed for contractor employees working on-site at NRL. If the contractor employees worked on multiple tasks (as defined by the COR) the report shall identify hours worked on each task.  Task manager reports may be delivered electronically.	<b>15. TOTAL</b> →				
	Code 5580			1	
	Code 5502			1	

<b>17. PRICE GROUP</b>
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<b>G. PREPARED BY</b> Code 5580	<b>H. DATE</b> 7/29/2008	<b>I. APPROVED BY</b>	<b>J. DATE</b>
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SER: 068-08

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			
				SECRET			
				b. LEVEL OF SAFEGUARDING REQUIRED			
				SECRET			
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				X a. ORIGINAL <i>(Complete date in all cases)</i>		DATE (YYYYMMDD) 2008/07/02	
b. SUBCONTRACT NUMBER				b. REVISED <i>(Supersedes all previous specs)</i>		REVISION NO. DATE (YYYYMMDD)	
X c. SOLICITATION OR OTHER NUMBER 55-7062-08		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 AND DEVELOPMENT SUPPORT							
10. CONTRACTOR WILL REQUIRE ACCESS TO:				11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:			
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION				a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY			
<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			
b. RESTRICTED DATA				b. RECEIVE CLASSIFIED DOCUMENTS ONLY			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION				c. RECEIVE AND GENERATE CLASSIFIED MATERIAL			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
d. FORMERLY RESTRICTED DATA				d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
e. INTELLIGENCE INFORMATION				e. PERFORM SERVICES ONLY			
<input type="checkbox"/>				<input type="checkbox"/>			
(1) Sensitive Compartmented Information (SCI)				f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
(2) Non-SCI				g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
f. SPECIAL ACCESS INFORMATION				h. REQUIRE A COMSEC ACCOUNT			
<input type="checkbox"/>				<input checked="" type="checkbox"/>			
g. NATO INFORMATION				i. HAVE TEMPEST REQUIREMENTS			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
h. FOREIGN GOVERNMENT INFORMATION				j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS			
<input type="checkbox"/>				<input type="checkbox"/>			
i. LIMITED DISSEMINATION INFORMATION				k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE			
<input checked="" type="checkbox"/>				<input type="checkbox"/>			
j. FOR OFFICIAL USE ONLY INFORMATION				l. OTHER <i>(Specify)</i>			
<input checked="" type="checkbox"/>							
k. OTHER <i>(Specify)</i>				STE/STU III SECURE VOICE CAPABILITY			
<input 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 5580

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

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

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

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

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

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

a. TYPED NAME OF CERTIFYING OFFICIAL <b>VICKI CICALA</b>	b. TITLE <b>CONTRACTING OFFICER, SECURITY</b>	c. TELEPHONE ( <i>Include Area Code</i> ) <b>(202) 767-2240/2576</b>
d. ADDRESS ( <i>Include Zip Code</i> ) <b>NAVAL RESEARCH LABORATORY 4555 OVERLOOK AVE. SW WASHINGTON, DC 20375-5320</b>	17. <b>REQUIRED DISTRIBUTION</b> <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 checked="" type="checkbox"/> e. ADMINISTRATIVE CONTRACTING OFFICER <input checked="" type="checkbox"/> f. OTHERS AS NECESSARY <b>1226.2, 5502, 5580</b>	
e. SIGNATURE 		

## **PERSONNEL QUALIFICATIONS**

### **Task 3.1 Systems Engineer**

Education: Masters Degree in engineering or systems management is required.

Experience: Ten years experience in defense modeling and simulation. Five of these years of experience must include experience working with distributed simulation networking protocols, as well as working in real-time simulation programming. Experience with formal methods and object-oriented software design methodologies is required. Experience with the Unix operating system, C/C++ programming languages, Java, and interface design is required. A history of publications in modeling and simulation conference proceedings is required. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.1 Senior Subject Matter Expert (Asymmetric Warfare)**

Education: Masters Degree in political science, international relations, politics, or international security is required.

Experience: Fifteen years in intelligence research, analysis, and development technologies and initiatives, as well as collaboration technologies. At least five of these years must include experience analyzing the methods of non-conventional warfare and/or the development of advanced or innovative countermeasures (kinetic or non-kinetic). Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.1 Senior Research Analyst**

Education: Masters Degree in political science, international relations, politics, or international security is required.

Experience: Fifteen years in intelligence research, analysis, and development technologies and initiatives, as well as collaboration technologies. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.1 Research Analyst**

Education: Bachelors Degree in political science, international relations, politics, or international security is required.

Experience: Ten years in intelligence research, analysis, and development technologies and initiatives, as well as collaboration technologies. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.1 Research & Evaluation Specialist**

Education: Bachelors Degree in political science, international relations, politics, or international security is required.

Experience: Three years experience in intelligence research and development technologies and initiatives, as well as collaboration technologies.

**Task 3.1 Systems Engineer/Scientist**

Education: Bachelors Degree in an engineering or science field is required as a minimum. A Masters Degree in systems engineering or systems management is preferred.

Experience: Ten or more years in DOD systems management and software development with particular emphasis in Modeling and Simulation. Previous DARPA and ONR experience is desirable. In addition, knowledge and professional experience in the area of Multi-Agent System theory or design, artificial intelligence theory and technologies, related applications. The contractor must also have 3-5 years experience related to Modeling and Simulation, especially those that are used in the Navy, Marine Corps, or in the Joint community. In addition, familiarity with technologies that impact decision support systems are an added plus, as are publications, patents, participation on standard committees, etc in all of the aforementioned areas of interest.

**Task 3.1 Senior Project Manager**

Education: Masters Degree in a systems engineering or management science field is required.

Experience: Fifteen years experience in national security related research, development, and acquisition planning and execution. Must have a working knowledge of Federal Acquisition Regulations, the Defense Federal Acquisition Regulation Supplement, and related DOD regulations, requirements, policies and procedures; cost and schedule estimating; systems disciplines; and engineering and military specifications. Also requires an understanding of basic DOD budgetary and financial management principles and techniques as they relate to long range planning of research projects and objectives.

### **Task 3.1 Subject Matter Expert, Military Systems**

Education: Bachelors Degree in an engineering or science field is required. Basic and Advanced professional military education is highly desirable.

Experience: Three years experience as a United States military officer with responsibility for asymmetric or irregular warfighting training. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.1 Database Administrator**

Education: Bachelors degree in computer science, information science, or management information systems (MIS).

Experience: Three years experience in collecting, analyzing, and cataloguing a broad range of data related to DoD S&T programs. Specific experience must include database design, development, implementation and administration in networked- and client-based environments.

### **Task 3.1 Geospatial Systems Analyst**

Education: Bachelors degree in Geography with an emphasis in geographic information systems and sciences.

Experience: Three years experience with law enforcement and/or military applications of geospatial information systems technology. A comprehensive understanding of historic and current technology with an emphasis on geo-technology. Requires a practical knowledge of database technology, data and information modeling, computer systems and programming, coordinate reference systems and projections, spatial data formats and inherent problems when analyzing spatial data inside the context of a computer application. Requires a working knowledge of Windows, Unix, SQL, .NET, C++, Java, spatial and aspatial statistical modeling packages and methods, ArcGIS, ArcSDE, MS SQL Server, ArcIMS, ArcGIS Server, GeoServer, PostgreSQL, PostGIS, MS SQL Spatial, and prevalent standards and services in both the commercial and open source market. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.1 Certified Performance Technologist**

Education: Masters Degree in instructional design and performance technology. A Bachelors Degree in educational technology, instructional technology, e-learning development, curriculum development, organizational development, or human resources development plus five years related work experience may be substituted for the Masters Degree.

Experience: Five years experience in the areas of instructional technology, performance technology, instructional design, performance improvement, training and training management, e-learning in business and industry, human resources, organizational development, and human performance consulting.

### **Task 3.2 Engineer/Computer Scientist**

Education: Bachelors Degree in an engineering related field or computer science is required at a minimum. A Masters degree in an engineering field or computer science is preferred, but can be substituted if the contractor has a Bachelors degree and at least 5+ years professional experience in the area of software development, particularly in an object oriented programming language.

Experience: Three years experience in developing software systems in an object oriented programming language such as C++ or Java and strong mathematical skills, demonstrable either through college credentials or work experience. In addition, knowledge and professional experience in the area of Multi-Agent System theory or design, artificial intelligence theory and technologies, related applications and logic programming is highly desirable. The contractor must also have 3-5 years experience related to modeling and simulation, especially as this pertains to U.S. Navy and Marine Corps applications. In addition, familiarity with technologies that impact decision support systems are an added plus, as are publications, patents, and participation on standard committees, etc in all of the aforementioned areas of interest.

### **Task 3.3 Computer Scientist/Electrical Engineer/Computer Engineer**

Education: Bachelors Degree in computer science, electrical engineering, computer engineering, or systems engineering is required.

Experience: Three years of demonstrated achievement in developing VR and AR systems, architectures, and components. An advanced degree may substitute for experience. A working knowledge of C++, UNIX, modeling packages, and software design tools is required.

#### **Task 3.3.1 Computer Scientist/Software Engineer**

Education: Bachelors Degree in computer science or software engineering is required.

Experience: Five years experience in formal methods and software design methodologies. Must include experience with the UNIX operating system, the C, C++ programming languages, and be familiar with emerging formal methods of object-oriented software specification, design, and logic programming.

**Task 3.4 Computer Scientist/Engineer/Mathematician**

Education: PhD in computer science, electrical engineering, computer engineering, or systems engineering is required.

Experience: Ten years experience in modeling and simulation research and development areas that includes distributed simulation, computer generated forces, terrain representation and reasoning, simulation software architectures, simulation interoperability and composability, multi-resolution simulation.

**Task 3.4 Computer Scientist/Computer Engineer**

Education: Bachelors Degree in computer science, electrical engineering, computer engineering, or systems engineering is required.

Experience: Three years experience development models using C++, UNIX, modeling packages and software design tools is required.

**Task 3.5 Physicist/Electrical Engineer I**

Education: PhD in Physics is required.

Experience: Fifteen years experience in the design, development and testing of ocean acoustic Modeling and Simulation. Extensive experience in software system integration. Familiarity with Modeling and Simulation High Level Architecture (HLA). Participation in M&S standards development. Familiarity with broadband, range dependent Gaussian beam underwater acoustic propagation models. Familiarity with Navy Oceanographic and Atmospheric Master Library (OAML) standard acoustic propagation models. Must have extensive publications. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.5 Physicist/Electrical Engineer II**

Education: Masters Degree in Electrical Engineering or Physics is required.

Experience: Fifteen years experience in areas of sonar and software system development and modeling and simulation of synthetic natural ocean environments. Has held leadership role in efforts to develop data and models to support simulations, and to develop, design and provide engineering support to the development of trainer systems and engineering federations. Knowledge of the Naval Training Meta FOM (NTMF), Modeling and Simulation interoperability and composability. Demonstrated leadership in Department of Defense related Modeling and Simulation standards development working groups.

**Task 3.5 Physicist/Oceanographer**

Education: PhD in Physics (geology, meteorology, or oceanography) is required.

Experience: Fifteen years of technical and management experience in national and international oceanography and atmospheric science programs. Broad knowledge of the Modeling & Simulation (M&S) and Research & Development (R&D) communities, including the federal government, universities, laboratories, and industry. Extensive experience required in the development and application of integrated and consistent natural environment representations, including Testing & Evaluation (T&E) and standards development. Familiarity with Defense modeling and simulation projects including High Level Architecture (HLA) and Verification, Validation & Accreditation (VV&A). Experience with U.S. Navy M&S programs, especially Probability of Raid Annihilation (PRA) Federation and related acquisition programs. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.5 Physicist/Computer Scientist**

Education: Masters Degree in physics, geology, meteorology, or oceanography is required.

Experience: Fifteen years experience in using computer technologies in technical programs involving the maritime environment, ranging from the study of the effects of the atmosphere on high-energy laser propagation to the planning of the development and use of a low-cost, low-earth-orbiting communications satellite. Extensive experience with the application of the object-oriented paradigm and Unified Modeling Language (UML), both commonly used in software development, for the description and analysis of natural environment systems as well as for software development. Experience with the Navy's M&S programs, including the Single Integrated Air Picture and other acquisition programs. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.5 Computer Scientist**

Education: Bachelors Degree in computer science is required.

Experience: Two years experience in programming using C++, UNIX, modeling packages, and software design tools is required.

**Task 3.6 Engineer/Computer Scientist**

Education: Bachelors Degree in computer science or software engineering is required.

Experience: Five years experience in formal methods and software design methodologies is required. The five years of experience must include experience with the UNIX operating system, the C, C++ programming languages, and familiarity with emerging formal methods of object-oriented software specification, design, and programming. Experience with security vulnerability assessment tools. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.7 Senior Computer Scientist**

Education: Masters Degree in computer science or closely related field is required. Closely related fields of study include degrees which emphasize integrated circuits and solid state devices, robotics, power systems, and communications systems.

Experience: Seven years experience in designing and developing virtual environments and interfacing devices to those environments and a strong working knowledge of C++, graphics programming, and such software packages as OpenGL, DirectX, and Gamebryo game engine are required. The ability to obtain a Secret clearance is preferred.

**Task 3.7 Computer Scientist**

Education: Masters Degree computer science or closely related field is required. Closely related fields of study include degrees which emphasize integrated circuits and solid state devices, robotics, power systems, and communications systems.

Experience: Two years experience in designing and developing virtual environments and interfacing animated human character models to those environments and a strong working knowledge of C++, graphics programming, and such software packages as OpenGL, DirectX, and Gamebryo game engine are required. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.7 Engineer/Computer Scientist**

Education: PhD in engineering, computer science, or closely related field is required. Closely related fields of study include degrees which emphasize integrated circuits and solid state devices, robotics, power systems, and communications systems.

Experience: Seven years experience in the analysis, design, and development of virtual environment systems and interfacing devices to those environments. Must have a strong working knowledge of C++ and graphics programming. A broad exposure to and direct experience in the academic field and in research are required. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.7 Electrical Engineer**

Education: Bachelors Degree in engineering, computer science, or closely related field is required. Closely related fields of study include degrees which emphasize integrated circuits and solid state devices, robotics, power systems, and communications systems. Five years experience in hardware design substitutes for the degree.

Experience: Three years of experience in hardware design for user interface device development and wireless communication protocols. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

### **Task 3.8 Computer Engineer**

Education: Bachelors Degree in computer science, electrical engineering, or a minor in computer science with a programming background. Four years of experience in programming can be substituted for the degree.

Experience: Three years experience in designing algorithms for a PC environment is required.

### **Task 3.8 Senior Engineer/Analyst**

Education: Bachelors Degree in computer science or engineering is required.

Experience: Three years of experience in network protocol design; a strong working knowledge of ATM and IP network protocols, security and equipment; the UNIX operating environment; and common knowledge of high performance distributed computing, network management, signaling, routing, authentication for use in wide area distribution and dissemination of multimedia data streams are required.

**Task 3.8 Engineer/Computer Scientist**

Education: Bachelors Degree in either electrical engineering or computer science is required.

Experience: Five years of experience in the administration and development of heterogeneous, high performance computing environments consisting of more than massively parallel computers, graphics workstations and high speed storage systems, consisting of at least two years of experience with the UNIX operating system and the C programming language, ATM and IP distributed networks with Kerberos authentication, and one year of experience with the following advanced technology hardware: SGI cc:NUMA Origin 3000 parallel systems, SGI Infinite Reality servers, Sun Microsystems distributed GlobalWorks and Wildfire parallel systems are required.

**Task 3.9 Cognitive Scientist**

Education: Bachelors Degree in cognitive science or psychology with emphasis in cognition.

Experience: Completion of internship or independent research project on cognitive analysis or cognitive engineering. Must have at least two years experience in cognitive modeling, cognitive task analysis, and experimental design and data analysis.

**Task 3.9 Computer Scientist**

Education: Bachelors Degree in computer science.

Experience: Requires at least two years experience as well as coursework in artificial intelligence and programming languages, and the demonstrated ability to complete programming assignments on time.

**Task 3.10 Computer Scientist**

Education: PhD in computer science, cognitive science, or information management with emphasis in artificial intelligence is required.

Experience: Five or more years experience relating to case-based reasoning, information management, natural language processing, machine learning, mixed-initiative planning, knowledge management, and/or related fields. Must have strong working skills in Java.

**Task 3.10 Software Developer**

Education: Bachelors Degree in computer science

Experience: Three years experience in developing prototypes for decision support systems. Knowledge of some AI-related topics (e.g., machine learning, knowledge management, generative planning, case-based reasoning) is required. Competency in Java programming required. American citizens only.

**Task 3.11 Computer Engineer**

Education: Bachelors Degree in computer science, electrical engineering, or a minor in computer science with a programming background. Four years of experience in programming can be substituted for the degree.

Experience: Three years experience in designing algorithms for a PC environment is required.

**Task 3.12.1 Senior Analyst I**

Education: Bachelors Degree in electrical engineering, computer engineering, or computer science degree is required.

Experience: Ten years of experience with demonstrated research ability in Distributed Information Processing Systems as well as in related fields are required. A history of publications in the literature and direct experience in the academic field is required. Demonstrated research ability means a combination of ten or more publications and reports.

**Task 3.12.2 Senior Analyst II**

Education: Bachelors Degree in electrical engineering, computer engineering, or computer science degree is required.

Experience: Fifteen years of experience in the theoretical aspects of communication and in computer programming are required. Extensive experience in the realm of simulation and mathematical modeling of communication systems is required. Extensive experience can be evidenced by a combination of ten years and five or more publications and/or reports.

**Task 3.12.3 Senior Analyst III**

Education: Bachelors Degree in electrical engineering, computer engineering, or computer science is required.

Experience: Fifteen years of experience in the theoretical aspects of communication systems are required. Extensive experience in designing digital communication protocols and algorithms as well as the design and simulation of communication systems is required. Extensive experience can be evidenced by a combination of ten years and five or more publications and/or reports.

**Task 3.12.4 Senior Analyst IV**

Education: Bachelors Degree in electrical engineering, computer engineering, or computer science degree is required.

Experience: Four years of experience in real-time hardware, and system development and experience with C++ software development, VxWorks, VME-based systems, and RF transmission hardware are required.

**Task 3.12.5 Senior Research Analyst**

Education: PhD in electrical engineering, computer engineering, or computer science is required.

Experience: Twenty years of experience and a distinguished background with demonstrated research ability in communication system design, analysis, and simulation modeling as well as in related fields are required. A demonstration of a distinguished background may include an IEEE Fellow or numerous publications (25 or more) in IEEE journals. A history of extensive publication in the literature is required. Furthermore, broad exposure to and direct experience in the academic field and in research is required. Extensive publication can be evidenced by a combination of twenty-five or more publications and/or reports.

**Task 3.12.6 Computer Scientist I**

Education: Masters Degree in computer science is required.

Experience: Seven years experience in Linux kernel programming and Linux/Win32 application development. Strong working knowledge in C programming and x86 Intel assembly language/shell code required. In addition, knowledge of worm propagation techniques is desired. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.12.6 Electrical Engineer**

Education: Masters Degree in electrical engineering is required.

Experience: Five or more years of experience in wireless networking (i.e., Internet Protocol-based) technologies, to include experience in modeling and simulation of wireless networks with OPNET and/or ns-2. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.12.6 Software Engineer**

Education: Bachelors Degree in computer science is required.

Experience: Three or more years of experience in designing and developing Linux and/or Win32 applications. Working knowledge in C programming required; knowledge of x86 Intel assembly language/shell code desired. Experience in visualization tools desired. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.12.7 Experimentation and Testing Engineer**

Education: Bachelors Degree in electrical engineering, computer engineering, or computer science.

Experience: Requires at least five years of experience in Unix/Linux operating system environments. Shall have the ability to understand and debug C/C++ computer programs. Experience with antennas, transmission lines, radio hardware, and crypto devices required. Must have the ability to apply these talents in a field environment for limited periods of time. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.13 Conference/Program Coordinator**

Experience: Three years experience in desktop publishing skills; familiarity with internet; ability to develop and maintain program management plans; and generally support technical program management are required.

**Task 3.14 Engineer/Computer Scientist**

Education: Bachelors Degree in electrical engineering or computer science is required. Combinations of course work and practical experience can be substituted for the Bachelors Degree

Experience: Three years of experience in one of the following areas each involving a combination of wide and local area networks is required:

- Setting up and managing a combination of Suns, PCs and Macs
- All of the above plus AFS, IP/ATM services
- All of the above plus high performance massively parallel systems and storage.

One must have either a current Secret clearance or the ability to obtain a Secret clearance.

**Task 3.14 Network Engineer/Computer Scientist**

Education: Masters Degree in electrical engineering or computer science.

Experience: Requires at least six years of experience in the configuration and administration of local and wide-area networks, connecting UNIX Workstations, Macintosh, and PC computer systems. Demonstrated experience must include implementation of technical and business software applications support, network design, development, testing and evaluation, and field experience with networks over wireless and satellite connections. Must have experience with network encryption devices. Must have either a current Secret clearance or the ability to obtain a Secret clearance.

**NON-DISCLOSURE AGREEMENT**

I certify that I will make no unauthorized disclosure or release of any Government proprietary information. I certify that I am familiar with the requirements for protecting Proprietary Information belonging to another contractor as stipulated in the Federal Acquisition Regulation (FAR), Part 9.505 and the Procurement Integrity Act. I will not discuss with, or reveal to, any representative of any business organization, including \_\_\_\_\_ (*insert company name*), or other entity, or any individual person either within or without the United States Government, any information which involves the design, testing, or data generation to which I may become privy as a result of providing services to the Naval Research Laboratory in the performance of NRL's contract number \_\_\_\_\_ (*insert contract number*) except with the express written consent of the Contracting Officer. Further, I agree not to divulge any information belonging to another contractor, or any Government information.

I recognize the need for strict confidentiality in the data that I will be exposed to and acknowledge that unauthorized release of this information may result in the termination of any further services at the Naval Research Laboratory. Furthermore, unauthorized release of any information may result in my being liable for any damages as a result of the unauthorized disclosure.

In the event I release any of the information described herein, I will advise the Technical Manager(TM) or the Contracting Officer Representative (COR) of the contract of the disclosure as soon as practicable. That advice will identify the business organization, entity, or individual person to whom the information was divulged and the content of that information.

I understand that, should I leave \_\_\_\_\_ (*insert company name*) during the performance of this contract, I have a continuing obligation not to disclose Proprietary Information obtained thereunder.

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

\_\_\_\_\_  
EMPLOYEE SIGNATURE

\_\_\_\_\_  
NAME (Print)

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SUPERVISOR SIGNATURE

\_\_\_\_\_  
NAME (Print)

\_\_\_\_\_  
DATE