

**INFORMATION TO OFFERORS OR QUOTERS
SECTION A - COVER SHEET**

1. SOLICITATION NUMBER

2. (X one)

N00173-00-R-LS01

a. SEALED BID

b. NEGOTIATED (RFP)

c. NEGOTIATED (RFQ)

INSTRUCTIONS

NOTE THE AFFIRMATIVE ACTION REQUIREMENT OF THE EQUAL OPPORTUNITY CLAUSE WHICH MAY APPLY TO THE CONTRACT RESULTING FROM THIS SOLICITATION.

You are cautioned to note the "Certification of Non-Segregated Facilities" in the solicitation. Failure to agree to the certification will render your reply nonresponsive to the terms of solicitations involving awards of contracts exceeding \$25,000 which are not exempt from the provisions of the Equal Opportunity clause.

"Fill-ins" are provided on the face and reverse of Standard Form 18 and Parts I and IV of Standard Form 33, or other solicitation documents and Sections of Table of Contents in this solicitation and should be examined for applicability.

See the provision of this solicitation entitled either "Late Bids, Modifications of Bids or Withdrawal of Bids" or "Late Proposals, Modifications of Proposals and Withdrawals of Proposals."

When submitting your reply, the envelope used must be plainly marked with the Solicitation Number, as shown above and the date and local time set forth for bid opening or receipt of proposals in the solicitation document.

If NO RESPONSE is to be submitted, detach this sheet from the solicitation, complete the information requested on reverse, fold, affix postage, and mail. NO ENVELOPE IS NECESSARY.

Replies must set forth full, accurate, and complete information as required by this solicitation (including attachments). The penalty for making false statements is prescribed in 18 U.S.C. 1001.

3. ISSUING OFFICE (Complete mailing address, including ZIP Code)

CONTRACTING OFFICER
NAVAL RESEARCH LABORATORY
ATTN: CODE 3230.LS
WASHINGTON DC 20375-5326

4. ITEMS TO BE PURCHASED (Brief description)

SPACECRAFT ENGINEERING SUPPORT

5. PROCUREMENT INFORMATION (X and complete as applicable)

a. THIS PROCUREMENT IS UNRESTRICTED

b. THIS PROCUREMENT IS A _____ % SET-ASIDE FOR ONE OF THE FOLLOWING (X one). (See Section I of the Table of Contents in this solicitation for details of the set-aside.)

(1) Small Business

(2) Labor Surplus Area Concerns

(3) Combined Small Business/Labor Area Concerns

6. ADDITIONAL INFORMATION

The Naval Research Laboratory Contracting Division issues solicitations and amendments to solicitations electronically via the Internet at the following website: <http://heron.nrl.navy.mil/contracts/home.htm>.

Any amendments to this solicitation will be posted at that website. Amendments will not be distributed by any other means. It is the responsibility of potential offerors to periodically review the website for amendments to this solicitation.

7. POINT OF CONTACT FOR INFORMATION

a. NAME (Last, First, Middle Initial)

Fleming, Lisa

b. ADDRESS (Include Zip Code)

Naval Research Laboratory
4555 Overlook Ave., SW
Washington DC 20375-5326

c. TELEPHONE NUMBER (Include Area Code and Extension) (NO COLLECT CALLS) (202) 767-3739

8. REASONS FOR NO RESPONSE <i>(X all that apply)</i>			
a. CANNOT COMPLY WITH SPECIFICATIONS		b. CANNOT MEET DELIVERY REQUIREMENT	
c. UNABLE TO IDENTIFY THE ITEM(S)		d. DO NOT REGULARLY MANUFACTURE OR SELL THE TYPE OF ITEMS INVOLVED	
e. OTHER <i>(Specify)</i>			
9. MAILING LIST INFORMATION <i>(X one)</i>			
YES	NO	WE DESIRE TO BE RETAINED ON THE MAILING LIST FOR FUTURE PROCUREMENT OF THE TYPE OF TIME(S) INVOLVED.	
10. RESPONDING FIRM			
a. COMPANY NAME		b. ADDRESS <i>(Include Zip Code)</i>	
c. ACTION OFFICER			
(1) Typed or Printed Name <i>(Last, First, Middle Initial)</i>	(2) Title	(3) Signature	(4) Date Signed <i>(YYMMDD)</i>

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FROM

AFFIX
STAMP
HERE

SOLICITATION NUMBER N00173-00-R-LS01	
DATE <i>(YYMMDD)</i> 2000 JAN 18	LOCAL TIME 4:00 PM

TO

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING DO-C9	PAGE OF 1 30 PAGES
2. CONTRACT NO.	3. SOLICITATION NO. N00173-00-R-LS01	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFPI)		5. DATE ISSUED 15 DEC 99	6. REQUISITION/PURCHASE NO.
7. ISSUED BY CONTRACTING OFFICER NAVAL RESEARCH LABORATORY ATTN: CODE 3230.LS WASHINGTON DC 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 03 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Bldg 222, Rm. 115 @ NRL until 4:00 local time 18 JAN 2000
(Hour) (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-10. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME Lisa Fleming	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (202)767-3739
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<input checked="" type="checkbox"/>	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2-3	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
<input checked="" type="checkbox"/>	C	DESCRIPTION/SPECS./WORK STATEMENT	4	<input checked="" type="checkbox"/>	J	LIST OF ATTACHMENTS	19
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OFFER (Must be fully completed by offeror)

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

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

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52-232-8)	10 CALENDAR DAYS	20 CALENDAR DAYS	30 CALENDAR DAYS	CALENDAR DAYS
	%	%	%	%
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
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15B. TELEPHONE NO. (Include area code)	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. <input type="checkbox"/>	17. SIGNATURE	18. OFFER DATE
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AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION	
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()		23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM
		24. ADMINISTERED BY (If other than Item 7) CODE	25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA <i>(Signature of Contracting Officer)</i>	28. AWARD DATE
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IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

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

B-1 SUPPLIES/SERVICES AND COSTS

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	ESTIMATED COST PLUS FIXED FEE
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BASE TERM – YEAR ONE

0001	The Contractor shall provide technical and engineering services in support of space systems research and development in accordance with Section C.	\$	\$	\$
0002	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP

OPTION ONE – YEAR TWO

0003	The Contractor shall provide technical and engineering services in support of space systems research and development in accordance with Section C.	\$	\$	\$
0004	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP

OPTION TWO – YEAR THREE

0005	The Contractor shall provide technical and engineering services in support of space systems research and development in accordance with Section C.	\$	\$	\$
0006	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP

OPTION THREE – YEAR FOUR

0007	The Contractor shall provide technical and engineering services in support of space systems research and development in accordance with Section C.	\$	\$	\$
0008	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP

OPTION FOUR – YEAR FIVE

0009	The Contractor shall provide technical and engineering services in support of space systems research and development in accordance with Section C.	\$	\$	\$
0010	Data in accordance with Exhibit A (DD 1423)	* NSP	* NSP	* NSP

TOTAL EST. COST PLUS FIXED FEE <i>(including all option CLINs)</i>	\$	\$	\$
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* *Not Separately Priced*

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 28 July 1999 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/home.htm>.

SECTION D
PACKAGING AND MARKING

D-1 PACKAGING AND MARKING

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

SECTION E
INSPECTION AND ACCEPTANCE

E-1 INSPECTION AND ACCEPTANCE CLAUSES INCORPORATED BY REFERENCE

FAR CLAUSE TITLE

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

E-2 INSPECTION AND ACCEPTANCE

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

**SECTION F
DELIVERIES OR PERFORMANCE**

F-1 DELIVERIES OR PERFORMANCE CLAUSES INCORPORATED BY REFERENCE:

FAR CLAUSE TITLE

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

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

F-2 PERIOD AND PLACE OF PERFORMANCE

(a) The term of this contract is from **date of award** through **one year thereafter with four options to extend support for a period of one year each, if exercised.**

(b) The principal place of performance of this contract shall be at the Naval Research Laboratory.

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.

Contract Matters- *

Security Matters- *

Safety Matters- *

Patent Matters- *

Release of Data- *

The ACO will forward invention disclosures and reports directly to the Associate Counsel for Patents, Code 1008.2, Naval Research Laboratory, Washington DC 20375-5320. The Associate Counsel for Patents will return the reports along with a recommendation to the Administrative Contracting Officer. The Associate Counsel for Patents will represent the Contracting Officer with regard to invention reporting matters arising under this contract.

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

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

* is hereby designated the cognizant COR who will represent the Contracting Officer in the administration of technical details within the scope of this contract and inspection and acceptance. 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 statements of work, a modification must be issued in writing and signed by the Contracting Officer. The COR is responsible for reviewing the bills and charges submitted by the Contractor and informing the ACO of areas where exceptions are to be taken.

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

G-3 TECHNICAL DIRECTION MEMORANDUM (TDM)

- (a) For the purposes of this clause, technical direction includes the following:
- (1) Direction to the Contractor which shifts work emphasis between work areas or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise describes work which will accomplish the objectives described in the statement of work;
 - (2) Guidelines to the Contractor which assist in interpretation of drawings, specifications or technical portions of work description.
- (b) Technical instructions must be within the scope of work stated in the contract. Technical instructions may not be used to:
- (1) Assign additional work under the contract;
 - (2) Direct a change as defined in the contract clause entitled "Changes";
 - (3) Increase or decrease the estimated contract cost, the fixed fee, or the time required for contract performance; or
 - (4) Change any of the terms, conditions or specifications of the contract
- (c) The TDM shall be written by the Contracting Officer's Representative (COR), with the original given to the Contractor and a copy retained in the CORs file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.
- (d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.
- (e) TDMs shall include, but not be limited to, the following information:
- (1) Date of TDM,
 - (2) Contract Number,
 - (3) Reference to the relevant portion or item in the Statement of Work,
 - (4) The specific technical direction or clarification, and
 - (5) The signature of the COR.
- (f) CORs shall retain all files containing TDMs for a period of two (2) years after the final contract completion date.
- (g) The only individual authorized in any way to amend or modify any of the terms of this contract shall be the Contracting Officer. When, in the opinion of the Contractor, any technical direction calls for effort outside the scope of the contract or inconsistent with this special provision, the Contractor shall notify the Contracting Officer in writing within ten (10) working days after its receipt.

G-4 CONTRACTOR-ACQUIRED PROPERTY

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

Items to be Acquired	Estimated Cost
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*

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

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

(c) Pursuant to the contract clause entitled "Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts)" (FAR 52.245-5), title to the property shall vest in the Government.

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

G-5 SUBCONTRACTORS/CONSULTANTS

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

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

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

G-6 NAPS 5252.232-9001 - SUBMISSION OF INVOICES (COST-REIMBURSEMENT, TIME-AND-MATERIALS, LABOR-HOUR, OR FIXED PRICE INCENTIVE (JUL 1992))

(a) "Invoice" as used in this clause includes contractor requests for interim payments using public vouchers (SF 1034) but does not include contractor requests for progress payments under fixed price incentive contracts.

(b) The Contractor shall submit invoices and any necessary supporting documentation, in an original and 4 copies, to the contract auditor at the following address:

(To be completed at time of award)

unless delivery orders are applicable, in which case invoices will be segregated by individual order and submitted to the address specified in the order. In addition, an information copy shall be submitted to [See Section G for designated COR]. Following verification, the contract auditor will forward the invoice to the designated payment office for payment in the amount determined to be owing, in accordance with the applicable payment (and fee) clause(s) of this contract.

(c) Invoices requesting interim payments shall be submitted no more than once every two weeks, unless another time period is specified in the Payments clause of this contract. For indefinite delivery type contracts, interim payment invoices shall be submitted no more than once every two weeks for each delivery orders. There shall be a lapse of no more than 30 calendar days between performance and submission of an interim payment invoice.

(d) In addition to the information identified in the Prompt Payment clause herein, each invoice shall contain the following information, as applicable:

- (1) Contract line item number (CLIN)
- (2) Subline item number (SLIN)
- (3) Accounting Classification Reference Number(ACRN)
- (4) Payment terms
- (5) Procuring activity
- (6) Date supplies provided or services performed
- (7) Costs incurred and allowable under the contract
- (8) Vessel (e.g., ship, submarine or other craft) or system for which supply/service is provided

(e) A DD Form 250, "Material Inspection and Receiving Report",

 ** is required with each invoice submittal.

 ** is required only with the final invoice.

 X is not required.

(f) A Certificate of Performance

 ** shall be provided with each invoice submittal.

 X is not required.

(g) The Contractor's final invoice shall be identified as such, and shall list all other invoices (if any) previously tendered under this contract.

(h) Cost of performance shall be segregated, accumulated and invoiced to the appropriate ACRN categories to the extent possible. When such segregation of costs by ACRN is not possible for invoices submitted with CLIN/SLINS with more than one ACRN, an allocation ratio shall be established in the same ratio as the obligations cited in the accounting data so that costs are allocated on a proportional basis.

G-8 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-9 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (COST-REIMBURSEMENT)

The purpose of these instructions is to permit the paying office to charge the accounting classification citations in the contract in a manner that reflects the performance of the contract. These instructions do not create any obligation on the part of the Government or the contractor nor do they in any way alter any obligation created by any other provision of the contract. Invoices should be paid from available ACRNs in the following order:

- (a) ACRNs cited on the contractor's invoice.
- (b) On a proportional basis from any ACRNs assigned to funds which will cancel at the end of the current fiscal year.
- (c) The ACRN assigned to the following line of accounting:
97X4930.NH4A 000 77777 0 000173 2F 000000 N00173Z45000.
- (d) If funds appropriated in more than one fiscal year are allotted to the contract, the ACRN assigned to the oldest allotment of funds.
- (e) On a proportional basis from all ACRNs assigned to allotments of funds appropriated in a single fiscal year.

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 fifteen (15) days in advance (thirty (30) 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)*

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 **119,700** total hours of direct labor for the base year and **119,700** total hours of direct labor for each of the option years, if exercised. This amount includes 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 **9,975** 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 can be found in attachment number (2) – Anticipated Work Breakdown Schedule:

H-4 ONR 5252.235-9714 - REPORT PREPARATION (FEB 97)

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 Z39.18-1995, "Scientific and Technical Reports: Elements, Organization, and Design. "[NOTE: ANSI Z39.18 may be obtained from NISO Press Fulfillment Center, P. O. Box 338, Oxon Hill, MD. 20750-0338. Telephone 1-800-282-6476]

H-5 OPTION TO EXTEND TERM

This contract shall be renewable at the unilateral option of the Government by the Contracting Officer's notice of renewal to the Contractor within the existing term of the contract.

H-6 ON-SITE USE OF GOVERNMENT PROPERTY

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

H-7 YEAR 2000 COMPLIANT INFORMATION TECHNOLOGY

This requirement applies to information technology (IT) that processes date-related information. All such IT delivered under this contract shall be Year 2000 compliant as defined at FAR 39.002.

H-8 REPRESENTATIONS AND CERTIFICATIONS

The Contractor's completed Representations, Certifications, and Other Statements of Offerors or Respondents is incorporated herein by reference in any resultant award.

PART II - CONTRACT CLAUSES
SECTION I
CONTRACT CLAUSES

I-1 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.arnet.gov/far>

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

a. FEDERAL ACQUISITION REGULATION CLAUSES

FAR CLAUSE TITLE

- 52.202-1 - Definitions (OCT 1995)
- 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 (JUL 1995)
- 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 (JUN 1997)
- 52.204-2 - Security Requirements (AUG 1996)
- 52.204-4 - Printing/Copying Double-Sided On Recycled Paper (JUN 1996)
- 52.209-6 - Protecting The Government's Interest When Subcontracting With Contractors Debarred, Suspended, Or Proposed For Debarment (JUL 1995)
- 52.211-15 - Defense Priority and Allocation Requirements (SEP 1990)
- 52.215-2 - Audit And Records-Negotiation (JUNE 1999)
- 52.215-8 - Order of Precedence - Uniform Contract Format (OCT 1997)
- 52.215-11 - Price Reduction for Defective Cost or Pricing Data - Modifications (OCT 1997)
- 52.215-13 - Subcontractor Cost or Pricing Data Modifications (OCT 1997)
- 52.215-14 - Integrity of Unit Prices (OCT 1997)
- 52.215-15 - Pension Adjustments And Asset Reversions (DEC 1998)
- 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 (OCT 1997)
- 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) - Alternate III (OCT 1997)
- 52.216-7 - Allowable Cost And Payment (APR 1998)

- 52.216-8 - Fixed-Fee (MAR 1997)
- 52.219-4 - Notice of Price Evaluation Preference For HUBZone Small Business Concerns (JAN 1999) Offeror elects to waive the evaluation preference.
- 52.219-8 - Utilization Of Small Business Concerns (OCT 1999)
- 52.219-9 - Small Business Subcontracting Plan (OCT 1999) - Alternate II (JAN 1999)
- 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 (AUG 1996)
- 52.222-21 - Prohibition of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (FEB 1999)
- 52.222-35 - Affirmative Action For Disabled Veterans And Veterans Of The Vietnam Era (APR 1998)
- 52.222-36 - Affirmative Action For Workers With Disabilities (JUN 1998)
- 52.222-37 - Employment Reports On Disabled Veterans And Veterans Of The Vietnam Era (APR 1998)
- 52.223-2 - Clean Air And Water (APR 1984)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention and Right-To-Know Information (APR 1998)
- 52.223-6 - Drug-Free Workplace (JAN 1997)
- 52.223-14 - Toxic Chemical Release Reporting (OCT 1996)
- 52.225-11 - Restrictions On Certain Foreign Purchases (AUG 1998)
- 52.226-1 - Utilization Of Indian Organizations And Indian-Owned Economic Enterprises (MAY 1999)
- 52.227-1 - Authorization And Consent (JUL 1995)- Alternate I (APR 1984)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
- 52.227-11 - Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)
(will be included if the successful offeror is a small business or a non-profit organization)
- 52.227-12 - Patent Rights - Retention By The Contractor (Long Form) (JAN 1997)
(will be included if the successful offeror is not a small business or a non-profit organization)
- 52.228-7 - Insurance - Liability To Third Persons (MAR 1996)
- 52.230-2 - Cost Accounting Standards (APR 1998)
- 52.230-6 - Administration of Cost Accounting Standards (NOV 1999)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-17 - Interest (JUN 1996)
- 52.232-18 - Availability Of Funds (APR 1984)
- 52.232-20 - Limitation Of Cost (APR 1984) *(Applicable when the contract or task order is fully funded)*
- 52.232-22 - Limitation Of Funds (APR 1984) *(Applicable when the contract or task order is not fully funded)*
- 52.232-23 - Assignment Of Claims (JAN 1986) Alternate I (APR 1984)

- 52.232-25 - Prompt Payment (JUN 1997)
- 52.232-33 - Payment By Electronic Funds Transfer-Central Contractor Registration (MAY 1999)
- 52.233-1 - Disputes (DEC 1998) - Alternate I (DEC 1991)
- 52.233-3 - Protest After Award (AUG 1996) - Alternate I (JUN 1985)
- 52.237-2 - Protection Of Government Buildings, Equipment And Vegetation (APR 1984)
- 52.237-3 - Continuity Of Services (JAN 1991)
- 52.237-10 - Identification of Uncompensated Overtime (OCT 1997)
- 52.242-1 - Notice Of Intent To Disallow Costs (APR 1984)
- 52.242-3 - Penalties For Unallowable Costs (OCT 1995)
- 52.242-4 - Certification of Final Indirect Costs (JAN 1997)
- 52.242-13 - Bankruptcy (JUL 1995)
- 52.243-2 - Changes - Cost-Reimbursement (AUG 1987) - Alternate V (APR 1984)
- 52.243-7 - Notification Of Changes (APR 1984)fill in 30
- 52.244-2 - Subcontracts (AUG 1998) - Alternate I (AUG 1998)
- 52.244-5 - Competition In Subcontracting (DEC 1996)
- 52.244-6 - Subcontracts for Commercial Items and Commercial Components (OCT 1998)
- 52.245-5 - Government Property (Cost-Reimbursement, Time-And-Material, Or Labor-Hour Contracts) (JAN 1986) (DEVIATION)
- 52.245-9 - Use And Charges (APR 1984) (DEVIATION)
- 52.245-18 - Special Test Equipment (FEB 1993)
- 52.245-19 - Government Property Furnished "As-Is" (APR 1984)
- 52.246-23 - Limitation Of Liability (FEB 1997)
- 52.247-1 - Commercial Bill Of Lading Notations (APR 1984)
- 52.247-63 - Preference For U. S. Flag Carriers (JAN 1997)
- 52.249-6 - Termination (Cost-Reimbursement) (SEP 1996)
- 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 (MAR 1999)
- 252.203-7002 - Display Of DoD Hotline Poster (DEC 1991)
- 252.204-7000 - Disclosure Of Information (DEC 1991)
- 252.204-7003 - Control Of Government Personnel Work Product (APR 1992)
- 252.204-7004 - Required Central Contractor Registration (MAR 1998)
- 252.204-7005 - Oral Attestation Of Security Responsibilities (AUG 1999)
- 252.205-7000 - Provision Of Information To Cooperative Agreement Holders (DEC 1991)
- 252.209-7000 - Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate-Range Nuclear Forces (INF) Treaty (NOV 1995)
- 252.209-7004 - Subcontracting With Firms That Are Owned Or Controlled By The Government Of A

- 252.215-7000 - Terrorist Country (MAR 1998)
- 252.215-7000 - Pricing Adjustments (DEC 1991)
- 252.215-7002 - Cost Estimating System Requirements (OCT 1998)
- 252.219-7003 - Small Business And Small Disadvantaged Business Subcontracting Plan (DoD Contracts) (APR 1996)
- 252.219-7004 - Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (Test Program) (JUN 1997)
- 252.223-7001 - Hazard Warning Labels (DEC 1991)
- 252.223-7004 - Drug-Free Work Force (SEP 1988)
- 252.223-7006 - Prohibition On Storage And Disposal Of Toxic And Hazardous Materials (APR 1993)
- 252.225-7001 - Buy American Act And Balance Of Payments Program (MAR 1998)
- 252.225-7002 - Qualifying Country Sources As Subcontractors (DEC 1991)
- 252.225-7012 - Preference For Certain Domestic Commodities (MAY 1999)
- 252.225-7016 - Restriction On Acquisition Of Ball And Roller Bearings (AUG 1998)
- 252.225-7026 - Reporting Of Contract Performance Outside The United States (MAR 1998)
- 252.225-7031 - Secondary Arab Boycott Of Israel (JUN 1992)
- 252.225-7043 - Antiterrorism/Force Protection Policy For Defense Contractors Outside The United States (JUN 1998) (fill in : Naval Criminal Investigative Service (NCIS), Code 24, telephone, DSN 228-9113 or commercial (202)433-9113)
- 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)
- 252.227-7016 - Rights In Bids or Proposal Information (JUN 1995)
- 252.227-7025 - Limitations On The Use Or Disclosure Of Government-Furnished Information Marked With Restrictive Legends (JUN 1995)
- 252.227-7030 - Technical Data--Withholding Of Payment (OCT 1988)
- 252.227-7034 - Patents--Subcontracts (APR 1984)
- 252.227-7036 - Declaration Of Technical Data Conformity (JAN 1997)
- 252.227-7037 - Validation Of Restrictive Markings On Technical Data (SEP 1999)
- 252.227-7039 - Patents--Reporting of Subject Inventions (APR 1990)
- 252.231-7000 - Supplemental Cost Principles (DEC 1991)
- 252.235-7010 - Acknowledgment of Support and Disclaimer (MAY 1995)
- 252.235-7011 - Final Scientific Or Technical Report (SEP 1999)
- 252.242-7000 - Post Award Conference (DEC 1991)
- 252.242-7004 - Material Management And Accounting System (SEP 1996)
- 252.243-7002 - Requests for Equitable Adjustment (MAR 1998)
- 252.245-7001 - Reports of Government Property (MAY 1994)
- 252.246-7001 - Warranty Of Data (DEC 1991)
- 252.247-7023 - Transportation Of Supplies By Sea (NOV 1995)
- 252.247-7024 - Notification Of Transportation Of Supplies By Sea (NOV 1995)
(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 (MAY 1995)

I-2 FAR 52.223-11 - OZONE-DEPLETING SUBSTANCES (JUN 1996)

(a) Definitions.

“Ozone-depleting substance”, as used in this clause, means any substance designated as Class I by the Environmental Protection Agency (EPA) (40 CFR Part 82), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or any substance designated as Class II by EPA (40 CFR Part 82), 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 – 22 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 6 Pages.
- J-2** Attachment (2) – Anticipated Work Breakdown Schedule, 3 Pages.
- J-3** Attachment (3) – Personnel Qualifications, 19 Pages.
- J-4** Attachment (4) - DD Form 254, Contract Security Classification Specification, Ser 037-99 Dated 07/01/99w/Attachments 2 Pages.
- 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

Each Offeror must submit a completed Representations, Certifications, and Other Statements Of Offerors or Respondents with its proposal which is available electronically in full text at <http://heron.nrl.navy.mil/contracts/rep&certs.htm>

K-2 FILL IN FOR FAR 52.219-1 - SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 1999)

The fill in information is as follows:

The standard industrial classification (SIC) code for this acquisition is **8731**.

The small business size standard is **1,000**.

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

L-1 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.arnet.gov/far>
<http://heron.nrl.navy.mil/contracts/home.htm>

FAR CLAUSE TITLE

52.204-6	-	Data Universal Numbering System (DUNS) Number (JUNE 1999)
52.215-1	-	Instructions to Offerors- Competitive Acquisition (OCT 1997)
52.215-16	-	Facilities Capital Cost Of Money (OCT 1997)
52.219-24	-	Small Disadvantaged Business Participation Program - Targets (JAN 1999)
52.222-24	-	Preaward On-Site Equal Opportunity Compliance Evaluation (FEB 1999)
52.252-5	-	Authorized Deviations in Provisions (APR 1984)

L-2 FAR 52.211-14 - NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

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

L-3 FAR 52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997) ALTERNATE III (OCT 1997)

(a) *Exceptions from cost or pricing data.* (1) In lieu of submitting cost or pricing data, offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) *Identification of the law or regulation establishing the price offered.* If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) *Commercial item exception.* For a commercial item exception, the offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include--

(A) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.

(B) For market priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the offeror's determination of the prices to be offered in the catalog or marketplace.

(b) *Requirements for cost or pricing data.* If the offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

(2) As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed in FAR 15.406-2.

(c) Submit the cost portion of the proposal via the following electronic media: Information as required by section L-11 of this Solicitation must be submitted in an electronic spreadsheet format using a software compatible with Microsoft Excel Version 5. These spreadsheets must be either mailed on a PC formatted disk or sent via e-mail to the Contract Specialist at the following e-mail address: fleming@contracts.nrl.navy.mil. Any or all supporting documentation may be sent via fax or mail, but it is preferred if it is also submitted electronically in a PDF format. This is to promote the "paperless" initiative.

L-4 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-5 FAR 52.233-2 - SERVICE OF PROTEST (AUG 1996)

(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 General Accounting 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-6 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-7 DFARS 252.227-7028 - TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

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

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

L-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 at the location noted in blocks 7 and 9 of the Standard Form 33, "Solicitation, Offer and Award," no less than fifteen (15) days before closing. The Government will not consider questions received after this date. Offerors are cautioned against directing any questions concerning this RFP to technical personnel at the Naval Research Laboratory.

L-10 INSTRUCTIONS FOR SUBMISSION AND INFORMATION REQUIRED TO EVALUATE PROPOSALS

- (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 Identification/Mailing - The proposal should be packaged for delivery so as to permit safe and timely arrival at destination. The proposal package should be sent to the address shown in Block 7 of the RFP face page and marked:

Solicitation No. N00173-00-R-LS01
Closing Date:
(As specified in Block 9, RFP face page)
Attn: Code 3230.LS

- (3) 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 3 COPIES. In keeping with the initiative to become a "paperless" environment, it is much preferred that prospective offerors provide their technical/management proposal in an electronic format. For the interim, one original will still be required. The electronic copy may be submitted in a format compatible with Microsoft Word 97, or as a PDF document.

- (1) Include a matrix indicating proposed labor hours by skill category required to perform the statement of work. This matrix shall not contain labor rates or any other indication of price.
- (2) The following information is required for evaluation of your technical/management :

Personnel Qualifications: The proposer should provide convincing evidence that the company has, or has the ability, to obtain personnel with relevant experience in the scientific and technical areas described in the Statement of Work. These areas are highly specialized fields and personnel without actual experience in these areas are not acceptable. The proposal should clearly show how each person offered meets the personnel qualifications as detailed in the Solicitation. The proposal should detail each person's qualifications and experience in each area of the Statement of Work. It is essential for the offeror to demonstrate that key personnel will be capable of obtaining a SECRET clearance. The proposal should specify the amount of effort each person will be performing on this contract, both by the prime contractor as well as any proposed subcontractors.

Company Experience: The proposal must provide a narrative description of company experience on projects with scientific and technical tasks similar to those required in the Statement of Work. This description should clearly show: (1) the relationship between the company's experience and the tasks required under the Statement of Work and (2) prior or current programs in the task areas.

Management Ability: The proposal must provide a narrative description of company management experience on projects with scientific and technical tasks similar to those required in the Statement of Work. This description should clearly show previous performance at meeting instrument performance, cost and schedule goals on these projects. The proposer should also provide a narrative description of the Transition Plan that clearly shows how the company plans to establish adequate facilities, equipment, program management, and controls to accomplish the tasks in the Statement of Work, within the transition period, in a manner that minimizes the impact to the work schedules. Major interrelationships, along with a description of how transition delays are mitigated, should be explained in the Transition Plan. The proposal should demonstrate the management controls, procedures and methods necessary to assure accomplishment of procurement, subcontracting, status reporting,

security, and personnel staffing.

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

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

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

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

L-12 VOLUME II - BUSINESS PROPOSAL

REQUIRED COPIES: 1 ORIGINAL AND 2 COPIES. In keeping with the initiative to become a "paperless" environment, it is much preferred that prospective offerors provide their business proposal in an electronic format. For the interim, one original will still be required. The electronic copy may be submitted on a PC formatted disk and in a format compatible with Microsoft Word 97, or as a PDF document. The spreadsheets must be submitted using a software compatible with Microsoft Excel Version 5.

(1) COST PROPOSAL

(a) The offeror shall submit a business proposal that includes a cost proposal with supporting information for each cost element consistent with offeror's cost accounting system. The supporting breakdown should include such elements as materials, direct labor, indirect cost, and other costs such as travel. The offeror shall provide exhibits as necessary to substantiate the cost elements. 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.

(b) TRAVEL AND MATERIAL ESTIMATES (FOR EVALUATION PURPOSES ONLY)

(i) The government estimates the travel costs for this effort to be \$250,000 per year.

(ii) The offerors shall include an amount of \$1,300,000, per year for equipment, materials and supplies to be procured for the performance of the contract.

(iii) All offers will be evaluated using the estimated amounts provided above plus applicable indirect costs.

(2) SMALL BUSINESS PARTICIPATION

(a) In addition to complying with the clause at FAR 52.219-9, Small Business Subcontracting Plan (Jan 1999) with its Alternate II, 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 (Jan 1999), and the clause at 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (Jan 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.

SECTION M EVALUATION FACTORS FOR AWARD

M-1 EVALUATION

Award will be made to that offeror whose proposal is determined to be the best value to the Government, proposed cost and other factors considered. The Government reserves the right to make award to other than the low offeror. Although 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 business considerations become.

M-2 EVALUATION FACTORS FOR AWARD

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

M-2-1. TECHNICAL/MANAGEMENT

The four subfactors listed below are listed in descending order of importance..

- (1) **PERSONNEL QUALIFICATIONS:** The proposal will be evaluated on the offeror's demonstrated ability to provide personnel with: (1) the appropriate qualifications set forth in Enclosure (1) of the Statement of Work; (2) actual relevant experience in the technical and scientific areas set forth in the Statement of Work; and, (3) the educational experience requirements described in Attachment (2); and (4) the ability to obtain a SECRET clearance of key personnel prior to commencing work.
- (2) **COMPANY EXPERIENCE:** The proposal will be evaluated on the offeror's demonstrated company experience in performing projects requiring scientific and technical effort which is closely similar or related to the scientific and technical efforts set forth in the Statement of Work.
- (3) **MANAGEMENT ABILITY:** The proposal will be evaluated on the offeror's demonstrated management ability and success in managing projects of similar complexity and duration as that set forth in the Statement of Work. The proposal will also be evaluated on the offeror's strategy for assuring a smooth and effective transition between the offeror's organization and personnel and the incumbent contractor's personnel into the ongoing system development, maintenance, and operations efforts. The proposal will be evaluated on the offeror's ability to complete all the transition activities within 90 days after contract award.
- (4) **PAST PERFORMANCE:** Past performance will be evaluated on the basis of the quality of the work performed, timeliness of performance, cost control, and business relations. The evaluation will be based on the information provided pursuant to Section L and other sources if available. Offerors that have no relevant performance history or for which past performance information is not available will not be evaluated favorably or unfavorably on past performance. The government may begin proposal evaluation prior to receipt of past performance information. If, after completion of proposal evaluation except evaluation of past performance, the contracting officer determines that evaluation

of past performance will not affect the outcome of competitive selection, the contracting officer may waive its evaluation in accordance with FAR 15.304(c)(3)(iii).

M-2-2 COST TO THE GOVERNMENT

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

M-2-3 SMALL BUSINESS PARTICIPATION

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

(b) The extent of participation of small disadvantaged business concerns in performance of the contract will be evaluated on the basis of the proposed extent of participation of such firms in terms of the value of the total acquisition and the complexity and variety of the work such firms are to perform.

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

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

STATEMENT OF WORK

SPACECRAFT ENGINEERING

TECHNICAL SERVICES

LIST OF ACRONYMS

ACA	After Contract Award
AGE	Aerospace Ground Equipment
ATC	Attitude Control System
CAP	Contractor Acquired Property
CCN	Configuration Change Notice
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CG	Center of Gravity
COR	Contracting Officer's Technical Representative
EAC	Estimated At Completion
ECN	Engineering Change Notice
ERN	Engineering Release Notice
ESD	Electrostatic Discharge
ETC	Estimated to Complete
GFE	Government Furnished Equipment
GFM	Government Furnished Material
GFP	Government Furnished Parts
GSE	Ground Support Equipment
ICD	Interface Control Drawings
IOC	Initial Operational Capability
LACE	Low Power Atmospheric Compensation Experiment
LV	Launch Vehicle
MIS	Management Information System
MLI	Multi Layer Installation
MOI	Moment of Inertia
MSR	Monthly Status Report
MWI	Manufacturing Work Instructions
NCST	Naval Center for Space Technology
NDI	Non-Destructive inspection
NDT	Non-Destructive Testing
NMR	Non-Conforming Material Report
NRL	Naval Research Laboratory
OSHA	Occupational Health and Safety Administration
PDR	Preliminary Design Review
PL	Payload
PM	Program Manager
QA	Quality Assurance
RCS	Reaction Control System
S/C	Spacecraft
SCIF	Sensitive Compartmental Information Facility
SEALAR	Sea Launch and Recovery
SED	Spacecraft Engineering Department
SETS	Spacecraft Engineering Technical Services

SLD	Shuttle Launch Dispenser
SOW	Statement of Work
SV	Space Vehicle
TCS	Thermal Control System
TDP	Technical Data Package
TVAC	Thermal Vacuum
WBS	Work Breakdown Structure

TERM DEFINITIONS

AEROSPACE GROUND EQUIPMENT (AGE) - The Aerospace Ground Equipment refers to equipment required to process, handle, support, test, maintain or launch the flight element of the space system. This includes for example, vehicles, equipment, tools, etc., used to fuel, service, transport and hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the flight equipment and may include storage facilities and checkout stations for flight readiness verification. It may also include safety and protective elements when these are not integral to the launch platform or test site facilities. It also includes all efforts associated with the design, development, and production of aerospace ground equipment.

LAUNCH VEHICLE (LV) - The launch vehicle refers to the prime means for providing initial thrust on placing a space vehicle into its operational environment. This includes, for example, the structure, propulsion, guidance and control payload shroud and all other installed equipment integral to the launch vehicle as an entity within itself. It also includes the design, development, and production of mockup prototype and operational units.

ORBIT INJECTION/DISPENSER - The orbit injection/dispenser refers to that equipment which performs the function of placing orbital objects in the planned orbital path. This includes, for example, the structure, propulsion instrumentation and stage interface separation subsystem, and other equipment necessary to provide the orbit injection/dispenser as an entity within itself for integration with other space system elements. It also includes all design, development, production and assemble efforts to provide mockup prototype and operational entities.

PAYLOAD (PL) - The payload refers to that equipment provided for special purposes in addition to the normal equipment integral to the spacecraft. This includes, for example, experimental equipment placed onboard the vehicle, communications, displays and instrumentation, telemetry equipment and other equipment that is specifically mission-oriented to collecting data for future planning and operational purposes. It also includes all design development and production and assembly effort to provide the payload equipment as discrete entities for integration with the space system.

SPACE SYSTEM - The space system refers to the complex of hardware, data services, and facilities required to develop and produce the capability for the placement, operation, and recovery of vehicles in space. The space system includes launch vehicles, space vehicles, support equipment, and other elements necessary to provide an operational space system.

SPACE VEHICLE (SV) - The space vehicle refers to a complete vehicle or group of vehicles placed in space. It includes the design, development, and production of mockup prototype and operational units. This includes, for example, spacecraft (or re-entry vehicle as appropriate), payload, propulsion module, and orbit injection/dispenser.

SPACECRAFT (S/C) - The spacecraft refers to the principal operating space vehicle which serves as a housing or platform for carrying a payload and other mission-oriented equipment into space. This element includes, for example, the structure/spaceframe, electrical power and

distribution, attitude controls, command and control and other equipment homogeneous to the spacecraft. It also includes all design, development, production, and assembly effort to provide a mockup prototype operational spacecraft.

1.1 INTRODUCTION

This statement of work (SOW) establishes contractor tasks related to the space system, design and development responsibilities for the Spacecraft Engineering Department (SED) of the Naval Center for Space Technology (NCST) at the Naval Research Laboratory (NRL) in Washington, DC. This SOW provides for the execution of engineering tasks to support the definition, development, assembly, test, and integration of space systems. These spacecraft engineering technical services (SETS) extend from mission concept and feasibility planning through the on-orbit Initial Operational Capability (IOC) for Naval space systems and shall include: (i) defining systems requirement based on overall mission objectives; (ii) conducting detailed mechanical and structural studies and analyses; (iii) designing and testing hardware to achieve optimal operational space systems; and (iv) providing launch and mission operations support.

1.1 NCST MISSION BACKGROUND

The Naval Research Laboratory (NRL) in Washington, DC, is the Navy's corporate laboratory. Its mission is to conduct a broadly multidisciplinary program of scientific research and development directed toward maritime applications of new and improved materials, techniques, equipment, and systems. In keeping with this purpose, the Naval Center for Space Technology (NCST) located at NRL has a mission to "preserve and enhance a strong space technology base and provide expert capabilities in the development and acquisition of space systems which support Naval missions." The NCST has been designated the lead laboratory for Navy space programs.

Principle NCST functions include: understanding and clarifying mission requirements; conducting research and development activities; analyzing and testing systems to quantify their capabilities; developing operational concepts that exploit new technical capabilities; and developing, testing, and evaluating selected spacecraft systems and subsystems.

The NCST integrates the efforts of NRL divisions whose technologies are used in space systems, and provides systems engineering and technical direction assistance for major space systems. These roles motivate a continuous search for new technologies and capabilities, and require the development of prototypes that demonstrate the integration of these technologies and capabilities.

1.1.1 Spacecraft Engineering Department Responsibilities

The SED of NCST is responsible for designing and building spacecraft platforms in support of Navy missions and providing transfer vehicles to inject these spacecraft into their unique mission orbits. The SED provides systems engineering and technical direction while maintaining an active in-house space vehicle development test, and fabrication capability. The SED provides analysis, design, and hardware expertise in structures and mechanisms, attitude control systems, propulsion and reaction control systems, thermal control systems, space vehicle design integration, launch vehicle integration, and space vehicle-to-boost-stage integration. The SED uses both in-house resources and contracts to private industry to achieve its mission goals and objectives.

1.2.1 Scope of the SOW

This statement of Work (SOW) defines the technical and managerial tasks required to accomplish the Sustaining Engineering (SE) required for the continued development and maintenance of space systems. The contractor must maintain and operate existing equipment and develop components that will be integrated into advanced DoD systems.

The contractor shall provide personnel, supplies, materials, equipment, and administration, other than that which is stated as Government furnished, and shall provide the engineering support required to develop, document, maintain, and enhance NRL space systems/subsystems, communication systems, tracking systems, and other related equipment and systems. This SOW incorporates Mil-Standard 88 I Appendix F, which describes the levels, elements, and components of a space system.

This SOW defines the scope of the SETS technical effort required of the Contractor. This effort includes the tasks listed below:

- Program Management
- Space Systems Engineering
- Mechanical Systems Design and Analysis
- Launch and Space Vehicle Testing
- Manufacturing
- Facilities and Logistics Support
- New Technology Development

1.2.1 Primary Objective

The Contractor shall provide space system engineering and technical services that include: (i) providing conceptual design of spaceflight structures, mechanisms, subassemblies, and Aerospace Ground Equipment (AGE), (ii) providing space vehicle prototype, fabricating, assembling, and processing services; (iii) developing, testing, maintaining space vehicle propulsion systems, attitude control systems

(ACS), and thermal control systems (TCS); (iv) supporting design verification and environmental testing activities; and (v) designing and integrating electromechanical interfaces between NCST space vehicles and various launch vehicles (manned and unmanned). The Contractor shall apply these capabilities while supporting NCST mission goals and objectives.

1.2.2 Secondary Objective

The Contractor shall provide mechanical and electromechanical design, development, fabrication, assembly, test, integration, inspection, and maintenance support services for all new and modified space system structures, mechanisms and subassemblies. The Contractor shall make maximum use of existing structures, mechanisms and subsystems that have already been developed.

2.0 APPLICABLE DOCUMENTS

The following documents, of the issue in effect at the time of contract award, form a part of this SOW only to the extent specified herein. In the event of a conflict between any of the referenced documents and the requirements of this SOW, the contents of this SOW shall be considered a superseding requirement.

2.1 MILITARY SPECIFICATIONS AND STANDARDS

<u>Document Number</u>	<u>Description</u>
DoD-STD- 100	Engineering Drawing Practices
MIL-STD-490A	Specification Practices
MIL-T-31000	General Specification for Technical Data Packages

2.2 PROGRAM DOCUMENTS

The contractor shall comply with the applicable requirements of the following specifications, standards, and publications as they apply to the tasks defined herein.

<u>Document Number</u>	<u>Description</u>
STC-D-00 1 D	Spacecraft Product Assurance Program Plan
SSD-D-004A	Drawing Requirements Manual
SSD-D-005H	Configuration Management Plan

2.3 NON-GOVERNMENT DOCUMENTS

<u>Document Number</u>	<u>Description</u>
ANSI Y 14-5M	Dimensioning and Tolerancing
ANSI Y32.2	Graphic Symbols for Electrical and Electronic
Diagrams	
ANSI Y32.16	Reference Designations for Electrical Parts and
Equipment	

Note: Program documents listed in para. 2.2 above will be available at the Contracting Office (NRL Bldg. 222) for review during the RFP period. All other documents may be obtained from the Naval Publications and Forms Center, 5801 Tabor Avenue, ATTN: NPODS, Philadelphia, PA 19120-5099. Telephone 1 (215) 697-1187/2179.

3.0 REQUIREMENTS AND TASKS

The requirements and tasks of the SOW are described in this section. The Contractor shall perform the tasks, render the services, provide the facilities, and deliver complete to specification all supplies and services set forth herein.

3.1 GENERAL REQUIREMENTS

3.1.1 Expertise Requirements

The Contractor shall provide qualified experienced personnel in the areas of space system development, assembly, integration, test, inspection, maintenance, and support. The principal mechanical engineering endeavor shall be supporting the evolutionary enhancement and development of space vehicle platforms, structures, mechanisms and subassemblies already designed and flight qualified.

3.1.1.1 Subcontractors

The Contractor may subcontract a portion of the efforts defined within this SOW to provide the expert talent needed to perform planning special studies, design, analysis, development, test, integration and documentation. The Contractor shall obtain the concurrence of the Contracting Officer's Technical Representative (COR) and the approval of the Contracting Officer (CO) prior to subcontracting any effort defined within this SOW.

3.1.2 Technical Documentation

Documentation generated by the Contractor (e.g., notebooks, reports, memoranda, presentation material, and analytical models) which is not submitted as a contract data deliverable shall be made available within 14 days of COR request.

3.2 SPECIFIC REQUIREMENTS

3.2.1 (Task 01) Program Management

The Contractor shall provide the leadership and management skills necessary to direct and control the Contractor's internal activities required to satisfy the SOW objectives and requirements. The Contractor shall periodically (as defined in the DD 1423) prepare, publish, and maintain a program master schedule for the efforts defined in the Contract Data Requirements List (CDRL).

3.2.1.1 Program Control

3.2.1.1.1 Program Manager

The Contractor shall appoint a Program Manager (PM) with overall responsibility for the contracted effort. The PM shall be the single point of interface with the Government for all matters concerning technical progress and problems, program performance, schedule, cost, resources, and other program-related activities.

3.2.1.1.2 Key Personnel

The Contractor shall provide an organizational chart identifying the assigned responsibility for performance of tasks defined herein. The chart shall delineate responsibilities at all levels and shall provide the names of key personnel that will perform the tasks. When changes to the organizational chart occur, an updated chart shall be promptly provided to the COR.

3.2.1.1.3 Project Manager

The Contractor shall assign an on-site Project Manager to oversee the efforts defined herein. The Project Manager shall be responsible for the first-line supervision of all Contractor employees assigned to support the SOW task efforts.

3.2.1.1.4 Subcontractor Management

The Contractor shall provide the manpower required to manage any subcontracts approved and to monitor subcontractor activities to the appropriate level of detail that is required to assure timely delivery of supplies and services. A report on the performance of major subcontractors shall be included as a part of the Monthly Status Report (MSR).

3.2.1.2 Program Status and Reporting

3.2.1.2.1 Management Information System

The Contractor shall implement and maintain a computer-based Management Information System (MIS) of their choice to control and report on the SOW task efforts. The MIS shall be based on the suggested Work Breakdown Structure (WBS) provided by the COR. The MIS shall be capable of comparing actual achievement to planned achievement, of comparing accrued costs to planned and budgeted costs, and of providing program control status progress reporting, and review for each task effort defined by the WBS. Appendix B contains the labor categories and Appendix C contains the manloading, travel, and materials cost anticipated by the Government.

3.2.1.2.2 Monthly Status Report (MSR)

The Contractor shall prepare and submit a MSR each month for the duration of the effort. The MSR shall provide a brief narrative of the technical progress and status of the project, any significant technical or program specific problems, and the resolution status of problems previously identified. The MSR shall identify any items that will impact, or have impacted, schedule performance, cost, or overall task schedules. The MSR shall provide a status of materials, subcontract, Government Furnished Equipment (GFE), and data items. The MSR shall be organized by WBS elements and shall identify: (i) personnel staffing by name; (ii) manpower usage; (iii) current and cumulative monthly cost data; (iv) accrued costs (including fee) by WBS element; and (v) current and projected funding status. The MSR shall include physical descriptions, estimated and actual prices, and item quantities for all materials and services procured by the Contractor.

3.2.1.2.3 Procurement/Acquisition of Materials and Services

The Contractor shall provide the logistics and procurement resources necessary to purchase, control, and report on the equipment, materials, supplies, tools, and services required for the performance of the efforts defined herein. The Contractor shall submit all major procurement requests (over a limit set by the COR) to the COR for review and authorization prior to procuring any materials, supplies, and services.

3.2.1.2.4 Schedule and Delivery Report

The Contractor shall prepare and submit a monthly Schedule and Delivery Report. This report shall provide information on: (i) major equipment either procured or developed during the performance of the tasks described by the SOW, and (ii) scheduled versus actual work performed. The Schedule and Delivery Report shall include network and milestone charts, which show critical junctures and task durations. These milestone charts shall be used in conjunction

with the MSR. Actual and anticipated delays along with projected impact on project performance, must be included in the Schedule and Delivery Report.

3.2.1.3 Program Support Services

3.2.1.3.1 Program Administration Expertise

The Contractor shall provide program management expertise that includes the elements described in the following paragraphs.

Program Planning and Control: The Contractor shall: (i) plan, schedule, and budget the development process; (ii) provide the COR with schedule and resource visibility to assure that program objectives are being achieved; (iii) review and analyze alternate technical approaches and resultant performance, schedule, and cost program impacts; (iv) determine systems effectiveness implementation methods; (v) manage and control subcontracted engineering, prototype, and testing processes; and (vi) track performance, cost, schedules and action items.

Engineering Integration and Coordination: The Contractor shall integrate and coordinate engineering development efforts to achieve the best mix of the final technical and performance parameters. This task shall include integrating developmental efforts and disciplines (e.g., reliability, maintainability, documentation, logistics, quality, standardization, value engineering, and safety) to assure their influence upon the developmental processes.

Cost Modeling: The Contractor shall provide the necessary skills and services to define, develop, implement, and refine a cost model that enhances cost projection reliability by allowing an analyst to: (i) create cost and budget estimates over multiple fiscal periods; (ii) track actual costs over multiple fiscal periods; and (iii) provide cost and budget presentations in either a standardized or customized report format.

Performance Measurement: The Contractor shall predict and demonstrate the achievement of selected program objectives. This effort shall include: (i) providing visibility of actual versus planned performance; (ii) providing early detection/provision of engineering development problems requiring management attention; and (iii) providing an independent assessment of the impact proposed changes and alternatives will have on the program.

Scheduling and Reporting: The Contractor shall provide the necessary skills to assure that contractor efforts performed to meet the tasks described by this SOW are conducted in concert with NRL and contractor efforts, and that program tasks are completed on schedule, use only allocated resources, and are in accordance with established system and design specifications.

Documentation Administration: The Contractor shall plan, direct, and coordinate program documentation activities to assure these activities are compatible with technical and programmatic goals. This management effort shall include: (i) assessing the documentation required for planned engineering development efforts; (ii) developing contract work breakdown structures and specification trees; (iii) reviewing technical documentation tasks and their manpower requirements; (iv) developing program plan, technical specifications, cost reports, and related data packages; and (v) supporting related technical documentation tasks required to meet program goals and objectives.

3.2.1.3.2 Technical Documentation

The Contractor shall provide research, writing, editing, drafting, artistic design, photography, production and documentation coordination expertise that includes: (i) developing manuscripts for plans, procedures and reports; (ii) preparing color enhanced, high-level presentations and viewgraphs; (iii) preparing engineering level designs and illustrations; (iv) preparing technical manuals and specifications; (v) reviewing manuscripts for technical consistency, completion, and specification compliance; (vi) editing and enhancing written text; (vii) preliminary, and final manuscripts at document review meetings; and (viii) incorporating "mark ups" and other comments provided by management and technically cognizant personnel. The Contractor personnel involved in this activity shall communicate directly with managers, scientists, engineers, analysts, and technicians, and shall be familiar with military and NRL documentation specifications. Technical documentation efforts shall be as tasked by the COR. Manuscripts, presentations, and illustrations shall be prepared using hardware/software compatible with NCST ADP equipment.

3.2.1.3.3 Program Support

The Contractor shall provide program support for the contractor personnel required to perform the tasks described in this SOW. Program support personnel shall be familiar with hardware/software compatible with NCST ADP equipment (UNIX, MacIntosh, PC).

3.2.2 (Task 02) Space Systems Engineering

The Contractor shall define the performance, weight, and internal interface specification requirements for launch and space vehicle components. The Contractor shall define, develop, establish, and maintain space vehicle, launch vehicle, and communications element interface specifications and Interface Control Drawings (ICDs). The Contractor shall design and develop launch and space vehicle hardware and AGE, and perform the testing required to verify their performance and ability to function in the specified environment and in conjunction with required associated space system elements. The Contractor shall provide design analysis, test, and system engineering planning, coordinating, and integration support.

3.2.2.1 Space System Conceptualization and Design

The Contractor shall provide the expertise needed to translate operational requirements into item development tasks, and to establish space system performance, design, development, and test requirements. The Contractor shall: (i) perform the analyses necessary to develop specifications for the launch and space vehicles and their (ii) subassemblies; (ii) define detailed interfaces, critical operational parameters, sizes, and weights; (iii) establish and specify space system configurations, interfaces, and test flows, and (iv) evaluate CG, MOI, products of inertia, and the principle spin axis with respect to mission requirements.

3.2.2.2. Space System Trade Studies, Technical Studies, and Assessments

The Contractor shall conduct system level tradeoff studies to: (i) determine proposed system performance, compatibility, interfaces, sizing, and design verification; (ii) optimize system performance with respect to cost and risk, and (iii) evaluate developmental risks and establish contingency plans for high to medium risk areas. Areas of study will be as tasked by the COR.

The Contractor shall conduct studies and assessment regarding proposed launch and space vehicle engineering design applications. The Contractor shall conduct these studies and assessments in accordance with standard developmental processes and timeables that are mutually established between the COR and the Contractor. The Contractor may, with the concurrence of the COR and the approval of the CO, make use of expert consultant services to provide these studies and assessments.

3.2.2.3 Applied Research in Space System Engineering

The Contractor shall conduct applied research in launch and space vehicle engineering, and in related topics assigned by the COR to improve the performance of spacecraft and to develop new hardware concepts.

3.2.2.4 Space System Requirements Definition

The Contractor shall conduct system requirements definition activities that include: (i) defining launch and space vehicle technical requirements based on mission objectives; (ii) allocating these requirements to subsystems and functional areas; and (iii) documenting design constraints. The Contractor shall identify, (i) essential system functional characteristics; (ii) necessary interface characteristics; and (iii) the tests required to demonstrate achievement of each functional characteristics.

3.2.2.5 Launch Operations Support

The Contractor shall conduct the launch and missions operations analysis, development, design, simulation, test, assembly, manufacture, and documentation activities required by prototype, experimental and operational launch and space vehicles. This effort shall include: (i) launch vehicle (manned and unmanned) design,

analysis, verification, and qualification; (ii) space vehicle structure manufacture, assembly, and integration. (iii) reaction control, propulsion, electromechanical, and ordnance subsystem support; (iv) defining, planning, and acquiring equipment and facilities for ground communications, command, and control and (v) defining and providing the facilities and special handling equipment required to support launch and space vehicles during pre-launch and launch operations.

3.2.3 (Task 03) Mechanical Systems Design and Analysis

The Contractor shall provide the mechanical engineering expertise required to upgrade and/or design existing and proposed launch and space vehicle platforms, structures, mechanisms, subassemblies, and aerospace ground equipment (AGE). The Contractor shall: (i) perform the design implementation of mechanical and electromechanical systems, structures, and subassemblies; (ii) define and acquire long lead parts and materials, (iii) initiate the prototype documentation effort; and (v) present formal design results at preliminary design reviews (PDR) and critical design reviews (CDR).

3.2.3.1 Structural Design and Drafting

The Contractor shall compile a technical data package (TDP) for the SETS tasks described herein. This subtask shall include: (i) conceptualizing mechanical designs; (ii) determining configuration, arrangement, dimensions, and tolerances of mechanisms, components, instrumentation, and subassemblies; (iii) preparing subsequent detailed illustrations and layout drawings of the mechanical hardware associated with space systems, structures, mechanisms, and subassemblies; and (iv) maintaining assembly and fabrication drawings for prototype and flight launch and space vehicle, structures, mechanisms and subassemblies. The Contractor shall accomplish this using existing work-station platforms to DOD-100 Standards and ANSI Y14.5M (1987). The Contractor shall check and review all drawings, identify discrepancies, and make revisions.

3.2.3.1.1 Configuration Control

The Contractor shall generate configuration change notices (CCNs) resulting from assembly or test anomalies, and update drawing packages by incorporating all approved CCNs.

3.2.3.1.2 Document Administration

The Contractor shall provide a document administration function that includes: (i) maintaining a structured database list of all drawings and documents; (ii) assigning control numbers to newly released engineering drawings; (iii) filing drawings of spacecraft structures and mechanisms; (iv) tracking Engineering Release Notices (ERN), Engineering Change Notices (ECN), and CCNs through resolution; (v) copying and reducing engineering drawings; and (vi) disseminating all assembly drawing packages associated with prototype and flight launch and space vehicle, structures, mechanisms, and subassemblies.

3.2.3.2 Position Determination, Attitude Determination, and Control Systems

The Contractor shall provide engineering support for design, analysis, simulation, test, and evaluation of complex attitude determination and control systems for various NCST launch and space vehicles. The support shall cover the following topics: (i) configuration analysis; (ii) feasibility studies; (iii) control law development; (iv) simulation of spacecraft attitude and orbit dynamics including the disturbance environment; (v) stability analysis; (vi) actuator sizing; (vii) sensor selection and evaluation; (viii) damping mechanisms; (x) pointing error budgets; (xi) system performance evaluation; and (xii) flight operations support.

The Contractor shall provide engineering expertise to support the design, analysis, simulation, test, and evaluation of various types of position determination systems in ground based, airborne and space vehicle applications. Engineering support includes the following disciplines: (i) Global Position System (GPS) technology; (ii) precision laser metrology; (iii) precision boresighting; (iv) advanced navigation systems; (v) acoustic and radio wave signal geolocation; and (vi) robotics; (vii) similar related technologies.

Engineering tasks shall also include support for documenting ACS activities in analyses, reports, and presentations. The Contractor shall also prepare test plans, procedures, and test reports in support of control system component test activities.

3.2.3.3 Rendezvous, Docking, and Space Servicing Systems

The Contractor shall provide engineering support for design, development, analysis, simulation, test, and evaluation of complex electromechanical systems capable of providing commanded or autonomous rendezvous and docking between two spacecraft, and subsequent fuel transfer, electrical power system upgrade, module insertion, payload augmentation, construction, repair, rescue and retrieval, and other types of on-orbit servicing for future NCST space vehicles.

The Contractor shall provide engineering expertise to support the design, analysis, simulation, test and evaluation of mechanisms, sensors, and control logic needed to implement reliable spacecraft robotic systems. The Contractor will assist in development of appropriate test facilities to support a Robotics Engineering and Controls Laboratory within the NCST.

The Contractor shall provide support for documenting all Robotic Engineering activities in analyses, reports, and presentations. The Contractor shall prepare PDR, CDR, and TIM presentations and review packages in support of on-going Robotic Engineering programs at NRL.

3.2.3.4 Thermal Control Systems

The Contractor shall provide comprehensive engineering expertise and technical support during all phases of TCS design, model analysis, verification, fabrication, assembly, and test. This expertise and support shall include both passive and active TCS in the following areas: (i) defining temperature control requirements; (ii) defining worst case ground, ascent and on-orbit thermal environments; (iii) developing TCS conceptual designs, (iv) developing preliminary analytical thermal models; (v) performing design verification test plans and procedures; (vi) refining analytical thermal models; (vii) fabricating and assembling multi-layer installation (MLI) blankets; (viii) developing environmental space system surface covers, shields, and coatings (e.g., metalized films, mirrors, or paint); (ix) installing environmental sensors, heater, thermostats, and MLI blankets, (x) supporting space system environmental testing, and (xi) documenting TCS analyses and reports.

The Contractor shall: (i) monitor thermal-related telemetry signal; (ii) correct deficiencies noted during environmental testing; (iii) comply with post test analyses recommendations; (iv) replace TCS components that may be damaged during test activities; (v) order TCS materials and components such as blankets, temperature sensors, and heat pipes.

The Contractor shall prepare PDR and CDR TCS presentations and design review packages to: (i) highlight preliminary and refined analytical thermal models; (ii) describe space system isothermal nodal points, mass properties, and surface geometry and optical properties; and (iii) predict environmental thermal fluxes, solar and earth radiant energy, and temperature extremes.

3.2.3.5 Reaction Control Systems

The Contractor shall provide engineering support of the design, analysis, simulation, and test of velocity vector and reaction control propulsion systems. This support shall cover engineering system requirements, trade studies, system design, component selection, propellant usage, and flow analysis. The Contractor shall provide engineering technical support during all phases of the conceptual design, manufacturing, assembly, test, launch site, and flight operations.

Engineering tasks shall also include support for the documentation of Reaction Control System activities for presentations and analyses. The Contractor shall also prepare test plans, procedures, and test reports for components and subsystems.

The Contractor shall perform on-site Reaction control Systems (RCS) assembly and post assembly testing for prototype, qualification, and/or first production models. Reaction Control Systems shall be tested to verify primary and vernier velocity control, angular momentum control, and pointing and precession control as required by individual space systems. All testing shall be performed in accordance with written test plans and procedures. This subtask shall include: (i) performing assembly and post assembly testing of component parts and subassemblies related

to the RCS systems; (ii) testing and maintaining spacecraft RCS's during the flight qualification phase; and (iii) performing on-site and field servicing operations for prototype, qualification, and/or first production models.

The Contractor shall fabricate, clean, assemble, and checkout fluid lines, components, and system assemblies, and perform post assembly proof and leak testing. These tasks shall be performed while working in class 100 clean rooms and in normal laboratory environments.

3.2.4 (Task 04) Launch and Space Vehicle Testing

The Contractor shall provide engineering expertise and technical support during the development, qualification, prototype, and acceptance tests conducted on launch and space vehicle systems, subsystems, and components. The Contractor shall: (i) define test requirements; (ii) plan the verification tests required to prove design concepts, (iii) build test fixtures and prototypes; (iv) produce the required engineering documentation; (v) assist in the development of test criteria; (vi) perform test evaluations; (vii) submit test reports; and (viii) make design recommendations based on testing results.

3.2.4.1 Vibration and Thermal Vacuum Facility Support

The Contractor shall operate, maintain, and repair vibration test equipment, instrumentation, and support fixtures. The Contractor shall: (i) support acoustic random vibration, and pyroshock testing of spacecraft components, subsystems, systems, and flight spares; (ii) design and fabricate vibration test fixtures, and modify the adapters to support evolving interface and mounting methods; (iii) inspect, repair, maintain, and operate the NRL Thermal Vacuum (TVAQ) test chambers, environmental test chambers, and related laboratory test equipment; (iv) operate and maintain the environmental integrity of portable and stationary Class 100 clean rooms used for launch and space vehicle testing; and (v) plan and conduct modal analyses of spacecraft components, subsystems, and systems.

3.2.5 (Task 05) Manufacturing

After COR review and concurrence of the launch and space vehicle design approach, objectives, and specification, the Contractor shall initiate fabrication, assembly, and processing operations of the space system structures, mechanisms, subassemblies, and AGE. These should include innovative methods if needed, such as composites. The Contractor shall continue to provide the engineering expertise required to prove that the implemented design is feasible, sound, and cost effective.

3.2.5.1 Fabrication and Manufacturing Planning

The Contractor shall provide fabrication and manufacturing planning efforts that include: (i) identifying material control processes and sequence flows; (ii) preparing and submitting formal plans to the Government; (iii) requisitioning and procuring vendor-supplied equipment, tools, supplies, and materials; (iv) preparing dedicated production travelers, history jackets, and Manufacturing Work Instructions (MWIs);

(v) establishing an effective system to prevent electrostatic discharge (ESD) damage to electronic components during the fabrication and manufacturing processes; and (vi) setting up the equipment and tooling necessary to manufacture space system structures, components, mechanisms, and subassemblies. Formal processes, etc. are to be assigned numbers and tracked as part of 3.2.3.1.2.

3.2.5.2 Fabrication, Assembly, and Ground Processing

The Contractor shall provide the personnel, facilities, equipment, tooling, and processes and shall conduct the test and integration activities necessary to fabricate, assemble, and process launch and space vehicle, structures, mechanisms, subassemblies, and AGE. The Contractor shall: (i) requisition and procure vendor-supplied equipment, tools, supplies, and materials; (ii) set up the necessary fabrication equipment and tooling, (iii) provide fabrication, assembly, and processing support services; (iv) perform structural and sensor alignments using optical metrology equipment; (v) adhere to applicable engineering drawings and blue prints during the assembly process; and (vi) account for all changes and revisions which affect the integrity of the assembled space systems.

3.2.5.3 Quality Assurance Program

The Contractor shall provide a quality assurance (QA) program organization that shall be responsible for: (i) establishing conforming and non-conforming standards accounting for the unique structural requirements of NCST space systems; (ii) preparing, maintaining, and delivering itemized inventory listing, reports, and inspection reports for review and approval by cognizant Government engineers; (iii) maintaining tracking and accountability files of material received; (iv) generating and tracking Non conforming Material Reports (NMRs); (v) defining and completing spacecraft build files; and (vi) providing buy-off packages which successfully demonstrate the proper disposition and status of all CCNs.

3.2.5.3.1 Mechanical Inspection

The Contractor shall inspect space system piece parts and structural components and subassemblies. Inspection shall consist of visual, dimension, and/or optical inspection of all piece parts associated with NCST launch and space vehicles. The Contractor shall employ Non-Destructive Inspection (NDI) and Non-Destructive Testing (NDT) against all piece parts configured for assembly. The Contractor shall conduct NDT consisting of eddy current, ultrasonic, X-ray, and liquid penetrate disciplines for the purpose of identifying subsurface defects in delivered piece parts.

3.2.5.4 Parts and Material Support

The Contractor shall receive, inventory, control, and disseminate piece parts and material. The Contractor's supply activities shall include: (i) physically receiving the incoming parts and material delivered to Building A-59 by the NRL supply system; (ii) comparing the quantity and part number of received items against the original

purchase order; (iii) dispensing parts and material to technical personnel; (iv) operating a manufacturing inventory control system; and (v) verifying and accounting for raw material Material Certification Reports. This task shall include interfacing with potential vendors for procurement purposes, analyzing equipment requirements with respect to availability and cost, and recommending the most expeditious and cost effective means of satisfying equipment requirements. Government personnel shall be responsible for acceptance.

3.2.5.5 Government Furnished Equipment (GFE)

The contractor shall maintain, and update on a quarterly basis, a complete inventory list of all Government Furnished Equipment (GFE) accountable to this contract.

3.2.5.6 RCS Welding Equipment Operation, Maintenance, and Training

The Contractor shall provide specialized RCS welding equipment operators and maintenance technicians. These individuals shall operate and maintain Government - owned welding equipment and peripherals, and provide welding equipment training to Government personnel. This equipment is Tube-to-Tube Orbital Welding systems manufactured by ASTRO ARC, Inc. and ARC Machines, Inc.

3.2.6 (Task 06) Facilities and Logistics Support

The Contractor shall provide the personnel and resources necessary to fulfill the facility support and logistical requirements associated with the mechanical development, assembly, testing, and integration of spaceflight structures and subassemblies. The Contractor shall provide the best logistical balance between given cost, schedule, performance, and technical parameters. This activity shall emphasize the facilities support and logistics elements described in the following paragraphs.

3.2.6.1 Computer Software and Hardware Support

The Contractor shall provide computer services for UNIX-based Workstations, DOS personal computers, and MacintoshTM microcomputers. The Contractor shall: (i) provide hardware and software maintenance, (ii) keep abreast of emerging software and hardware developments and enhancements and their potential applications to mission-critical assignments; (iii) recommend, acquire, and implement hardware and software additions and upgrades to meet expanding and changing computing capability and performance needs; and (iv) maintain and upgrade network communications equipment.

The Contractor shall support the NCST user communities by: (i) arranging for demonstrations, seminar registrations, and off-site courses; (ii) configuring, acquiring, and installing new systems; and (iii) providing day-to-day user support.

3.2.6.2 Transportation Support

The Contractor, at the approval of the COR, shall transport space systems, subsystems, components, mechanisms, and subassemblies to testing facilities and designated launch sites when government furnished transportation is unavailable. The Contractor shall assure that selected transportation methods can meet critical interim and final need dates and are cost effective. Methods to ensure cost effectiveness include preplanned competitive procurement for transportation services.

3.2.6.3 Heavy Equipment Operation and Maintenance

The Contractor shall provide personnel licensed to operate the following Government-owned heavy equipment: (i) fork lifts; (ii) flat bed carts; (iii) trailers; (iv) bridge cranes; (v) overhead warehouse cranes; and (vi), electric carts. The Contractor shall be responsible for maintaining and repairing this heavy equipment.

3.2.6.4 Off-Site Office Space

The Contractor shall be capable of providing and maintaining an office facility located within commuting distance of NRL. This office facility will include a 500-square foot (minimum) Sensitive Compartmental Information Facility (SCIF). This office facility will be of sufficient size to accommodate all personnel involved in the following efforts: (i) program management; (ii) design; (iii) analysis; (iv) drafting; (v) documentation; (vi) configuration; (vii) estimating; and (viii) planning.

3.2.6.5 Off-Site Storage Facility

The Contractor shall be capable of providing, staffing, and maintaining a 45,000 square-foot (minimum) warehouse facility for the storage of launch and space vehicle-related equipment that includes: structures; mechanisms, subassemblies; AGE; test fixtures; equipment; supplies; spares; and materials. The Contractor shall maintain the logistical and support functions required to maintain the storage facility in accordance with Occupational Health and Safety Administration (OSHA). The Contractor shall: (i) operate and maintain handling equipment (e.g., portable crane and lift-dock); (ii) provide a drive-in ramp capable of accommodating an 18-wheel truck; and (iii) provide logistics and storage support for all spacecraft related equipment. The Contractor shall provide the resources required to fabricate and/or assemble unique AGE fixtures at this storage facility.

3.2.7 (Task 07) New Technology Development

The Contractor shall provide the technical expertise required to support concept development, design, development and test of prototype hardware for expansion into space areas such as energy conversion and transportation.

3.2.7.1 Concept Development

The Contractor shall provide personnel to generate concepts of space related technologies.

3.2.7.2 Design, Fabrication and Test

The Contractor shall supply design expertise for the development and test of concepts that have a potential value to the space community.

3.2.7.3 Market Investigation and Development

The Contractor shall conduct trade studies, cost estimations, and marketing studies to determine the potential benefit of pursuing new technology developments, and provide support for new technology.

4.0 CONTRACT DELIVERABLES

The schedule for the accomplishment of the tasks specified in this SOW will be provided after contract award.

4.1 DELIVERABLE HARDWARE ITEMS

The Contractor shall deliver the items listed below:

DESCRIPTION	DELIVERY
4.1.1 All equipment, test equipment, and test fixtures developed under this contract	Completion of Systems Tests or as directed by the COR
4.1.2 All tools, special tools and Ground Support Equipment (GSE)	End of contract or as directed by the COR
4.1.3 Spares	End of contract
4.1.4 Unused parts and material	End of contract
4.1.5 All GFE, Government Furnished Property (GFP), Government Furnished Material (GFM), and Contractor Acquired Property (CAP)	End of contract

4.2 DELIVERABLE DATA ITEMS

The Contractor shall deliver the items specified in the DD Form 1423(s), Contract Data Requirements List (CDRL) for the work performed under this SOW per Enclosure 1. The CDRL identifies the type of data, the number of copies, the frequency of submission, and the SOW paragraph that requires the data. Disposition of the documents submitted for the COR's review will normally be completed within one month. Unless otherwise directed by the COR, the Contractor shall continue to perform the SOW tasks related to the documentation while waiting for COR disposition.

CONTRACT DATA REQUIREMENTS LIST

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OMB No. 0704-0188

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A. CONTRACT LINE ITEM NO. ALL		B. EXHIBIT A		C. CATEGORY: TDP TM OTHER	
D. SYSTEM / ITEM			E. CONTRACT / PR NO. N00173-00-R-LS01		F. CONTRACTOR
1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Financial Status Report			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 1		6. REQUIRING OFFICE COR
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY MTHLY		12. DATE OF FIRST SUBMISSION 35 DAC	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION See Block 16.	
14. DISTRIBUTION				15. TOTAL	
16. REMARKS The contractor shall submit this report every month on the fifth workday of the month. This report must provide the COR with a summary of the expenditures by task for prior month.				a. ADDRESSEE	
				b. COPIES	
				COR 0 1 0	
				AO 1 0	
				15. TOTAL → 0 2 0	
1. DATA ITEM NO. A003	2. TITLE OF DATA ITEM Program Master Schedule			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 1		6. REQUIRING OFFICE COR
7. DD 250 REQ NO	8. DIST STATEMENT REQUIRED	10. FREQUENCY QRTLY		12. DATE OF FIRST SUBMISSION 60 DAC	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION	
14. DISTRIBUTION				15. TOTAL	
16. REMARKS				a. ADDRESSEE	
				b. COPIES	
				COR 0 1 0	
				15. TOTAL → 0 1 0	
1. DATA ITEM NO. A004	2. TITLE OF DATA ITEM Organizational Chart			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 1 (Para. 3.2.1.1.2)		6. REQUIRING OFFICE COR
7. DD 250 REQ NO	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION 15 DAC	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ	
14. DISTRIBUTION				15. TOTAL	
16. REMARKS Should changes occur in the organizational chart, they must be submitted in a revised organizational chart within 15 days of the change.				a. ADDRESSEE	
				b. COPIES	
				COR 0 1 0	
				15. TOTAL → 0 1 0	
1. DATA ITEM NO. A005	2. TITLE OF DATA ITEM Schedule Delivery Report			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Para. 3.2.1.2.4		6. REQUIRING OFFICE COR
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY MTHLY		12. DATE OF FIRST SUBMISSION 30 DAC	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION See block 16.	
14. DISTRIBUTION				15. TOTAL	
16. REMARKS The contractor shall submit this report every month on the fifth workday of the month.				a. ADDRESSEE	
				b. COPIES	
				COR 0 1 0	
				15. TOTAL → 0 1 0	
G. PREPARED BY Naval Research Laboratory			H. DATE 11/19/99		I. APPROVED BY
					J. DATE

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A. CONTRACT LINE ITEM NO. ALL			B. EXHIBIT A		C. CATEGORY: TDP _____ TM _____ OTHER _____				
D. SYSTEM / ITEM			E. CONTRACT / PR NO. N00173-00-R-LS01		F. CONTRACTOR				
1. DATA ITEM NO. A006	2. TITLE OF DATA ITEM Monthly Status Report				3. SUBTITLE				
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Para. 3.2.1.2.2		6. REQUIRING OFFICE COR				
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY MNTHLY		12. DATE OF FIRST SUBMISSION 30 DAC		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSEE	b. COPIES		
					Draft		Final	Reg	Repro
16. REMARKS						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A007	2. TITLE OF DATA ITEM System Performance or Specifications				3. SUBTITLE				
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 2		6. REQUIRING OFFICE COR				
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE	b. COPIES		
					Draft		Final	Reg	Repro
16. REMARKS See Statement of Work Task 2 for details of this deliverable.						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A008	2. TITLE OF DATA ITEM Systems Trade Studies				3. SUBTITLE				
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 2		6. REQUIRING OFFICE COR				
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE	b. COPIES		
					Draft		Final	Reg	Repro
16. REMARKS See Statement of Work Paragraph 3.2.2.2 for detailed requirements.						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A009	2. TITLE OF DATA ITEM Launch Ops Integration Schedule				3. SUBTITLE				
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 2		6. REQUIRING OFFICE COR				
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE	b. COPIES		
					Draft		Final	Reg	Repro
16. REMARKS						COR	0	1	0
						15. TOTAL →	0	1	0
G. PREPARED BY Naval Research Laboratory			H. DATE 11/19/99		I. APPROVED BY		J. DATE		

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A. CONTRACT LINE ITEM NO. ALL				B. EXHIBIT A		C. CATEGORY: TDP TM OTHER			
D. SYSTEM / ITEM				E. CONTRACT / PR NO. N00173-00-R-LS01		F. CONTRACTOR			
1. DATA ITEM NO. A010		2. TITLE OF DATA ITEM Event Plans and Procedures				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 2		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE		b. COPIES	
								Draft	Final Reg Repr
16. REMARKS This document is a schedule of procedures and must include at a minimum the following: budget, work breakdown structure and management of event.						COR	0	1	0
						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A011		2. TITLE OF DATA ITEM Space Vehicle Assembly Drawings				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 3		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE		b. COPIES	
								Draft	Final Reg Repr
16. REMARKS						COR	0	1	0
						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A012		2. TITLE OF DATA ITEM Spacecraft Testing Report				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 4		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION ASREQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION ASREQ		a. ADDRESSEE		b. COPIES	
								Draft	Final Reg Repr
16. REMARKS						COR	0	1	0
						COR	0	1	0
						15. TOTAL →	0	1	0
1. DATA ITEM NO. A013		2. TITLE OF DATA ITEM Quarterly GFE Report				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 5		6. REQUIRING OFFICE COR			
7. DD 250 REQ NO	8. DIST STATEMENT REQUIRED	10. FREQUENCY QTRLY		12. DATE OF FIRST SUBMISSION EQQ		14. DISTRIBUTION			
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION EQQ		a. ADDRESSEE		b. COPIES	
								Draft	Final Reg Repr
16. REMARKS						COR	0	1	0
						COR	0	1	0
						15. TOTAL →	0	1	0
G. PREPARED BY Naval Research Laboratory				H. DATE 11/19/99		I. APPROVED BY		J. DATE	

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A. CONTRACT LINE ITEM NO. ALL				B. EXHIBIT A		C. CATEGORY: TDP _____ TM _____ OTHER _____			
D. SYSTEM / ITEM				E. CONTRACT / PR NO. N00173-00-R-LS01		F. CONTRACTOR			
1. DATA ITEM NO. A014		2. TITLE OF DATA ITEM Required Parts Inventory List				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 5.		6. REQUIRING OFFICE COR			
7. DD 250 REQ NO		8. DIST STATEMENT REQUIRED		10. FREQUENCY ANNLY		12. DATE OF FIRST SUBMISSION EOQ		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION EOQ		a. ADDRESSEE		b. COPIES	
								Draft	
16. REMARKS Final revisions must be submitted to the COR within 30 days of task completion						COR		0 1 0	
						15. TOTAL		0 1 0	
1. DATA ITEM NO. A015		2. TITLE OF DATA ITEM Inspection Reports				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT		8. DIST STATEMENT REQUIRED		10. FREQUENCY ASREQ		12. DATE OF FIRST SUBMISSION See block 16		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION See block 16		a. ADDRESSEE		b. COPIES	
								Draft	
16. REMARKS Documentation must be submitted to the COR within 30 days of task completion IAW Shuttle Launch Dispenser Product Plan STC-D-001.						COR		0 1 0	
						15. TOTAL		0 1 0	
1. DATA ITEM NO. A016		2. TITLE OF DATA ITEM Received Materials Log				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 5		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT		8. DIST STATEMENT REQUIRED		10. FREQUENCY MTHLY		12. DATE OF FIRST SUBMISSION 45 DAC		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSEE		b. COPIES	
								Draft	
16. REMARKS All submissions must be submitted to the COR on the 5th workday of each month.						COR		0 1 0	
						15. TOTAL		0 1 0	
1. DATA ITEM NO. A017		2. TITLE OF DATA ITEM Final Build File				3. SUBTITLE			
4. AUTHORITY (Data Acquisition Document No.)				5. CONTRACT REFERENCE SOW Task 5		6. REQUIRING OFFICE COR			
7. DD 250 REQ LT		8. DIST STATEMENT REQUIRED		10. FREQUENCY		12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE		13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSEE		b. COPIES	
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16. REMARKS These documents must include at a minimum: "As Build" configuration and traceability of components of anything that is designed and developed under this contract.						COR		0 1 0	
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G. PREPARED BY Naval Research Laboratory				H. DATE 11/19/99		I. APPROVED BY		J. DATE	

17. PRICE GROUP
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CONTRACT DATA REQUIREMENTS LIST

Form Approved
OMB No. 0704-0188

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 this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO. ALL			B. EXHIBIT A		C. CATEGORY: TDP TM OTHER		
D. SYSTEM / ITEM			E. CONTRACT / PR NO. N00173-00-R-LS01		F. CONTRACTOR		
1. DATA ITEM NO. A018	2. TITLE OF DATA ITEM Flight Hardware Buy-Off Package				3. SUBTITLE		
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 5		6. REQUIRING OFFICE COR		
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY OTIME		12. DATE OF FIRST SUBMISSION See Block 16		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSEE	
16. REMARKS This deliverable must be delivered within 30 days of task completion						b. COPIES	
						Draft	
						Final	
						Reg	
						Repro	
15. TOTAL →						0 1 0	
1. DATA ITEM NO. A019	2. TITLE OF DATA ITEM Software List for VAX				3. SUBTITLE		
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 6		6. REQUIRING OFFICE COR		
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY MTHLY		12. DATE OF FIRST SUBMISSION 60 DAC		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION See Block 16		a. ADDRESSEE	
16. REMARKS This document must submitted to the COR on the 5th workday of each month to reflect any changes.						b. COPIES	
						Draft	
						Final	
						Reg	
						Repro	
15. TOTAL →							
1. DATA ITEM NO. A020	2. TITLE OF DATA ITEM Systems Status Report				3. SUBTITLE		
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE SOW Task 6		6. REQUIRING OFFICE COR		
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY ANPLY		12. DATE OF FIRST SUBMISSION 360 DAC		14. DISTRIBUTION	
8. APP CODE		11. AS OF DATE Contract Award		13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSEE	
16. REMARKS This must be submitted each year. Following the first submission, each subsequent submission must be delivered within 365 days following the previous submission.						b. COPIES	
						Draft	
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15. TOTAL →							
G. PREPARED BY Naval Research Laboratory			H. DATE 11-19-99		I. APPROVED BY		J. DATE

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ANTICIPATED WORK BREAKDOWN SCHEDULE

<u>LABOR CATEGORY (LEVEL)</u>	<u>HOURS/YEAR</u>
Program Control	
Program Manager (5)	1,900
Subcontract Monitor (3)	950
Program Status & Reporting – As Required	
Buyer	1,900
Courier	950
Transition Plan – As Required	
Program Support Services	
Project Coordinator (5)	3,800
Project Coordinator (2)	1,900
Technical Writer/Editor (3)	1,900
Clerical (4)	3,800
Systems Engineering	
Concept & Design	
Aerospace Engineer (2)	1,900
Mechanical Engineer (2)	1,900
Trade Studies	
Mechanical Engineer (3)	1,900
Requirements Definition	
Scientist (5)	3,800
Launch Ops Support	
Mechanical Engineer (3)	1,900
Project Coordinator (2)	1,900
Mechanical System Design, Analysis & Test	
Structure Design & Drafting	
Mechanical Designer (5)	5,700
Mechanical Designer (4)	5,700
Design Drafter (4)	1,900
Design Illustrator (4)	1,900
Document Administration (3)	1,900
Attitude Determination Control	
Controls Engineer (4)	1,900

Thermal Control Systems	
Mechanical Engineer (4)	1,900
Mechanical Technician (4)	3,800
Reaction Control Systems	
Mechanical Technician (4)	1,900
Spacecraft Testing	
Vibration Testing	
Mechanical Engineer (4)	3,800
Mechanical Technician (3)	1,900
Thermal Vacuum Testing	
Mechanical Technician (4)	1,900
Manufacturing	
Fabrication & Manufacturing Planning	
Planner/Estimator (5)	1,900
Fabrication Assembly & Ground Proc.	
Assembly Technician (5)	1,900
Assembly Technician (4)	3,800
Assembly Technician (2)	1,900
Quality Assurance (QA)	
QA Specialist (5)	5,700
QA Specialist (4)	1,900
QA Specialist (3)	1,900
Parts & Materials Support	
Logistics Specialist (2)	1,900
Facilities & Logistics	
Computer Software & Hardware Support	
Work Station Manager (5)	1,900
Systems Programmer (3)	1,900
Computer Technical Specialist (2)	3,800
Computer Technical Specialist (4)	1,900
Transportation Support	
Facility Technician	1,900
Heavy Equipment Operations & Maintenance	

Facility Technician (3)	1,900
Welding Equipment Operations & Maintenance Mechanical Technician (4)	
Off-site Facility – If Required	
Logistics Specialist (4)	1,900
Logistics Specialist (5)	1,900
New Technology Development	
Concept Development	
Scientist (5)	5,700
Design Fabrication & Test	
Mechanical Engineer (4)	3,800
Mechanical Technician (3)	1,900
Market Investigation & Development	
Aerospace Engineer (4)	1,900
TOTAL ANTICIPATED LEVEL OF EFFORT/YEAR	119,700

PERSONNEL QUALIFICATIONS

1. AEROSPACE ENGINEER

a. General Description

(1) Purpose

Conceptualizes, designs, analyzes, and tests aerospace system configuration and launch options to meet mission requirements.

(2) Duties

Conducts aerospace system configuration trade studies to determine the type of configuration that best meets the requirements of individual subsystems (e.g., propulsion, RF, attitude control, power, and payload). Performs thermal and dynamic analyses of spacecraft mechanisms. Design, tests, and simulates spacecraft models and prototypes. Design, develop, and test prototype hardware in marketing in new technical areas such as energy conversion and transportation.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels 2 - 5. Bachelor's degree or higher from an accredited university or college in Aerospace Engineering, Physics, Mathematics, or related field.

(2) Knowledge, Skills, and Abilities

Must have knowledge of launch vehicle requirements, the space environment, aerospace materials, and spacecraft testing techniques. All Levels must have the ability to communicate effectively both orally and in writing.

2. ASSEMBLY TECHNICIAN

a. General Description

(1) Purpose

Responsible for the assembly of qualification and flight hardware, test equipment, and support facilities used in the development and testing of space hardware and systems.

(2) Duties

Provides assistance to engineers and analysts during spacecraft test, *integration, and* launch activities. Fabricates and assembles test fixtures and space system structures, mechanisms, and subassemblies from *engineering* drawings, rough sketches, and verbal *instructions*.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels 3 - 5. Associate's Degree in Airframe and Propulsion.

(2) Knowledge, Skills, and Abilities

Must be able to read and interpret drawings and blueprints. Must be able to operate power and hand tools Utilized in the aerospace environment. Must be able to plan, process, and assemble hardware from blueprints, procedures, and verbal instructions.

3. BUYER

a. General Description

(1) Purpose

Interfaces with potential vendors for procurement purposes, and analyzes equipment requirements with respect to availability and cost.

(2) Duties

Recommends the most expeditious and cost-effective means of satisfying equipment requirements.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels 1 - 2. Successful completion of high school and professional courses in related fields.

(2) Knowledge, Skills, and Abilities

Must have general knowledge of the requirements and aerospace certification and configuration control.

4. CLERICAL

a. General Description

(1) Purpose

Provides secretarial and administrative support to contractor management personnel.

(2) Duties

Prepares administrative and technical correspondence and reports (e.g., letters, travel orders and claims, training, security clearances, and work order requirements). Performs clerical duties requiring independent judgment and a thorough knowledge of organizational paperwork.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels I - 3. Successful completion of high school or secretarial/ clerical school that included word processing and computer courses.

(2) Knowledge, Skills, and Abilities

Must be able to operate a personal computer and the various application packages used in the office environment (i.e., WordPerfect, MS Word, Lotus 1-2-3, Excel, dBase, Harvard Graphics, etc.). Must have superior communication skills (both verbal and written), and the ability to organize and work effectively.

E-1 5. COMPUTER TECHNICAL SPECIALIST

a. General Description

(1) Purpose

This position provides: personal computer installation, repair, and networking service; computer operating systems and application software installation, management, and support; and direct technical assistance to personal computer users. The foregoing usually involve IBM PC and Apple Macintosh Computers and their peripherals.

(2) Duties

The incumbent will exercise a considerable range of computer skill and knowledge to: evaluate individual, group, and Department personal computer hardware and software requirements; make recommendations to optimum computer usage and performance; install, configure, maintain, and repair personal computers, networks, and peripheral equipment; and provide technical and application program assistance and instruction to personal computer users.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels 2 - 5. The holder of this position should have an Associate's Degree in Computer Science or 5 years of directly applicable practical experience may be substituted.

(2) Knowledge, Skills, and Abilities

The successful holder of this position must have: a thorough knowledge of IBM PC and Apple Macintosh operating systems and application software; and capability to perform hardware repairs to the module level. The ability to interact easily and communicate clearly with computer users, vendors, repair personnel, as well as upper level supervisors is necessary.

6. CONTROLS ENGINEER

a. General Description

(1) Purpose

To provide mathematical controls analysis and performance assessment of position determination, attitude determination, and control systems for ground, airborne, and spacecraft control systems. Provide support to the Flight Operations Team assisting in Attitude Determination, Control System Configuration, and Anomaly Resolution.

(2) Duties

Perform analysis of control systems in response to contract task assignments. Perform stability analysis and parametric sensitivity studies on control systems, using computer programs developed in conjunction with the Space Engineering Department, and provide written reports documenting work and analysis.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Levels 3 - 5. Bachelor of Science Degree or higher in an appropriate field of engineering with course work in control theory plus 5 years experience as a controls analyst in the aerospace industry.

(2) Knowledge, Skills, and Abilities

Ability to analyze control systems and develop mathematical models of control systems from block diagrams. Ability to use computers to analyze control systems and to write required computer programs.

7. COURIER

a. General Description

(1) Purpose

Provides transportation of materials, support equipment, and documentation from off-site and remote facilities in support of contract tasks.

(2) Duties

Transport and deliver equipment, hardware, and documentation.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level I. Successful completion of high School and driver's license for small trucks and vans.

(2) Knowledge, Skills, and Abilities

Knowledge of hardware types and uses. Needs the ability to communicate verbally.

8. DESIGN DRAFTER

a. General Description

(1) Purpose

To generate detailed piece/part and assembly/ sub-assembly designs and drawings of complete spacecraft, tooling, and support equipment.

(2) Duties

Using Unigraphics, designs, lays out drawings, and develops specifications for hardware that forms the key components of space system research and development programs. Maintains contact with engineering personnel, and monitors the manufacturing process for fabrication difficulties, drawing discrepancies, modifications due to experiment changes, and adherence to project schedules.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 2 - 5. A Bachelor's degree from an accredited university or college in Mechanical Drafting Art requirement. A degree in a related field with 4 years of experience; or corresponding Associate's degree combined with 6 years experience; or 10 years of directly related experience may be substituted.

(2) Knowledge, Skills, and Abilities

Must have knowledge and skill using computer aided design tools. Must have a working familiarity with the guidelines of DoD-STD-100, I&L-T-31000, ANSI Y14.5M, ANSI Y32.2, and ANSI Y32-16 as they apply to the engineering development and documentation process.

9. DESIGN /ILLUSTRATOR

a. General Description

(1) Purpose

Prepares illustrations for presentations and documents that include specifications, procedures, plans, reports, and processes.

(2) Duties

Prepares fabrication, mechanical, and structural assembly illustrations of space system components. Working from rough sketches and verbal instructions illustrates prototype and first article build of mechanical and structural mechanisms, components, and subassemblies.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 1. Successful completion of high school

(2) Knowledge, Skills, and Abilities

Must have the ability to read and interpret drawings and work from rough sketches. Maintains a working knowledge with the guidelines of DoD-STD100, ANSI Y14.5M, ANSI Y32.2, and ANSI Y32.16 as they apply to the engineering development and documentation process.

10. DOCUMENT ADMINISTRATOR

a. General Description

(1) Purpose

To maintain a complete and organized mechanical drawing system. Produces drawing books.

(2) Duties

Assigns control numbers to newly released documentation. Reproduces engineering design drawings. Generates and maintains drawing books reflecting current configuration of space systems and components.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 1. Successful completion of high school

(2) Knowledge, Skills, and Abilities

Must have the ability to update assembly drawing books to reflect current configuration of space systems and structures. Must have the ability and skills necessary to operate the DIAZ, XEROX, and MITA reproduction machines. Must have the ability to do data entry of control numbers into an existing computer spreadsheet type program and produce reports as requested.

11. FACILITIES TECHNICIAN

a. General Description

(1) Purpose

To provide logistics and facilities oversight to fabrication, test, and integration tasks.

(2) Duties

Provides the facility support requirements associated with the mechanical development, assembly, testing, and integration of spaceflight structures and subassemblies. Operates and maintains environmental facilities used during test activities. Performs light fabrication and mechanical repair tasks.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 2 - 3. Associates Degree with 2 years of experience; or, Successful completion of high school with 5 years of related experience.

(2) Knowledge, Skills, and Abilities

Must have knowledge in handling procedures, hand tools, and materials equipment.

12. LOGISTICS SPECIALIST

a. General Description

(1) Purpose

Provides material inventory, documentation, and traceability.

(2) Duties

Provides the logistics support requirements associated with the mechanical development, assembly, testing, and integration of spacecraft structures and subassemblies. Maintains a complete inventory of the project-related supplies, material, and equipment required to assemble spacecraft structures.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 1 - 4. Successful completion of high school

(2) Knowledge, Skills, and Abilities

Must be knowledgeable in the operation of a personal computer and be able to perform inventory procedures and transfer of stock.

13. MECHANICAL DESIGNER

a. General Description

(1) Purpose

To prepare design drawings for development of aerospace products using specifications and sketches to solve mechanical and fabrication problems.

(2) Duties

Prepare clear, complete, and accurate working drawings from sketches and/or notes for manufacturing purposes according to specified dimensions. Makes final sketches of proposed drawings, checking dimension of parts, materials to be used, relation of one part to another, and the relation of various parts to whole structures. Make adjustments or change as necessary and inks in all lines and letters on penciled drawings as required.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 3 - 5. Drafting technology certificate or 5 years experience in aerospace design drafting. Experience in aerospace system hardware and ground support equipment is required.

(2) Knowledge, Skills, and Abilities

Familiarity with NASA/MIL specifications and procedures. Ability to read/produce drawing to requirements of DoD-Std-100 and ANSI Y14-5M (1982).

14. MECHANICAL ENGINEER

a. General Description

(1) Purpose

To provide engineering support in the area of fluid flow, structures, testing, thermal control, and mechanical devices.

(2) Duties

Design and analyze the fabrication and testing of aerospace hardware. Resolve technical problems as they arise, provide engineering solutions based on calculations and test, and interface with the many complex technical disciplines, such as thermal, electrical, and structural to satisfy spacecraft level objectives. Analysis/design may involve temperatures

ranging from that of liquid helium to substantially above ambient temperature. Fluid flow analysis may range from simple pipe flow to plume analysis. Plans and conducts tasks requiring considerable judgment in the evaluation and modification of mechanical engineering techniques, procedures, and criteria. Performs design, development, test, and evaluation of mechanical and electro-mechanical components and subassemblies deployed on space system platforms. Design, development and testing of prototype hardware in new technical areas such as energy conversion and transportation. Plans and conducts modal analyses of structural components and systems using advanced digital signal processing equipment.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 2 - 5. Bachelor of Science Degree or higher in an appropriate field of engineering or physical science with experience in the development and qualification of aerospace hardware.

(2) Knowledge, Skills, and Abilities

Must have knowledge of the latest analytical techniques relevant to duties described above. Knowledge of mechanics of materials, metal fatigue, thermal control, liquid propellant systems, electric propulsion systems, and structural design of aerospace and space hardware as required by specific task assignment. Ability to use appropriate computer programs required for his area of expertise.

15. MECHANICAL TECHNICIAN

a. General Description

(1) Purpose

To perform mechanical fabrication and assembly under the direction of the engineer(s) in charge.

(2) Duties

Design and fabricate test hardware and prepare flight hardware for testing. Use simple machine shop tools to fabricate fitting and jigs. Operate vacuum pumps, leak detectors, and measuring equipment.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 3 - 4. Technical school graduate with experience as an aerospace technician. Background should include exposure to a variety of laboratory equipment such as scales, flowmeters, pressure/vacuum gauges, temperature sensors, etc.

(2) Knowledge, Skills, and Abilities

Ability to read mechanical schematics, log flow diagrams, and blueprints. Should be familiar with compressed gas handling and storage. Capable of performing tasks with minimal supervision. Experience in the areas of Reaction Control Systems, Thermal Control Systems, and/or Vibration Testing required for some positions.

16. PLANNER/ESTIMATOR

a. General Description

(1) Purpose

This position provides: fabrication and manufacturing plans and estimates used in obtaining equipment, tools, supplies, and materials in support of the spacecraft structures, mechanisms, subassemblies, and MAGE.

(2) Duties

The incumbent will exercise a considerable range of machine shop skill and knowledge to: identify material control processes and sequence flows; prepare and submit formal plans to the Government; requisition and procure vendor-supplied equipment, tools, supplies, and materials; prepare dedicated production shop travelers, history jackets, and manufacturing work instructions WWI); establish an effective system to prevent Electrostatic Discharge (ESD) damage to electronic components during fabrication and manufacturing processes; and set up the equipment and tooling necessary to manufacture space systems structures, components, mechanisms, and subassemblies.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 4. The holder of this position must have Successfully completed high school plus 10 years of practical machine shop experience.

(2) Knowledge, Skills, and Abilities

The successful holder of this position must have: general knowledge of machine shop practices; be able to read and interpret blueprints and drawings; and experience in working from sketches and verbal instructions. The ability to interact easily and communicate clearly with users, vendors, repair personnel, as well as upper level supervisors is necessary.

17. PROGRAM MANAGER

a. General Description

(1) Purpose

Interface with the government representative in the administration and monitoring of necessary work. Analyze work tasks and provide the engineering support necessary for implementation. Monitor and supervise operations to provide the assigned support in a cost-effective manner.

(2) Duties

Provide expertise in the fields of aerospace technology related to the analysis of flight and ground support equipment projects, flight system and component design and fabrication, test facilities, and environmental testing. Implement task assignment in accordance with projected milestones and provide the government with reports and documentation as specified in the Statement of Work and as requested in the Task Assignments.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 4 - 5. Must have 10 - 15 years experience in aerospace technology as a program manager. Must have a Master's Degree in engineering and formal education in Program Management.

(2) Knowledge, Skills, and Abilities

Must demonstrate the capability to supervise and manage task projects related to aerospace technology. Must have government contracting experience and a working knowledge of the FAR/DFARS

18. PROJECT COORDINATOR

a. General Description

(1) Purpose

Provides program management expertise in the areas of program planning and control, engineering, integration and coordination, cost modeling, performance measurement, scheduling, and document administration.

(2) Duties

Integrates and coordinates engineering development efforts to achieve best mix of the final technical and performance parameters. Defines, develops, implements, and refines cost models which enhance cost project reliability. Predicts and demonstrates the achievement of selected program objectives. Assures that program tasks are completed on schedules, use only allocated resources, and meet system specifications. Plans, directs, and coordinates program documentation activities to assure that these activities are compatible with technical and programmatic goals.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 2. Bachelor's Degree in Engineering or Business Administration and applicable experience in the aerospace industry.

(2) Knowledge, Skills, and Abilities

Ability to communicate effectively both orally and in written form.

19. PROJECT MANAGER

a. General Description

(1) Purpose

Serves as a single point of contact with the customer for all matters concerning technical progress and problems, program performance, schedule, cost, resources, and other program related activities. Assures the effective performance of program tasks.

(2) Duties

Plans and directs the development of structures and electro-mechanical devices for spaceflight use. Monitors the day-to-day activities of all on-site work. Responsible for work assignments, prioritization of the work, and supervision of all on-site employees.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 5. Bachelor's Degree in Engineering and a Master's Degree in Engineering Administration, Business Administration, or equivalent with 15 years experience; or 20 years of Aerospace experience with 10 years as a Project Manager.

(2) Knowledge, Skills, and Abilities

Must have hardware experience in the design, development, and implementation of aerospace systems. Must have a knowledge of launch vehicles and launch vehicle requirements. Must have a general knowledge of thermal testing logistics and all other work described in the SOW. Must have the ability to resolve conflicts and to interface with people. Must be able to read and interpret drawings and specifications.

20. QUALITY ASSURANCE SPECIALIST

a. General Description

(1) Purpose

To inspect flight hardware, flight support equipment, spares, and engineering units for compliance with the requirements of the applicable documents that are specified in the individual task assignment.

(2) Duties

Verify that the hardware, parts, and materials are in compliance with the procurement document and engineering drawings. Ensure that hardware, parts, and materials are being handled and stored properly to prevent degradation and/or damage. Ensure compliance with the configuration control plans, and verify the configuration of the deliverable hardware. Ensure that processes pertaining to soldering, electronic welding, stitchwire welding, structural welding, etc. are being compiled with by the fabricator and/or operator. Perform structural, sensor, and antenna alignments using advanced optical metrology equipment.

b. General Qualification Requirements

(1) Education, Training and Experience

Experience 2 - 4. Successful completion of high school and experience in all aspects of mechanical and electrical fabrication, receiving and shipping inspection. Must have experience in quality control pertaining to aerospace hardware and/or systems.

(2) Knowledge, Skills, and Abilities

Thorough knowledge of quality assurance activities as defined in the NASA Handbooks (NHB 5300.4 series) and ability to implement the requirements with little supervision. Knowledge of advanced metrology equipment.

21. SCIENTIST

a. General Description

(1) Purpose

Coordinates and documents scientific requirements on spacecraft and ground systems.

(2) Duties

Selects research problems to further the organization's objectives. Conceives and plans investigations in areas critical to the overall program for which engineering precedents are lacking. Makes decisions and recommendations that are recognized as authoritative and have an important impact on extensive engineering activities.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 5. Doctorate from an accredited university or college in Mechanical Engineering, Computer Science, Physics, or Mathematics; or a Master's Degree in Mechanical Engineering, Computer Science, Physics, Mathematics combined with 15 years experience.

(2) Knowledge, Skills, and Abilities

Must have knowledge of space sensing systems and equipment. Must have strong technical writing skills and the ability to communicate effectively both orally and in written form.

22. SUBCONTRACT MONITOR

a. General Description

(1) Purpose

To implement, review, and report the status of all subcontracts in support of the SOW.

(2) Duties

Writes, negotiates, and administers all on-going subcontracts and implements changes as required. Responsible for coordinating subcontractor monthly reports.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 2. Successful completion of high school and a minimum of 2 years of experience in administering and monitoring government subcontracts.

(2) Knowledge, Skills, and Abilities

Must have a working knowledge of federal contracting requirements. Must be able to communicate effectively, both orally and in writing, sufficient to write the contracts. Must have the ability to organize, implement, and report status of the subcontracts.

23. SYSTEMS PROGRAMMER

a. General Description

(1) Purpose

This position provides the ability to create custom software, not readily available commercially, which is geared toward specific Departmental needs. This custom software is used to perform tasks, which add to the Department's capabilities and/or improve productivity.

(2) Duties

The Systems Programmer will: exercise computer programming skills and knowledge to evaluate system design, applications, and objectives with systems engineers, computer operators, and customer project personnel; design, code, test, and debug software programs; and develop simulated data to test system interface capability.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 3 - 4. Bachelor's Degree in Computer Science or a related field plus 5 years of experience, or 10 years of directly applicable practical experience, with specific emphasis on programming.

(2) Knowledge, Skills, and Abilities

The successful holder of this position must have a thorough knowledge of IBM PC and VAX/MS operating systems, and Pascal and "C" programming languages. The ability to interact easily and communicate clearly with computer users, engineers, customer project personnel, as well as upper level supervisors is necessary.

24. TECHNICAL WRITER/EDITOR

a. General Description

(1) Purpose

The generation of specifications, design and study reports, control system descriptions, and test reports.

(2) Duties

Consult with engineers and contractor personnel to gather information required for the documents. Generate or supervise the preparation of drawings, figures, drafts, and final reports.

b. General Qualification Requirements

(1) Education, Training, and Experience

Experience Level 3. Associate Degree in the field of Communicative Arts with 3 years experience in technical writing for aerospace technology.

(2) Knowledge, Skills, and Abilities

Have sufficient technical knowledge so that documentation can be generated with clarity and accuracy. Ability to communicate orally, as well as in written form.

25. WORK STATION MANAGER

a. General Description

(1) Purpose

This position provides: UNIX workstation administration and networking service; computer operating system and application software installation, management, and support; and direct technical assistance to UNIX workstation computer users.

(2) Duties

The incumbent will exercise a considerable range of computer skill and knowledge to: evaluate individual, group, and Department computer hardware and software requirements; make recommendations for optimum computer usage and performance; configure and administrate computers, software, networks, and peripheral equipment; and provide technical and application program assistance and instruction to personal computer users.

b. General Qualification Requirements

(1) Education, Training and Experience

Experience Level 3 - 4. Bachelor's Degree in Computer Science or a related field plus 5 years of experience, or 10 years of directly applicable practical experience.

(2) Knowledge, Skills, and Abilities

The successful holder of this position must have: thorough knowledge of the UNIX operating system and an understanding of application software; capability to load, upgrade, and optimize operating systems and applications; and program UNIX shell scripts. The ability to interact easily and communicate clearly with computer users, vendors, repair personnel, as well as upper level supervisors is necessary.

**DEPARTMENT OF DEFENSE
CONTRACT SECURITY CLASSIFICATION SPECIFICATION**

(The requirements of the DoD Industrial Security Manual apply, to all security aspects of this effort.)

1. CLEARANCE AND SAFEGUARDING SER: 037-99

a. FACILITY CLEARANCE REQUIRED

SECRET

b. LEVEL OF SAFEGUARDING REQUIRED

SECRET

2. THIS SPECIFICATION IS FOR: (X and complete as applicable)

a. PRIME CONTRACT NUMBER	
b. SUBCONTRACT NUMBER	
c. SOLICITATION OR OTHER NUMBER	Due Date (YYMMDD)
X 82-1503-99	

3. THIS SPECIFICATION IS: (X and complete as applicable)

a. ORIGINAL (Complete date in all cases)	Date (YYMMDD)
X	990701
b. REVISED (Supersedes all previous specs)	Revision No.
c. FINAL (Complete Item 5 in all cases)	Date (YYMMDD)

4. IS THIS A FOLLOW-ON CONTRACT? YES NO. If Yes, complete the following:
Classified material received or generated under _____ (Preceding Contract Number) is transferred to this follow-on contract.

5. IS THIS A FINAL DD FORM 254? YES NO. If Yes, complete the following:
In response to the contractor's request dated _____, retention of the identified classified material is authorized for the period of _____

6. CONTRACTOR (Include Commercial and Government Entity (CAGE) Code)

a. NAME, ADDRESS, AND ZIP CODE	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code)
FOR RFP PURPOSES ONLY, NOT VALID FOR ACTUAL CONTRACT AWARD		

7. SUBCONTRACTOR

a. NAME, ADDRESS, AND ZIP CODE	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code)
N/A		N/A

8. ACTUAL PERFORMANCE

a. LOCATION	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code)
N/A		N/A

9. GENERAL IDENTIFICATION OF THIS PROCUREMENT

Provide Spacecraft Engineering Technical Services (SETS) for the Naval Center for Space Technology (NCSI).

10. THIS CONTRACT WILL REQUIRE ACCESS TO:	YES	NO	11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:	YES	NO
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION	<input checked="" type="checkbox"/>		a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY		<input checked="" type="checkbox"/>
b. RESTRICTED DATA		<input checked="" type="checkbox"/>	b. RECEIVE CLASSIFIED DOCUMENTS ONLY		<input checked="" type="checkbox"/>
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION		<input checked="" type="checkbox"/>	c. RECEIVE AND GENERATE CLASSIFIED MATERIAL	<input checked="" type="checkbox"/>	
d. FORMERLY RESTRICTED DATA		<input checked="" type="checkbox"/>	d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE		<input checked="" type="checkbox"/>
e. INTELLIGENCE INFORMATION:			e. PERFORM SERVICES ONLY		<input checked="" type="checkbox"/>
(1) Sensitive Compartmented Information (SCI)		<input checked="" type="checkbox"/>	f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES		<input checked="" type="checkbox"/>
(2) Non-SCI		<input checked="" type="checkbox"/>	g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER	<input checked="" type="checkbox"/>	
f. SPECIAL ACCESS INFORMATION		<input checked="" type="checkbox"/>	h. REQUIRE A COMSEC ACCOUNT		<input checked="" type="checkbox"/>
g. NATO INFORMATION		<input checked="" type="checkbox"/>	i. HAVE TEMPEST REQUIREMENTS		<input checked="" type="checkbox"/>
h. FOREIGN GOVERNMENT INFORMATION		<input checked="" type="checkbox"/>	j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS		<input checked="" type="checkbox"/>
i. LIMITED DISSEMINATION INFORMATION		<input checked="" type="checkbox"/>	k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE		<input checked="" type="checkbox"/>
j. FOR OFFICIAL USE ONLY INFORMATION		<input checked="" type="checkbox"/>	l. OTHER (Specify)		
k. OTHER (Specify)					

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 8213.

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, SECRET storage capabilities, and personnel available with 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. (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.) Yes No

15. **INSPECTIONS.** Elements of this contract are outside the inspection responsibility of the cognizant security office. (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.) Yes No

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.

TYPED NAME OF CERTIFYING OFFICIAL		b. TITLE		c. TELEPHONE (Include Area Code)	
TINA SMALLWOOD		Contracting Officer, Security		(202)767-2240/2521	
ADDRESS (Include Zip Code)			17. REQUIRED DISTRIBUTION		
Naval Research Laboratory 4555 Overlook Ave., SW Washington, DC 20375-5320			<input checked="" type="checkbox"/> a. CONTRACTOR <input type="checkbox"/> b. SUBCONTRACTOR <input checked="" type="checkbox"/> c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR <input type="checkbox"/> d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION <input type="checkbox"/> e. ADMINISTRATIVE CONTRACTING OFFICER <input checked="" type="checkbox"/> f. OTHERS AS NECESSARY 1221.11,8213,8202		
SIGNATURE					
					