

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

1. SOLICITATION NUMBER

2. (X one)

N00173-99-R-JW04

- |                                     |                     |
|-------------------------------------|---------------------|
|                                     | a. SEALED BID       |
| <input checked="" type="checkbox"/> | 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.JW  
WASHINGTON DC 20375-5326

4. ITEMS TO BE PURCHASED (Brief description)

PROTOTYPE SPACECRAFT RESEARCH AND DEVELOPMENT FOR THE NAVAL RESEARCH LABORATORY

5. PROCUREMENT INFORMATION (X and complete as applicable)

- |                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | 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.) |
| <input type="checkbox"/>            | (1) Small Business   |
| <input type="checkbox"/>            | (2) Labor Surplus Area Concerns  |
| <input type="checkbox"/>            | (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) WALDENFELS, James P.	b. ADDRESS (Include Zip Code) CONTRACTING OFFICER, NAVAL RESEARCH LABORATORY ATTN: CODE 3230.JW WASHINGTON DC 20375-5326
c. TELEPHONE NUMBER (Include Area Code and Extension) (NO COLLECT CALLS) (202) 767-3003	

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

DD FORM 1707 REVERSE, MAR 90

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FROM

AFFIX  
STAMP  
HERE

<b>SOLICITATION NUMBER</b>	
N00173-99-R-JW04	
<b>DATE (YYMMDD)</b>	<b>LOCAL TIME</b>
2000 JAN 14	4:00 PM

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

<b>SOLICITATION, OFFER AND AWARD</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING <b>DO-C9</b>	PAGE OF 1   37 PAGES
2. CONTRACT NO.	3. SOLICITATION NO. <b>N00173-99-R-JW04</b>	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED <b>03 DEC 1999</b>	6. REQUISITION/PURCHASE NO. <b>81-0158-99</b>
7. ISSUED BY <b>CONTRACTING OFFICER NAVAL RESEARCH LABORATORY ATTN: CODE 3230.JW WASHINGTON DC 20375-5326</b>		CODE <b>N00173</b>	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 1 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in BLDG. 222, RM. 115 until 4:00pm local time JAN 14, 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 <b>JAMES P. WALDENFELS</b>	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) <b>(202) 767-3003</b>
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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	<input type="checkbox"/> 10 CALENDAR DAYS	<input type="checkbox"/> 20 CALENDAR DAYS	<input type="checkbox"/> 30 CALENDAR DAYS	CALENDAR DAYS
	%	%	%	%
14. ACKNOWLEDGMENT OF AMENDMENTS	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME	CODE	FACILITY	15. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN
15B. TELEPHONE NO. (Include area)	<input type="checkbox"/> 15C. CHECK IF REMITTANCE ADDRESS		17. SIGNATURE
			18. OFFER DATE

**AWARD (To be completed by Government)**

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPET.		23. SUBMIT INVOICES TO ADDRESS SHOWN IN
<input type="checkbox"/> 10 U.S.C. 2304(c) ( ) <input type="checkbox"/> 41 U.S.C. 253(c) ( )		ITEM
24. ADMINISTERED BY (If other than Item 7)	CODE	25. PAYMENT WILL BE MADE BY
		CODE
26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA	
	(Signature of Contracting Officer)	
	28. AWARD DATE	

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

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

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

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0001	The contractor shall perform prototype spacecraft research and development services as described in Section C.	\$**	**	**
0002	Data in accordance with Exhibit A (DD 1423).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0001 AND 0002		\$**	**	**
<b>OPTION 1</b>				
0003	The contractor shall perform prototype spacecraft research and development services as described in Section C.	\$**	**	**
0004	Data in accordance with Exhibit A (DD 1423).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0003 AND 0004		\$**	**	**

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
<b>OPTION 2</b>				
0005	The contractor shall perform prototype spacecraft research and development services as described in Section C.	\$**	\$**	\$**
0006	Data in accordance with Exhibit A (DD 1423).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0005 AND 0006		\$**	\$**	\$**
<b>OPTION 3</b>				
0007	The contractor shall perform prototype spacecraft research and development services as described in Section C.	\$**	\$**	\$**
0008	Data in accordance with Exhibit A (DD 1423).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0007 AND 0008		\$**	\$**	\$**
<b>OPTION 4</b>				
0009	The contractor shall perform prototype spacecraft research and development services as described in Section C.	\$**	\$**	\$**
0010	Data in accordance with Exhibit A (DD 1423).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0009 AND 0010		\$**	\$**	\$**

ITEM NUMBER	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0001 THROUGH 0010		\$**	\$**	\$**

- \* Not Separately Priced
- \*\* To be entered by offeror.

Upon exercise of options, existing and newly exercised performance and data CLINS shall be joined.

**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, with the exception of Attachment (5), Recap of Responses during Pre-solicitation Phase," which was provided as background,

**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>.

**C-3 SUBCONTRACTING PLAN**

Subcontracting Plan \* dated \*is hereby incorporated by reference.  
*(\*this provision will be included and completed at time of award, if applicable)*

**SECTION D  
PACKAGING AND MARKING**

**D-1 PACKAGING AND MARKING**

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

**SECTION E  
INSPECTION AND ACCEPTANCE**

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

**FAR CLAUSE    TITLE**

52.246-8       -    Inspection Of Research And Development - Cost Reimbursement (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 for Items 0001 and 0002 is from the date of award of the contract through one year after the date of award. If and when Option 1 is exercised, the term of Items 0003-0004 shall be from the date of award of the basic contract through two years after the date of award of the basic contract. If and when Option 2 is exercised, the term of Items 0005-0006 shall be from the date of award of the basic contract through three years after the date of award of the basic contract. If and when Option 3 is exercised, the term of Items 0007-0008 shall be from the date of award of the basic contract through four years after the date of award of the basic contract. If and when Option 4 is exercised, the term of Items 0009-0010 shall be from the date of award of the basic contract through five years after the date of award of the basic contract .

(b) The principal place of performance of this contract shall be \_\_\_\_\_\*

( \* To be filled in at time of award. Offeror shall enter a location in the block.)

**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 3008.2, 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 filled in 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 filled in 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 COR's file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.
- (d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.
- (e) TDMs shall include, but not be limited to, the following information:
- (1) Date of TDM,
  - (2) Contract Number,
  - (3) Reference to the relevant portion or item in the Statement of Work,
  - (4) The specific technical direction or clarification, 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 SUBCONTRACTORS/CONSULTANTS**

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

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

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

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

**G-5 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 filled in 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-6 INCREMENTAL FUNDING**

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

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

#### **G-7 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 filled in 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:

- Program Manager: \_\_\_\_\_
- Lead Systems Engineer: \_\_\_\_\_
- EPS Engineer: \_\_\_\_\_
- TT&C Engineer: \_\_\_\_\_
- Mechanisms Engineer: \_\_\_\_\_
- Structures Engineer: \_\_\_\_\_
- ACS Engineer: \_\_\_\_\_
- RCS Engineer: \_\_\_\_\_
- Thermal Engineer: \_\_\_\_\_
- Ordnance Control Engineer: \_\_\_\_\_
- RF Subsystem Engineer: \_\_\_\_\_
- Antenna Engineer: \_\_\_\_\_
- Senior S/C Software Engineer: \_\_\_\_\_
- Physicist: \_\_\_\_\_

Mathematician/Aerospace Analyst: \_\_\_\_\_  
Optical Engineer: \_\_\_\_\_  
S/C Electronics Assembly Manager: \_\_\_\_\_

(Anticipated positions for key personnel are indicated. Offeror shall enter names, which will be confirmed at time of award)

### **H-3 ONR 5252.216-9706 - LEVEL OF EFFORT (DEC 88) (MODIFIED SEP 99)**

(a) The Contractor agrees to provide the total level of effort specified in the next sentences in performance of the work described in this contract. The total level of effort for performance of this contract shall be 163,000 total hours of direct labor for the base year.

- If and when Option 1 is exercised, the performance of Items 0001-0004 of this contract shall require an additional 163,000\* hours for a total of 326,000\* total hours of direct labor.
- If and when Option 2 is exercised, the performance of Items 0001-0006 of this contract shall require an additional 163,000\* hours for a total of 489,000\* total hours of direct labor.
- If and when Option 3 is exercised, the performance of Items 0001-0008 of this contract shall require an additional 163,000\* hours for a total of 652,000\* total hours of direct labor.
- If and when Option 4 is exercised, the performance of Items 0001-0010 of this contract shall require an additional 163,000\* hours for a total of 815,000\* total hours of direct labor.

These hours include subcontractor direct labor for those subcontractors specifically identified in the Contractor's proposal as having hours included in the proposed level of effort. A breakdown of labor categories and hours is set forth in paragraph (k) below.

(b) 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 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. Notwithstanding any of the provisions in the above paragraphs, if the contractor has delivered at least 90% of the level of effort required in paragraph (a) above, adjustment in the fixed fee shall be as follows:

<u>Delivery of level of effort:</u>	<u>Fee Reduction</u>
At least 90% but less than 91%	90% of the reduction otherwise due per paragraph (f)(l).
At least 91% but less than 92%	80% of the reduction otherwise due per paragraph (f)(l).
At least 92% but less than 93%	60% of the reduction otherwise due per paragraph (f)(l).
At least 93% but less than 94%	40% of the reduction otherwise due per paragraph (f)(l).
At least 94% but less than 95%	20% of the reduction otherwise due per paragraph (f)(i).
At least 95%	No adjustment in the fixed fee shall be made.

(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 level of effort for the base year and through each option period is as follows:

<u>Labor Category</u>	<u>Hours for Basic Period</u>	<u>Hours Through Option 1</u>	<u>Hours Through Option 2</u>	<u>Hours Through Option 3</u>	<u>Hours Through Option 4</u>
Contract Line Items (CLINS)	0001- 0002	0001- <u>0004</u>	0001- <u>0006</u>	0001- <u>0008</u>	0001- <u>0010</u>
Program Manager	2,000	4,000	6,000	8,000	10,000
Systems Engineers	6,000	12,000	18,000	24,000	30,000
Administrative Specialist	6,000	12,000	18,000	24,000	30,000
Secretarial Support	9,000	18,000	27,000	36,000	45,000
EPS Engineer	10,000	20,000	30,000	40,000	50,000
Harness Engineer	4,000	8,000	12,000	16,000	20,000
TT&C Engineer	10,000	20,000	30,000	40,000	50,000
Mechanisms Engineer	6,000	12,000	18,000	24,000	30,000
Structures Engineer	12,000	24,000	36,000	48,000	60,000
ACS Engineer	8,000	16,000	24,000	32,000	40,000
RCS Engineer	4,000	8,000	12,000	16,000	20,000
Orbits/Traj. Analyst	2,000	4,000	6,000	8,000	10,000
General Design & Support Engineer	12,000	24,000	36,000	48,000	60,000
Thermal Engineer	6,000	12,000	18,000	24,000	30,000
Ordnance Control Engineer	4,000	8,000	12,000	16,000	20,000
RF Subsystem Engineer	10,000	20,000	30,000	40,000	50,000
Antenna Engineer	2,000	4,000	6,000	8,000	10,000
Senior S/C Software Engineer	6,000	12,000	18,000	24,000	30,000
General S/C Software Engineer	10,000	20,000	30,000	40,000	50,000
Instrumentation Engineer	2,000	4,000	6,000	8,000	10,000
Physicist	6,000	12,000	18,000	24,000	30,000
Mathematician/Aerospace Analysis	6,000	12,000	18,000	24,000	30,000
Optical Engineer	6,000	12,000	18,000	24,000	30,000
S/C Electronics Assembly Manager	2,000	4,000	6,000	8,000	10,000
S/C Electronics Assemblers	<u>12,000</u>	24,000	36,000	48,000	60,000
Support Labor*	*	*	*	*	*
TOTAL*	163,000	326,000	489,000	652,000	815,000

\*If it is the offeror's established practice to charge certain support labor (such as contracts, subcontract administration, administrative support) as a direct charge, a nominal amount of such support labor may be proposed; pricing detail should match that provided for other labor. The total will be increased accordingly at the time of award. This note will be removed after entry of any proposed support labor upon award of the contract.

**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 INVENTORY DATABASE**

The Contractor shall maintain an accurate and timely inventory database/system of any NRL-supplied GFE and any equipment acquired by the contractor for the contract during the course of the contract, unless, and to the extent that the Government Property clause imposes a lesser requirement. At the completion of the contract, the Contractor shall perform a final inventory on all items and return all such equipment to NRL, unless and to the extent that the Government Property clause imposes a lesser requirement.

**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.

**H-9 SMALL DISADVANTAGED BUSINESS TARGETS**

Targets are as follows: \*

\*To be inserted at time of award per FAR 52.219-24.

**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**

<b><u>FAR CLAUSE</u></b>	<b><u>TITLE</u></b>
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)
52.215-10	- Price Reduction for Defective Cost or Pricing Data (OCT 1997)
52.215-11	- Price Reduction for Defective Cost or Pricing Data - Modifications (OCT 1997)
52.215-12	- Subcontractor Cost or Pricing Data (OCT 1997)
52.215-13	- Subcontractor Cost or Pricing Data Modifications (OCT 1997)
52.215-14	- Integrity of Unit Prices (OCT 1997)
52.215-15	- Pension Adjustments And Asset Reversions (DEC 1998)
52.215-17	- Waiver of Facilities Capital Cost of Money (OCT 1997) ( <i>will be included if the successful offeror does not propose facilities capital cost of money</i> )
52.215-18	- Reversion or Adjustment of Plans for Post-retirement Benefits (PRB) Other than Pensions (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)
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)
- 52.222-1 - Notice To The Government Of Labor Disputes (FEB 1997)
- 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"
- 52.222-20 - Walsh-Healey Public Contracts Act (DEC 1996)
- 52.222-21 - Prohibition of Segregated Facilities (FEB 1999)
- 52.222-26 - Equal Opportunity (FEB 1999)
- 52.222-29 - Notification Of Visa Denial (APR 1984) (DEVIATION)
- 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)
- 52.223-5 - 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)
- 52.227-10 - Filing of Patent Application- Classified Subject Matter (APR 1984)
- 52.227-11 - Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)  
*(will be included if the successful offeror is a small business or a non-profit organization)*
- 52.227-12 - 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)
- 52.230-3 - Disclosure And Consistency Of Cost Accounting Practices (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)
- 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 II (APR 1984)
- 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)
- 52.246-23 - Limitation Of Liability (FEB 1997)
- 52.246-25 - Limitation Of Liability - Services (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 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)
- 252.225-7009 - Duty Free Entry- Qualifying Country Supplies (End Products and Components) (MAR 1998)
- 252.225-7010 - Duty Free Entry - Additional Provisions (MAR 1998)
- 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)
- 252.227-7014 - Rights In Noncommercial Computer Software And Noncommercial Computer Software Documentation (JUN 1995)
- 252.227-7016 - Rights In Bids or Proposal Information (JUN 1995)
- 252.227-7019 - Validation Of Asserted Restrictions--Computer Software (JUN 1995)
- 252.227-7025 - Limitations On The Use Or Disclosure Of Government-Furnished Information Marked With Restrictive Legends (JUN 1995)
- 252.227-7030 - Technical Data--Withholding Of Payment (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)

- 252.247-7023 - 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).

**I-3 DFARS 252.225-7008 - SUPPLIES TO BE ACCORDED DUTY- FREE ENTRY (MAR 1998)**

In accordance with paragraph (b) of the Duty-Free Entry clause of this contract, in addition to duty-free entry for all qualifying country supplies (end products and components) and all eligible end products subject to applicable trade agreements (if this contract contains the Buy American Act - Trade Agreements - Balance of Payments Program clause or the Buy American Act - North American Free Trade Agreement Implementation Act - Balance of Payments Program clause ), the following foreign end products that are neither qualifying country end products nor eligible end products under a trade agreement, and the following nonqualifying country components, are accorded duty free entry.

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

- J-1** Attachment (1) - Statement Of Work, 17 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List 6 Pages
- J-2** Attachment (2) - DD 254, Contract Security Classification Specification Form Ser 021-99 Dated 990520, 2 Pages
- J-3** Attachment (3) Personnel Qualifications, 9 Pages
- J-4** Attachment (4) - Format For Non-Key Personnel Qualifications, 3 Pages
- J-5** Attachment (5) Recap of Responses to Comments During Pre-Solicitation Phase, 6 Pages
- J-6** Attachment (6) - ACCOUNTING AND APPROPRIATION DATA - 1 Page\*.

\* To be included at the 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>

A printed copy of the electronic version is requested from offerors. A Word version for use with subcontractors, if desired, may be requested from [waldenfels@contracts.nrl.navy.mil](mailto:waldenfels@contracts.nrl.navy.mil).

**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 employees.

**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)
52.211-2	-	Availability of Specifications Listed in the DOD Index of Specifications and Standards (DODISS) and Descriptions Listed in the Acquisition Management Systems and Data Requirements Control List, DOD 5010.12-L (AUG 1998)
52.214-34	-	Submission Of Offers In The English Language (APR 1991)
52.214-35	-	Submission Of Offers In U.S. Currency (APR 1991)
52.215-1	-	Instructions to Offerors- Competitive Acquisition (OCT 1997)
52.215-16	-	Facilities Capital Cost Of Money (OCT 1997)
52.219-24	-	Small Disadvantaged Business Participation Program - Targets (JAN 1999). (Note that FAR 52.219-23 is not included in this procurement, in accordance with DOD Class Deviation 99-00004 dated January 25,1999, "Suspension of the Price Evaluation Adjustment for Small Disadvantaged Businesses.
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 IV (OCT 1997)**

- (a) Submission of cost or pricing data is not required.
- (b) Provide information described below:

See L-13., "Volume II – Business Proposal."

**L-4 FAR 52.216-1 - TYPE OF CONTRACT (APR 1984)**

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

**L-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 TRAVEL ESTIMATE**

The travel estimate set forth below must be included in each offeror's cost proposal, for evaluation purposes only. (The yearly travel estimates should not be broken out into further components, such as air fare or per diem.) (As usual under cost plus fixed fee contracts, the contractor will be reimbursed allowable, allocable and reasonable travel costs incurred in contract performance.)

**TRAVEL COSTS - \$1,000,000 (\$200,000 PER YEAR) PLUS ANY APPLICABLE INDIRECT COSTS.**

The following information is provided solely for background. The estimate above is based on the following projection, based on experience, of trips the contractor might be making during a year.

<u>Destination</u>	<u>Trips</u>	<u>Avg. People/Trip</u>	<u>Avg. Days/Stay</u>	<u>Local Travel</u>
Boston	5	3	3	
Orlando	10	4	6	
Chicago	5	3	3	
LA	10	4	5	
Local				\$15,000

**L-9 MATERIAL, SUPPLIES, AND EQUIPMENT ESTIMATE**

The estimate set forth below, plus any applicable indirect costs, must be included in each offeror's cost proposal, for evaluation purposes only. (As usual under cost plus fixed fee contracts, the contractor will be reimbursed allocable, allowable and reasonable material costs incurred in contract performance.) The offeror must allocate the following sub-estimates to appropriate cost elements in the accounting system. Note that these amounts are in addition to any amounts for subcontracts, consultant costs, etc. for personnel to fill required positions.

- (1) Raw and processed materials and manufactured stock of all types of material including forging/castings; formed and drawn items; bulk and filler material; composites and

laminates; steel stocks; insulating, isolating and conducting material; gasses and fluids of all types; and other items: **\$100,000 per year (\$500,000 all years)**.

- (2) Parts, components and low-level manufactured items including: bolts, screws, nuts, washers, rivets, hinges, inserts, etc.; all electronic components/piece-parts and similar items; wire, cable, connectors, terminations and related items; sensors/transducers of all types; valves, filters, couplers of all types; and other items: **\$1,000,000 per year (\$5,000,000 all years)**.
- (3) Subassemblies including: electronics boards and modules; ordnance mechanisms and devices; accelerometers and related sensors; pumps, motors, solenoids and other actuators; and other items: **\$500,000 per year (\$2,500,000 all years)**.
- (4) Assemblies, equipment, black boxes, subsystems of all types: **\$3,000,000 per year (\$15,000,000 all years)**.

The following information is provided solely for background:

Typical assembly items are indicated below:

Radio Frequency/Communication Equipment  
Mass Storage Recording Subsystems  
Electromechanical Drive Apparatus  
Mass Energy Storage (Batteries, Fuel Cells)  
Antennas and Other Articulated Devices  
Ultra Precision Frequency Standards  
Electronic Power Converters/Conditioners  
Spaceborne Solar Arrays

## L-10 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," by December 28, 1999. Questions should be sent to [waldenfels@contracts.nrl.navy.mil](mailto:waldenfels@contracts.nrl.navy.mil) by the deadline with follow-up by mail. 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-11 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. N00173-99-R-JW04**

**Closing Date:**

**(As specified in Block 9, RFP face page)**

**Attn: Code 3230.JW**

(3) Proposal Format and Length - No attempt is made to restrict the proposal format and style with the exception of several requirements specified in the following provisions that address the technical/management proposal and the business proposal. 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. The technical proposal (excluding any preface (brief), table of contents, introductory lists (of acronyms, figures, tables, and illustrations), resumes, table(s) of personnel versus SOW or personnel requirements, and the management plan) shall not exceed 250 single-sided pages in length. (Note that offerors are not required to address their approaches to all tasks or their experience with all tasks; the focus is on significant tasks and experience, as further described in the following provision, and not on routine tasks. This is intended to reduce proposal text.) Proposals shall be typed with a minimum type size of 12 pitch (exclusive of normally smaller text such as subscripts). Excess pages will not be read or evaluated, with selection of excess text made by the NRL Contracting Division.

**L-12 VOLUME I - TECHNICAL/MANAGEMENT PROPOSAL**

REQUIRED COPIES: 1 ORIGINAL AND 5 COPIES .

(1) Include a matrix indicating proposed labor hours by skill category required to perform the statement of work. Describe the equivalence of RFP labor categories to your labor categories. This matrix shall not contain labor rates or any other indication of price. The offeror must propose using the level of effort breakdown identified in Section H of the RFP, treating each option period as a separate additional year.

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

1. PERSONNEL QUALIFICATIONS:

- The experience and qualifications of the proposed personnel relevant to this task. Qualified, experienced personnel will be an important factor for successful performance of the contract. Therefore, the offeror should provide convincing proof it has - or has the ability to obtain - personnel with relevant knowledge and experience for the efforts addressed in the Statement of Work. (Availability of personnel can be based on current staff expected to be on board at time of award, letters of commitment, employment contracts, or any other means that provides evidence of availability.)
- The RFP establishes certain minimum qualifications, such as US citizenship and eligibility for SECRET clearance for key personnel. A proposal would be deficient and unacceptable (though possibly correctable) for failure to satisfy qualification requirements. In other areas the RFP states “strong desires” and “preferences.” For example, the RFP states a “strong desire” that key personnel possess all the educational and experience qualifications expressed for their positions; it also states a “strong desire” that the average experience of the group of non-key personnel for each position satisfy each of the experience requirements expressed in years. While shortfalls in these areas will impact evaluation, they are not deficiencies. The RFP also allows up to five non-key personnel who do not have “required” degrees, provided their resumes support their suitability. A proposal with up to five such personnel would be acceptable in this regard, but evaluation standing could be affected.
- Resumes must be provided for all **key personnel**. (Only one person is key for each category where “key personnel” is indicated.) In addition to career experience and education, each resume should describe specific experience supporting the statement of work and personnel qualifications addressed in the attachment by that title, unless obvious from career experience. Ensure resume data for bachelor’s degree includes the year the degree was granted and the field (even if a higher degree is required). Eligibility for SECRET clearance may be based on evidence such as possession of a current SECRET or higher clearance, the absence of knowledge that would indicate a person would not be eligible, and no prior refusal of a SECRET or higher clearance, unless there is a satisfactory explanation suggesting there is no current problem. Clearance status may be indicated in the resume, by a statement in the proposal, or in a summary table.
- Resumes shall be available but should not be provided in the proposal for **non-key personnel**, with the exceptions stated below. Instead, offerors shall provide the names of non-key personnel, grouping them by position. The offeror shall state the years of experience for each person where specific length of experience requirements are stated (more than one type of such experience for some positions), the average experience for the group, and a “yes” or “no” mark whether the person is both a US citizen and eligible

for secret clearance. Use Attachment (4) or a similar table showing the same data for this purpose.

- While it is preferable that non-key personnel be U.S. citizens and eligible for SECRET clearance, the offeror may propose other personnel provided each person is supported by a resume and an explanation of the role of the person in the project, with security concerns addressed where foreseeable. (Eligibility is defined the same as above for key personnel.) Acceptability of such personnel is subject to the discretion of the Government.
- (Note that the experience requirements are for individual key personnel but are averages for non-key personnel.) Required qualifications for non-key personnel (including subcontract and consultant personnel) may be evaluated by spot-checking resumes requested by the Government after receipt of proposals. Up to five non-key personnel for the entire non-key personnel staff, in any positions at the contractor's discretion, need not satisfy the educational requirement, and their experience and other qualifications will be evaluated and rated appropriately. The offeror shall submit resumes only for these non-key personnel (who do not meet stated requirements) at the time of proposal submission and for personnel identified for spot-checking by the Government upon request. Offerors shall submit such requested resumes within one week of receipt of the request. Response by compatible e-mail or by facsimile transmission ((202) 767-6197) is acceptable.

## 2. *MANAGEMENT APPROACH, COMPANY EXPERIENCE AND FACILITIES:*

- a. Management Approach. The offeror should provide a sound project management approach for accomplishing the technical tasks, providing for efficiently organizing, effectively managing, and carefully and completely reporting and documenting the effort. This should be included in a "Management Plan" section of the proposal and should cover (1) management systems and approach, (2) project technical leadership and personnel, and (3) how the offeror will effect the expeditious and economic performance of significant program efforts. (It is not necessary that routine tasks be described.) The plan should include the proposed Quality and Reliability Program. Also include your format for tracking financial data. The offeror should demonstrate thorough understanding of the duration typically required to complete SOW tasks and the time criticality of aerospace research and development.
- b. Company Experience. The projects that the contractor will be involved with are complex with respect to both technical and managerial matters. Describe experience over the past five years in significant SOW areas, demonstrating familiarity with requirements and technical problems. Descriptions should include satellites (including subsystems and space experiments), boosters, integration, analysis/prediction of orbits and encounters, data processing and handling, etc. Descriptions should also include the extent and quality of the offeror's and major subcontractors' corporate experience relevant to the SOW tasks in the

- development, fabrication, integration and test of spacecraft components and systems and spacecraft as an entity. Include a table summarizing experience over the past five years. The table should include the name of the customer, a short description of the effort, dates of effort, the dollar value, the type of contract, and other pertinent information. Include proposals for all major subcontractors with the same type of information.
- c. Facilities. The proximity to NRL of the offeror is important due to critical timeliness requirements. There is a strong preference for facilities to perform the statement of work, including key offices for working with the Government, to be within approximately sixty miles of the Washington Beltway, and closer facilities may receive extra consideration. The offeror should describe availability and applicability of facilities and equipment to support SOW tasks.

## L-13 VOLUME II - BUSINESS PROPOSAL

### REQUIRED COPIES: 1 ORIGINAL AND 2 COPIES

The following information is required for evaluation of your business proposal:

#### (1) COST PROPOSAL

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

Base proposal costs on an anticipated start date of February 28, 2000. (This is later than anticipated at the time of the CBD synopsis.) Award is anticipated in February 2000.

Provide detailed cost tables both for each CLIN and for the total program. The tables for the total program must show **detail by the offeror's fiscal year**, which will facilitate analysis by NRL. Should hours in a category be broken down to show SOW detail, ensure the tables for the total program (or supplementary tables) show the total hours and costs for each labor category. (Such a breakdown by SOW is not desired for the fiscal year data.)

Provide a summary table showing the full value (e.g., CPFF or FFP at the subcontractor/consultant level) of each **subcontractor's and consultant's costs**, as well as its total hours, aligned with the offeror's fiscal years for the total program. Include the dollar amounts for unnamed subcontractors in compliance with Provision L-9, "Material, Supplies and Equipment Estimate." (Such a table is not needed for each CLIN.) In the description of each subcontractor's proposal, state whether the subcontractor will provide its own office facilities for performance or will regularly use another organization's office facilities (state portion). For each subcontractor providing its own facilities, state whether special facilities are involved beyond normal office facilities with

normal computer and software support.

If a period of performance (e.g., the first year, second year, etc.) **overlaps** the point where a rate changes (including labor, burdens, any cost of money), the offeror shall submit a description of the timing of the change, the amount of the base for each rate period, and the rate applied to each base. Alternately, the formulas or methodology for calculating the base for each period may be stated (e.g., two thirds of the hours in the first period, one third in the second). This may be submitted as a summary table, separate from the cost tables for the total program by fiscal year, or submission may not be necessary if clear from the cost tables for the total program. If subcontractors do not submit such information (for their own rate periods) to the offeror, they should be prepared to submit it to NRL's Contracting Division.

Provide a **rates table** showing all burden rates for each fiscal rate period. Include labor categories too, or, alternately for labor, indicate the percentage and timing of adjustments in category rates. If your company proposes using individual rates, and rates for some positions are based on composites of individuals, clarify the contribution of each person to the composite rate. Describe the base for each burden and cost of money factor, if used. Provide a table supporting the breakout by CLINS that shows the calculation of composite burden rates weighted by the proportion of the base in each fiscal period. Identify your fiscal year. Provide the same information for each subcontractor willing to provide it directly to you (for subcontractors providing labor for required personnel positions). If subcontractors do not submit such information to the offeror, they should be prepared to submit it to NRL's Contracting Division.

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.

State the **policy for the timing of adjustments in labor rates**, and state the adjustments and timing used in the proposal. If category rates are proposed, state whether costs are accumulated and billed using category rates, individual employee rates, or both. If both, describe your accounting practice. Provide contingency employment documents for potential new hires and describe the timing of potential adjustments in their salaries if not the same as for current employees. Provide the same information for each subcontractor willing to provide it directly to you (for subcontractors providing labor for required personnel positions). If subcontractors do not submit such information to the offeror, they should be prepared to submit it to NRL's Contracting Division.

If fringe benefit or overhead rates, G&A rates, or cost of money rates for the first period of performance are **changing significantly** (about 5% of the rate or more) from previously experienced or approved rates, an explanation should be provided. Provide the same information for each subcontractor willing to provide it directly to you (for subcontractors providing labor for required personnel positions). If subcontractors do not submit such information to the offeror, they should be prepared to submit it to NRL's Contracting Division.

When you elect to claim **facilities capital cost of money** as an allowable cost, you must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10). Provide the same information for each subcontractor willing to provide it directly to you (for subcontractors providing labor for required personnel positions). If subcontractors do not submit such information to the offeror, they should be prepared to submit it to NRL's Contracting Division

While there may be occasional support at NRL sites and occasional activities at Government installations, **overhead should not be based on performance at NRL**. The locations of work are anticipated as the contractor's sites, not NRL, and must be so proposed.

Indicate the cognizant **DCAA office**, including the name and phone number of the point of contact. Include the same information for subcontractors over \$500,000.

Provide a **summary of labor hours by position**, showing the makeup of each position by offeror hours, each subcontractor's hours and each consultant's hours.

(2) SMALL DISADVANTAGED BUSINESS PARTICIPATION PROPOSAL (In accordance with FAR 19.12)

All proposals must include information to permit evaluation of the extent of participation of certified small disadvantaged businesses 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). (This is In addition to compliance by large business offerors with the clause at FAR 52.219-9, Small Business Subcontracting Plan (Jan 1999) with its Alternate II.) See the SBA Home Page FAQ for Small Disadvantaged Business regarding the requirement for certification (<http://www.sba.gov/sdb/section06d.htm> .) Extent of participation includes both monetary value (see FAR 52.219-24, paragraph (b)) and complexity of work. Participation may be in the form of joint ventures, teaming arrangements, or subcontracts (including consultant agreements). Offerors should support the credibility of such participation using evidence such as:

- the monetary value of the participation;
- for large business offerors, the offeror's record of past compliance with significant subcontracting plan goals and targets for SDBs specifically or with other stated goals (ACO and other Government sources may also be considered regarding credibility issues.);
- for small business offerors, any data that would support credibility, including a track record or list of SDB subcontracting accomplishments;
- for all offerors, the credibility of the relationships with proposed SDBs (e.g., through the degree of enforceability, such as a documented, enforceable commitment as contrasted with a simple plan; e.g., through identification of specific, certified SDBs, their planned work, and monetary value);
- the realism of the cost and technical proposals.
- a description of the complexity of the role visualized for each SDB with specific reference to the Statement of Work or Personnel Qualifications if applicable (e.g., indirect work by services employees; travel agency, printing or other such non-technical support services; subcontracting involving stated parts of the Statement of Work; participation as named staff assigned to stated required positions; or participation as key personnel for stated positions).

SDB Participation should be addressed as a specific section of the Business Proposal (as well as, for large business offerors, parallel description in the subcontracting plan).

SDB criteria, other than for a prime contractor, are stated at the following web site for 13 CFR 124.1002: <http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi> . The offeror must confirm that SDBs can claim certified status or in-process status as described in <http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi> . (Another helpful web address regarding eligibility is <http://www.sba.gov/sdb/section06f02.htm> .)

Any targets will be incorporated into and become part of any resulting contract.

### (3) TERMS AND CONDITIONS

The offeror shall provide a completed SF33 (with amendments indicated or attached), Section B and all other pages with entries to be provided by the offeror, Section K, and any exceptions to RFP provisions. It is not necessary to include RFP pages that do not require offeror entries.

### (4) GOVERNMENT SUBCONTRACTING GOALS

For large business offerors, the following are the Government goals relevant to subcontracting plans for prime contractors:

- 5% of the total value of all subcontract awards for each fiscal year for small business concerns owned and controlled by socially and economically disadvantaged individuals;
- 5% of the total value of subcontract awards for small business concerns owned and controlled by women;
- The following percents of the total value of subcontract awards for firms located in qualified HUBZones:

GFY 2000 – 1.5%

GFY 2001 – 2.0%

GFY 2002 – 2.5%

GFY 2003 – 3.0%

Beyond GFY 2003 – not specified, but assume at least 3.0%

## L-14 BACKGROUND OF PROGRAM

The contractor performing the preceding contract, N00173-95-C-2010, is Orbital Sciences Corporation, which took over the contract by purchase of the Fairchild Space and Defense Division.

The Contract has been used to support a number of NRL aerospace programs, studies and technology demonstrations. Program examples include: LACE, Clementine, MPTB, NEMO, WindSat and ICM. This support consists of: detailed studies, aerospace material procurement, flight hardware assembly (circuit level and system level), aerospace sub-system procurement, and aerospace skilled labor support. It is anticipated that similar efforts would exist under the new contract.

What is the expected effort at program Start-up?

Continuation of on-going aerospace skilled labor support is anticipated at start of the program, pending sponsor funds. While current programs are ongoing, no guarantee exists that they will continue to be funded. The possibility of a variation in the usage from year to year can also be expected, based on previous experience. Very little of the current contract was used during the first two years; however the contract has been extensively used in the last two years. Contract value of the pending effort is estimated based on the expenditures for the last two years of the current contract. No guarantee exists that this expenditure rate will continue.

## **L-15 OTHER BACKGROUND INFORMATION**

The following information is set out to provide background regarding existing facilities and to anticipate concerns raised in similar procurements. It is intended as background information. In case of any conflict with provisions of the RFP or clauses of the resulting contract, the provisions and clauses govern.

SOW paragraph 3.6.2.1 (support for Ground Station Effort), states:

“The Contractor shall provide systems engineering support to ground station development activities. This would include support for the development and operation of existing ground station hardware and software.” Existing ground station hardware and software consists of residual transportable ground stations from the LACE program. While this system may be obsolete, the proposer should demonstrate knowledge of generic ground station hardware and software and the ability to integrate it into an operational system.

SOW paragraph 3.6.3.1 (support for the development and maintenance of existing operations facilities), states: “The Contractor shall provide systems engineering support to mission operation and demonstration efforts. This would include support for the development and maintenance of existing operations facilities.” “Existing operations facilities” include the ICM NRL Engineering Node (NEN), which NRL currently maintains as a back-up engineering operations Center for the Interim Control Module. Support for this effort (and similar efforts for new programs) is expected to continue.

Key personnel must be available when work is required through technical direction. In accordance with the Key Personnel Clause, substitutions of key personnel cannot be made during the first 90 days after contract award.

Document availability: MIL-HDBK-217 is widely available. NCST Document SSD-D-303, Space Systems Quality Assurance Program Requirements and Guidelines, is available by request from James P. Waldenfels at [waldenfels@contracts.nrl.navy.mil](mailto:waldenfels@contracts.nrl.navy.mil).

## 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 than twice as important as the total of the Cost and Small Disadvantaged Business (SDB) Participation Factors. The Technical Subfactors are of equal importance. The Cost Factor is several times as important as the SDB Factor, which accounts for 5% of the evaluation.

#### M-2-1. TECHNICAL/MANAGEMENT

##### (1) PERSONNEL QUALIFICATIONS

The proposal will be evaluated on the experience, availability, and other qualifications of proposed personnel with respect to the Statement of Work, Attachment No. (2), DD Form 254, and qualifications set forth in Attachment No. (3), Personnel Qualifications. This will include the offeror's past performance with regard to the performance of key personnel assigned to contracts. Non-key personnel will be evaluated in groups by position for possession of required experience qualifications based on group averages, with educational and security qualifications based on individuals. Qualifications for key and non-key personnel include the latitude permitted in the Personnel Qualifications attachment.

##### (2) MANAGEMENT APPROACH, COMPANY EXPERIENCE AND FACILITIES

The proposal will be evaluated on the soundness of the Offeror's project management approach for accomplishing the technical tasks, efficiently organizing, effectively managing, and carefully and completely reporting/documenting the effort. The evaluation will include the extent and quality of the Offeror's and subcontractors' corporate experience, including past performance, relevant to the proposed task in the development, fabrication, integration and the test of spacecraft components and systems and spacecraft as entities. The evaluation will also include the adequacy and proximity of facilities relevant to the proposed effort.

**M-2-2**      COST TO THE GOVERNMENT

Proposed estimated cost plus fixed fee. 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 DISADVANTAGED BUSINESS PARTICIPATION

(a) The proposed extent of participation of small disadvantaged business concerns in performance of the contract will be evaluated on the basis of the realistic and credible extent of participation of such firms in terms of the value of the total acquisition and the complexity 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).

**Prototype Spacecraft Development**  
**Statement of Work**

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## **1.0 INTRODUCTION**

### **1.1 BACKGROUND**

A primary objective of the Navy's space research and development program is to preserve and enhance a strong space technology base and provide expert capabilities in the development and acquisition of space systems. To that end, NRL conducts a wide range of space technology studies and other pertinent research and development projects. The scope of these research efforts and hence, this contract, is quite broad and entails multi-disciplinary approaches to discovering and applying new knowledge and technologies to designing, building, and operating space and other technology systems. This includes the processing and/or packaging of data from these research efforts, performance of scientific or technical analysis, and delivery/ presentation of reports and other findings to the sponsor or designated customers.

### **1.2 OVERVIEW**

This Statement of Work (SOW) focuses primarily on supporting NRL projects with non-Navy sponsors, where the results of said efforts are "of interest" to the Navy. This SOW may also include support of selective Navy related projects. Non-Navy sponsors could include BMDO, Air Force, Army, DOE, NASA, DTRA, etc. The major thrust of this SOW is to aid NRL in the research and prototype development of spacecraft and space/airborne systems. This includes the test, operation, demonstration, and the associated documentation of these systems.

## **2.0 SCOPE**

- 2.1 The Contractor may be given taskings by NRL to undertake a wide range of spacecraft research, analysis, prototype development, integration, test, operation, demonstration, data processing and documentation to include associated logistical, administrative, management and support activities.
- 2.2 The Contractor may be tasked by NRL to support various NRL spacecraft research projects. The range of that support shall extend from the initial research, planning, and fact-finding phases, through applied research, design, development and test phases, to the deployment (launch/flight test), operations, demonstration and data processing phases.
- 2.3 The Contractor shall report the results of its research as provided in this Statement of Work and in the Contract Data Requirements List (CDRL) at Attachment (2). Of particular importance are areas of uncertainty or unexpected difficulty (i.e. technical performance, cost, and schedule) the Contractor has identified. The Contractor shall report the technical results and status of its efforts under the contract via CDRL submittals and formal and informal documents and memoranda.
- 2.4 The location for performance of any task or phase will be determined by a variety of factors including the locations of the mission or experiment site, of equipment, of facilities, and of ground stations. The Contractor shall have the responsibility of providing logistical and support activities, material, equipment, and facilities necessary to support, administer and coordinate the research, development and operations efforts. These include a wide variety of transportation, communication, storage, facility, usage, inventory, security and other ancillary requirements.

### **3.0 SERVICES / DELIVERABLES / REPORTS**

- 3.0.1 The contractor's Program Manager shall keep the COR informed through CDRL reports of the status of all contract efforts. The Contractor shall report through the CDRLs on technical, management and financial progress, including matters affecting technical performance, feasibility, reliability, cost growth and other financial issues and on schedule-related matters. The Contractor shall report and highlight concerns or problems as to these matters. The Contractor shall deliver monthly cost reports detailing funding received by task and subtask (i.e. Task "n" may have multiple Subtasks), as well as expenditures by task and subtask (including labor, material, subcontract costs, travel, etc.) The appropriate technical, risk and schedule status shall be included with these reports. (See CDRL ITEMS A001, A006 and A007.)
- 3.0.2 The Contractor shall deliver technical summaries and reports of surveys, studies, and fact-finding efforts. The Contractor shall report: documents or information reviewed or referenced; organizations contacted including organization name, address, and phone and personal contact; a summary of the efforts undertaken; key progress, accomplishments, problems or findings of the effort; and any recommendations, conclusions made and / or action items taken. (See CDRL ITEMS A002, A003, A004, A005, A008 and A009.)
- 3.0.3 The Contractor shall provide all technical and reporting documents in a format 100% compatible with Microsoft Office computer software.

### **3.1 PRELIMINARY PLANNING, ANALYSIS AND DESIGN**

#### **3.1.1 LITERATURE RESEARCH, INDUSTRY SURVEYS, FACT FINDING**

- 3.1.1.1 To fulfill the requirement of NRL for information relating to planning, analysis, and design development of space/airborne systems, the Contractor will be tasked to investigate/review available pertinent research documentation and publications on particular topics. The Contractor shall gather information through sources such as: trade publications and journals; military standards and specifications; industrial business and academic publications; and other pertinent documents and literature.
- 3.1.1.2 The Contractor may be tasked to conduct industry surveys (verbal and/ or written). If required, the Contractor shall visit the appropriate organizations, businesses, universities, national laboratories, government agencies, etc. to gather relevant information.
- 3.1.1.3 The Contractor may be tasked to organize fact-finding efforts. This may include the formation of committees made up of participants from pertinent organizations, businesses, universities, national laboratories, and government agencies. The Contractor shall organize, host, coordinate, conduct and document colloquia and/ or other meetings formed to achieve fact-finding goals.
- 3.1.1.4 The Contractor shall report the results of such literature searches, industry surveys, and fact-findings. (See CDRL ITEM A002.)

### **3.1.2 CONCEPT DEVELOPMENT**

3.1.2.1 The Contractor may be tasked to conduct research of spacecraft literature to generate system concepts and report results of same as indicated below in 3.1.2.3. The Contractor shall specify the system concept in terms consisting at a minimum of the following attributes and parameters:

- A brief historical background of similar systems that have been developed if any.
- The expected performance of the system. The parameters of performance will vary dramatically depending on the project. For example, a sensing system will include parameters such as sensing threshold, accuracy, direction, magnitude, phase, interference rejection, data storage etc. A transfer vehicle system will include parameters such as payload size and weight, delta-V, pointing and navigation accuracy, vibration, shock and acoustic levels, etc.
- A cost analysis of the system. The Contractor shall analyze the expected costs of conducting each project. This analysis will show the funding needed versus time. A discussion of risk factors shall be included to convey the expected accuracy of the costs.
- A proposed schedule of the research, development and operational activities. The Contractor shall schedule the project in phases. The required format for scheduling will be conveyed by the COR and may include methods such as GANT or PERT or other commonly used methods in the spacecraft industry. A risk assessment shall be included to convey the expected accuracy/ attainability of the schedule.

3.1.2.2 The Contractor shall analyze and document the research and/ or operational utility of the system under consideration. This analysis shall be based upon both known and projected needs communicated by NRL, and shall compare and contrast the potential of the system under consideration with existing systems.

3.1.2.3 The Contractor shall document the system concept in presentation-style with view graphs (see paragraph 3.0.3 and CDRL ITEM A003).

### **3.1.3 MODELING AND SIMULATION**

3.1.3.1 The Contractor may be tasked to study, analyze, model, and simulate spacecraft and related processes, interfaces, devices/components, and other technologies. The Contractor shall relate the theoretical models and simulations to known or projected devices and processes. This effort may require a variety of mathematical and computational approaches and inquiries. (See CDRL ITEM A009.)

3.1.3.2 The Contractor shall utilize existing models, simulations and mathematical approaches, where possible and conducive to the research goal to ensure maximum progress, greatest timeliness and the avoidance of duplication of effort. (See CDRL ITEM A009.)

### **3.1.4 DESIGN/ DEVELOPMENT PLANNING**

3.1.4.1 The Contractor may be tasked to plan the design and development of NRL spacecraft projects. The Contractor shall consider both the scientific and technological aspects of the project. The Contractor shall identify all of the activities for design and development. The Contractor shall assess the difficulty of the various tasks; identify any special equipment, personnel or services required; and, specify and plan all levels of testing from the individual technology/ subsystem levels to integration testing and final testing of the system as a whole. (See CDRL ITEM A009.)

### **3.1.5 COST AND SCHEDULE PLANNING**

3.1.5.1 The Contractor may be tasked to conduct cost planning and develop a detailed cost estimate for each project. The Contractor shall present the costs by discipline areas and/or project phases (that is in terms of various logical stages, such as preliminary research and design efforts; development and bread boarding; fabrication, integration and test).

3.1.5.2 The Contractor shall conduct schedule planning for each project. The schedule planning shall be all-inclusive and incorporate all project activity including research, design, development, test, operation, demonstration, management, and logistical and support activities. The Contractor shall develop detailed schedules that clearly show interrelationships and dependencies. The Contractor shall highlight the critical path and show slack-time segments.

3.1.5.3 The Contractor shall present the reporting format to the COR for approval prior to final compilation and composition. (See CDRL A002.)

### **3.1.6 FACILITIES, LOGISTICS AND PHYSICAL SECURITY**

3.1.6.1 The Contractor shall analyze and plan for any special facilities requirements and/ or special logistics requirements for any given project. Special facilities requirements may be of sufficient criticality that they must be studied and/ or planned-out early in the project, even prior to the design, development, and planning phases.

3.1.6.2 Special facilities requirements may include (but not be limited to): thermal vacuum or anechoic chambers; hazardous materials handling or processing; air borne systems and vehicles; and environmental simulation areas. Special logistics may include (but not be limited to): communication and surveillance; special handling or transportation: special safety or security needs.

3.1.6.3 In addition to any DD254 security requirements, the Contractor shall provide proper physical security for the equipment, facilities and systems being developed under his effort.

### **3.1.7 SAFETY MODELING AND ASSESSMENT**

3.1.7.1 The Contractor may be tasked to perform safety modeling and risk assessment for NRL spacecraft projects. The Contractor shall diligently research the statutory and regulatory requirements applicable to the project. The Contractor shall coordinate with the COR prior to making contact with agencies outside of NRL. The Contractor shall immediately notify the COR of any problems, non-compliance issues or "surprises" that are encountered. (See CDRL ITEM A002.)

### **3.1.8 RELIABILITY AND QUALITY ASSURANCE ASSESSMENT**

3.1.8.1 Using MIL-HDBK-217 and NCST Document SSD-D-303, Space Systems Quality Assurance Program Requirements and Guidelines, (or equivalent) as guidelines, the Contractor shall maintain a Quality Assurance Program for each project tasked to it. The Contractor shall review and report on the required levels of system, subsystem or component redundancy and fault tolerances. Further, the Contractor shall ensure that the assessment techniques and procedures are aligned with those baselines and techniques specified by the COR. The Contractor shall highlight those areas (if any) that are “driving” the ultimate system reliability figure, and recommend system and subsystem improvements contributing to overall reliability. (See CDRL ITEM A002.)

### **3.1.9 SECURITY ASSESSMENT**

3.1.9.1 The Contractor shall perform a security assessment covering all aspects of each tasked project. The assessment shall cover treatment, storage, use, and transmission of: classified data and materials; COMSEC equipment; personnel clearances; operational procedures; and other pertinent security matters. (See CDRL ITEM A002.)

### **3.1.10 MISSION REQUIREMENTS DOCUMENT (MRD)**

3.1.10.1 The Contractor shall compose a system Mission Requirements Document (MRD) for each space system development. This shall be accomplished with input from the COR and other designated scientists and engineers. The MRD is a document of great importance to the project. It provides the documented basis, goals, functionality and approach for all scientific and technological aspects of the project. The MRD is a “living” document that is continually updated throughout the project’s life. The Contractor shall provide periodic drafts of the MRD document to the COR. (See CDRL ITEM A008.)

3.1.10.2 The Contractor at least shall include in the MRD the following topics: background; general concept; scientific and engineering goals; approaches to system implementation; required functionality; inter-system operability (i.e. operation of this system with other systems, facilities and environments); candidate mission scenarios; calibration disciplines including system concepts, required accuracies, frequencies and documentation; mission operation and demonstration concepts; and, data processing requirements and documentation and distribution concepts.

### **3.1.11 SYSTEM PERFORMANCE AND DESIGN REQUIREMENTS (SPDR)**

3.1.11.1 The Contractor shall compose a System Performance Design Requirements (SPDR) document for each space system development. The SPDR is the principal engineering and design specification of the project. The SPDR is derived from the MRD and is the basis for lower level engineering and design specification. The SPDR is a “living” document that is continually updated throughout the project life. The Contractor shall provide periodic drafts of the SPDR documents to the COR. (See CDRL ITEM A008.)

3.1.11.2 The Contractor at least shall include in the SPDR the following topics: operational concept; major system interfaces such as power, telemetry, command, thermal, and mechanical; specific, top-level specifications for each subsystem; system-wide design requirements including

mission performance, safety and reliability; test philosophy and requirements; and, system requirements for operation and demonstration.

### **3.1.12 INTERFACE CONTROL DOCUMENT (ICD)**

3.1.12.1 The Contractor may be tasked to compose Interface Control Documents (ICDs). This shall be accomplished with periodic coordination with the COR and other engineers, scientists, and managers designated by the COR. The ICD will specify and control the precise interface characteristics and functionality of items to each other. These items may include, but not be limited to, devices, components, sub-assemblies, electronic black boxes, subsystem experiments, payloads, integrated systems, vehicles, ground stations, and a variety of other facilities, systems and functional entities. The Contractor shall provide periodic drafts of the ICD document to the COR. (See CDRL ITEM A008.)

3.1.12.2 The Contractor shall utilize the appropriate standards and guidelines when addressing interface compatibility and inter-operability with regard to all functional discipline elements including: electrical power, telemetry, command, mechanical, thermal, experimental, payload, etc.

### **3.1.13 SUBSYSTEM/EXPERIMENT SPECIFICATION**

3.1.13.1 The Contractor shall compose a detailed Subsystem/ Experiment Specification, as directed by the COR. This specification shall describe the function, technical performance, safety, reliability, qualification, acceptance, operational, and demonstration parameters for the complete subsystem/experiment. This document shall be the basis of the subsystem/experiment: design, development, test, manufacturing, and operations. This document shall be a "living" document that is modified as required to reflect all changes in the parameters of the subsystem/experiment. The Contractor shall provide drafts of the ICD document to the COR. (See CDRL ITEM A008.)

## **3.2 GENERAL SYSTEMS ENGINEERING**

With respect to each of the taskings issued under this Contract, the Contractor shall, as required, conceptualize, design, simulate, analyze, develop, build and integrate, test, coordinate, and document the science and engineering elements associated with interface interactions and overall system performance and operation of spacecraft and space/airborne systems. With regard to these areas, the Contractor shall maintain a broad system-wide perspective, as well as a complete understanding of applicable technologies, components and subsystems involved to ensure proper overall functioning of the integrated system.

### **3.2.1 SYSTEMS ENGINEERING-INTERNAL INTERFACES**

3.2.1.1 The Contractor shall perform systems engineering with respect to internal interfaces for the research, design, development, operations, and demonstration activities of any given project. For example, if the entity being developed is a spacecraft system, then internal functions would include all subsystem interfaces, functions, operations, and performance criteria within the spacecraft proper. It would also take into consideration such matters as internal power parameters/constraints, EMI, etc.

### **3.2.2 SYSTEMS ENGINEERING-EXTERNAL INTERFACES**

3.2.2.1 The Contractor shall perform systems engineering with respect to external interfaces for research, design, development, operations, and demonstration activities of any given product. For example, interfaces external to a spacecraft host system would include interconnections, interactions, and operations relating to: ground test systems and test sets; environmental test facilities; aerospace ground equipment; transportation containment and vehicles; launch site test systems; launch vehicle; payload attach fittings; upper stages, or other pertinent systems or components.

### **3.2.3 SYSTEM ENGINEERING-MISSION INTERFACES AND PARAMETERS**

3.2.3.1 The Contractor shall perform systems engineering with respect to mission interfaces and parameters relating to the research, design, development, operations, and demonstration activities of any given project. This systems engineering effort is applied to the interfaces, interactions, operations, and parameters of the host system when in-situ experimentation, operation, and demonstration activities are being conducted. As an example, if the host entity (i.e. that which is being developed) is a spacecraft system, mission interfaces would include at least the space segment to ground segment and the space segment to other system segment. Mission parameters include but are not limited to lifetime, duty cycle, thermal and power operating regimes, and other pertinent parameters.

### **3.3 SUBSYSTEM AND EXPERIMENT EFFORTS**

The Contractor may be tasked to undertake subsystem and/or project experiment taskings during project performance. Specific taskings under this section may include specific subject matter discipline areas, subsystems, components, or other aspects of any given project. Particular tasks may be assigned at different times and may address a variety of technical efforts or issues.

#### **3.3.1 SUBSYSTEM/EXPERIMENT RESEARCH, ANALYSIS, MODELING**

3.3.1.1 The Contractor shall conduct subsystem/experiment research, analysis, and modeling for designated projects. The Contractor shall perform this task with respect to subsystems, experiments, payloads, and other functional areas of scientific, technological, and analytical endeavor. The effort may be applied to hardware, software, or theoretical/ modeling. The Contractor shall conduct these efforts in a manner that will expedite a quick and efficient transition of subsystem/experiment research, analysis, and modeling efforts into useful technology experiments/products. (See CDRL Items A002 and A009.)

#### **3.3.2 SUBSYSTEM / EXPERIMENT DESIGN, EXPERIMENTATION, BREAD-BOARDING**

3.3.2.1 The Contractor shall conduct simulation, design, bread-boarding, and testing for the designated project and subsystem. The Contractor shall carefully consider and adhere to the requirements of available existing project documentation. (For example, MRD—TASK 3.1.10 or SPDR- TASK 3.1.11). (See CDRL ITEM A002.)

**3.3.3 SUBSYSTEM/EXPERIMENT ENVIRONMENTAL AND SPECIAL FACILITY DEVELOPMENT AND TESTING**

3.3.3.1 The Contractor shall provide (including lease or rental at the contractor's discretion) special facilities and/or equipment for the purpose of subsystem/experiment simulation and testing. The facilities/equipment shall allow for general investigation, characterization, and performance- in-environment testing of part of or all of the specified subsystems/ experiments. The facilities/ equipment may include: thermal, vacuum, temperature, shock or vibration simulators; electromagnetic chambers, facilities and ranges; air- bearing and other zero-G simulators; magnetic balance facilities; wind tunnels; air-fields/ranges; clean rooms; explosives handling facilities; rocket test equipment, facilities and ranges; powered and unpowered at-sea vehicles and facilities and other equipment, facilities, and ranges. (See CDRL ITEM A002.)

**3.3.4 SUBSYSTEM/EXPERIMENT INTEGRATED BRASSBOARD TESTING**

3.3.4.1. The Contractor shall conduct subsystem/experiment brassboard testing to ensure functionality, interface compatibility and compatible operations among a variety of experiments, subsystems and systems. The Contractor shall structure the testing regime to minimize, interface problems at the system integration level—where test costs are the highest. (See CDRL ITEM A002.)

**3.3.5 SUBSYSTEM/EXPERIMENT MANUFACTURING**

3.3.5.1 The Contractor shall manufacture or acquire the prototype experiment components, subsystems or parts. This task entails activities such as: composition of a variety of manufacturing drawings and documents; part/ material description preparation; vendor searches; solicitation for bids; review of subcontractor or vendor bids; part/material procurement; part/material inspection and lot testing; software testing, simulation, validation and integration; a wide variety of detailed manufacturing and assembly activities including, but not limited to, in-process testing and inspection; participation in non-conformance activities and documentation. (See CDRL ITEM A002.)

3.3.5.2 The Contractor shall have the engineering capability to procure the necessary electronic components and printed circuit boards used in space and airborne systems. Additionally, the Contractor shall have the capability to assemble and inspect printed circuit boards to spacecraft quality levels. The part types used in the space and airborne systems include quad flat packs, pin grid arrays, surface mount components, as well as standard through-hole devices.

**3.3.6 SUBSYSTEM/EXPERIMENT QUALIFICATION TESTING**

3.3.6.1 The Contractor shall conduct qualification testing for selected subsystems and experiment components. The purpose of qualification testing is to provide reasonable substantiation that the inherent design of the subsystem or that the experiment payload will function as intended in the stipulated environment.

3.3.6.2 The COR may issue qualifications testing taskings with respect to a range of experiments, subsystems, or other hardware/software. The item to be tested may have been manufactured under some other task under this effort; purchased as an assembled or functional unit from a vendor; or provided by the Government.

3.3.6.3 The Contractor shall plan the testing protocol to ensure that the test item(s) meet the applicable specifications identified in the tasking. The Contractor shall provide the COR a detailed test procedure prior to initiation of test activities. The Contractor shall obtain COR approval prior to commencement of testing. The Contractor shall conduct the testing at an agreed-upon place and date, and accommodate surveillance by individuals designated by the COR. (See CDRL ITEM A004.)

3.3.6.4 The Contractor shall test the item(s) in accordance with the test procedures and other system test and quality assurance documents that are specified. The Contractor shall ensure that quality assurance personnel will participate in the testing.

3.3.6.5 The Contractor shall compose a detailed test report that describes all aspects of test activities, highlights problem areas and concerns, and makes clear and specific recommendations on the Contractor's judgment of the acceptability of test results. (See CDRL ITEM A004.)

### **3.3.7 SUBSYSTEM/EXPERIMENT ACCEPTANCE TESTING**

3.3.7.1 The Contractor shall conduct acceptance testing as assigned for various subsystems and experiment components. The purpose of acceptance testing is to provide reasonable substantiation that the item being tested 1) comprises parts and material of required quality, 2) has been manufactured/ assembled without defects, 3) and will function properly, as intended, in the specified environment.

3.3.7.2 The COR may issue acceptance testing taskings with respect to a range of experiments, subsystems, or other hardware/software. Items to be tested may have been manufactured under some other task within the scope of this effort; purchased as an assembled or functional unit from a vendor; or provided by the Government, another agency, institute or contractor.

3.3.7.3 The Contractor shall plan acceptance testing to ensure that the test item(s) meet the applicable specification and shall provide the COR a detailed test procedure prior to initiation of test activities. The Contractor shall obtain COR approval prior to commencement of testing. The Contractor shall conduct testing at an agreed-upon place and date and accommodate surveillance by individuals designated by the COR. (See CDRL ITEM A004.)

3.3.7.4 The Contractor shall test the item(s) in accordance with the test procedures and other system test and quality assurance documents, as designated. The Contractor shall ensure that quality assurance standards or protocols, as developed, are utilized in this testing.

3.3.7.5 The Contractor shall compose a detailed test report that describes all aspects of test activities, highlights problem areas and concerns, and makes clear, specific recommendations as to the Contractor's judgment on the acceptability of test results. (See CDRL ITEM A004.)

### **3.3.8 SUBSYSTEM / EXPERIMENT / PECULIAR AEROSPACE GROUND EQUIPMENT (AGE) DEVELOPMENT AND MANUFACTURING**

3.3.8.1 The Contractor shall acquire or develop and manufacture Aerospace Ground Equipment (AGE) for use with prototype flight and ground systems, subsystems, and experiments. The Contractor shall compose an operating manual for manufactured AGE. (See CDRL ITEM A005.)

3.3.8.2 AGE may include: test fixtures and adapters; positioning, handling and lifting apparatus; environmentally-controlled containers for storage or shipping; special transportation vehicles for equipment, materials and crew; instrumentation, tools, devices, equipment and systems; power supplies, conditioners, regulators, and monitors; emergency back-up systems utilizing diesel,

battery and other storage technologies; specialized technologies, equipment and systems for hardware material usage, handling, transportation and disposal; command and telemetry processing, handling and control equipment; a variety of computer and computational equipment, accessories and peripherals ranging from microprocessor modules and computer boards to integrated PC/workstation based test systems and mini-computer-based test systems; fuel handling, storage, control, and disposal apparatus, devices and equipment; standard instrumentation and process control equipment including power sources, voltmeters, scopes, frequency meters, spectrum analyzers, receivers, transmitters, signal generators, antennas and transmission components, wave guide, cable; and other standard tools and devices to facilitate manufacturing, test, operation, demonstration, and other checkouts.

### **3.4 MANAGEMENT ACTIVITIES**

#### **3.4.1 MANAGEMENT OF CONTRACT EFFORTS**

3.4.1.1 The Contractor shall implement the management plan, which was submitted as part of its proposal to NRL, within 30 days after approval of the plan by COR. The Contractor shall also coordinate the start-up and phase-in of contract activities with the incumbent contractor in order to maintain the continuity of support being provided to NRL under a prior contract. (See CDRL ITEM A010.)

3.4.1.2 The Contractor shall report regularly on all management activities relating to the contract effort. The Contractor shall promptly inform the COR as to any actual or foreseen deviations from planned cost, schedule or performance requirements. (See CDRL Items A001 and A007.)

### **3.5 INTEGRATED TEST EFFORTS**

#### **3.5.1 SYSTEMS ENGINEERING TEST PLANNING, DOCUMENTATION, EXECUTION AND REPORTING FOR INTEGRATED TESTS**

3.5.1.1 The Contractor shall carefully plan systems engineering testing to ensure that the test item(s) meet the applicable specifications and provide the COR a detailed test procedure prior to initiation of test activities. The COR may require the Contractor to review test plans and procedures with other individuals or organizations prior to test commencement. The Contractor shall conduct testing at an agreed-upon place and date and accommodate surveillance by individuals designated by the COR. (See CDRL ITEM A004.)

3.5.1.2 The Contractor shall test pertinent items in accordance with applicable test procedures, system test and quality assurance documents. The Contractor shall ensure the participation of quality assurance personnel in the testing.

3.5.1.3 The Contractor shall compose a detailed test report that describes all aspects of test activities, highlights problem areas and concerns and makes clear and specific recommendations on the Contractor's judgment of the acceptability of test results. (See CDRL ITEM A004.)

**3.5.2 SUBSYSTEM/EXPERIMENT PARTICIPATION IN INTEGRATED TESTING**

3.5.2.1 The Contractor shall provide scientific, engineering and support personnel from the various subsystem/ experiment discipline groups to support and participate in integrated testing. In many cases these activities will require the usage of a variety of AGE (See Task 3.3.8) developed for a particular subsystem, experiment, or discipline areas.

**3.6 SUPPORT TO LAUNCH PREPARATION, LAUNCH ACTIVITIES AND MISSION OPERATIONS / DEMONSTRATIONS**

**3.6.1 SYSTEMS ENGINEERING-LAUNCH SITE PLANNING AND ACTIVITIES**

3.6.1.1 The Contractor shall plan and execute launch operations, as well as pre- and post-launch activities. The Contractor shall carefully study the pertinent requirements documents such as: MRD, SPDR, ICDs, launch site requirements documents and other pertinent documentation. The Contractor shall compose drafts of launch site operation plans, test facility requirements documents, missile system safety plans, etc. at early stages of the project. In every case the Contractor shall arrange (with occurrence of the COR) technical interchange meetings, approved by the COR, with launch site personnel. (See CDRL ITEM A004.)

3.6.1.2 The Contractor shall initiate and refine launch site planning during the course of the project. This planning will include the composition of detailed test procedures and must be approved by the COR prior to implementation. (See CDRL ITEM 0004.)

3.6.1.3 The Contractor shall compose a summary with references of this effort. The report shall include the approach to the effort; assumptions; key points of progress, accomplishments, problems, or findings; recommendations, conclusions or final plans as appropriate and a reference section of all organizations contacted with a list of contact persons and their phone numbers. (See CDRL ITEM A002.)

**3.6.2 SYSTEMS ENGINEERING SUPPORT TO GROUND STATIONS EFFORT**

3.6.2.1 The Contractor shall provide systems engineering support to ground station development activities. This includes support for the development and operation of existing ground station hardware and software.

3.6.2.2 The Contractor shall provide general scientific, engineering and other technical and logistical support for NRL ground station activities. The Contractor shall provide: personnel, hardware, software, analytical tools, equipment, facilities, supplies, etc.

**3.6.3 SYSTEMS ENGINEERING SUPPORT TO MISSION OPERATIONS, DATA COLLECTION AND ANALYSIS, AND REPORTING**

3.6.3.1 The Contractor shall provide systems engineering support to mission operation and demonstration efforts. This includes support for the development and maintenance of existing operations facilities.

3.6.3.2 The Contractor shall provide general scientific, engineering, and other technical and logistic support to these activities. The Contractor shall provide: personnel, hardware, software, analytical tools, equipment, facilities, supplies or other elements needed to facilitate and/ or assist in mission operations, experiments or demonstrations, data collection and analysis, and reporting efforts.

**3.6.4 SUBSYSTEM / EXPERIMENT PLANNING AND ACTIVITIES**

3.6.4.1 The Contractor shall provide for planning, documenting and general conduct of efforts by subsystem, experiment, or functional discipline personnel in the various aspects of launch site activities.

3.6.4.2 The Contractor shall provide the scientific engineering and other technical and logistic support for these activities. The Contractor shall provide planning and scheduling expertise as well as engineering support. The Contractor shall provide: personnel, hardware, software, analytical tools, equipment, facilities, supplies, and other pertinent resources to facilitate and/or assist in this effort.

**3.6.5 SUBSYSTEM / EXPERIMENT SUPPORT TO MISSION OPERATIONS, DATA ANALYSIS AND REPORTING**

3.6.5.1 The Contractor shall provide subsystem/experiment and other discipline personnel to support engineering efforts for existing or on-going mission operations, data analysis and demonstrations.

3.6.5.2 The Contractor shall provide general scientific, engineering and other technical and logistic support for these activities. The Contractor shall provide: personnel, hardware, software, analytical tools, equipment facilities, supplies, or other resources to facilitate and/or assist in the ground station effort.

**3.7 MATERIAL, EQUIPMENT, SUPPLIES-TRACKING & DISPOSITION**

3.7.1 During the course of the contract, the Contractor shall acquire the necessary material, equipment and supplies to complete the requirements of the NRL.

**3.8 VENDOR / SUBCONTRACT PROCUREMENT ACTIVITIES**

3.8.1 The Contractor shall execute and plan procurement activities so as to acquire required supplies, materials, parts, devices, substances, equipment, subsystems, systems, software firmware, facilities and services in a timely manner. The contract manager shall immediately contact the COR as to any actual or potential problems with vendor or subcontractor performance of any given effort.

**3.9 SAFETY**

3.9.1 In view of the sometimes extraordinary safety requirements associated with the systems being developed under this contract, the Contractor shall accomplish all contract efforts in a manner that is safe for personnel and the various equipment, material and facilities. The Contractor shall accomplish this by making available the necessary safety- related personnel, equipment and facilities to plan, analyze, facilitate, coordinate and control the safety aspects of all contract activities.

# CONTRACT DATA REQUIREMENTS LIST

(2 Data Items)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing 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.

<b>A. CONTRACT LINE ITEM NO.</b> 0002, 0004, 0006, 0008, 0010		<b>B. EXHIBIT</b> A		<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER _____		
<b>D. SYSTEM / ITEM</b> Prototype Spacecraft R&D		<b>E. CONTRACT / PR NO.</b> 81-0158-99		<b>F. CONTRACTOR</b> To Be Determined per N00173-99-R-JW04		
<b>1. DATA ITEM NO.</b> A001	<b>2. TITLE OF DATA ITEM</b> Management Reports			<b>3. SUBTITLE</b>		
<b>4. AUTHORITY (Data Acquisition Document No.)</b> N/A		<b>5. CONTRACT REFERENCE</b> SOW 3.0.1, 3.4.1.2		<b>6. REQUIRING OFFICE</b> NRL 8130		
<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b> N/A	<b>10. FREQUENCY</b> ONE/R		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> N/A		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> ASREQ		
<b>16. REMARKS</b> See also A006 and A007.  Deliverables shall be in the contractor's format, but shall comply with SOW 3.0.3.				<b>14. DISTRIBUTION</b>		
				<b>a. ADDRESSEE</b> COR	<b>b. COPIES</b>	
					Draft	Final
					Reg	Repro
					0	1 0
					0	0 1
				<b>15. TOTAL</b>	0	1 1
<b>1. DATA ITEM NO.</b> A002		<b>2. TITLE OF DATA ITEM</b> Studies, Technical Reports, Activity Summaries		<b>3. SUBTITLE</b>		
<b>4. AUTHORITY (Data Acquisition Document No.)</b> N/A		<b>5. CONTRACT REFERENCE</b> See Block 16.		<b>6. REQUIRING OFFICE</b> NRL 8130		
<b>7. DD 250 REQ</b> NO	<b>9. DIST STATEMENT REQUIRED</b> N/A	<b>10. FREQUENCY</b> ONE/R		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> N/A		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> ASREQ		
<b>16. REMARKS</b> Contract reference: SOW 3.0.2, 3.1.1.4, 3.1.5.3, 3.1.7.1, 3.1.8.1, 3.1.9.1, 3.3.1.1, 3.3.2.1, 3.3.3.1, 3.3.4.1, 3.3.5.1, 3.6.1.3  Deliverables shall be in the contractor's format, but shall comply with SOW 3.0.3.				<b>14. DISTRIBUTION</b>		
				<b>a. ADDRESSEE</b> COR	<b>b. COPIES</b>	
					Draft	Final
					Reg	Repro
					0	1 0
				<b>15. TOTAL</b>	0	1 0
<b>G. PREPARED BY</b> NRL Code 8130		<b>H. DATE</b> 8/24/99		<b>I. APPROVED BY</b> N/A		
				<b>J. DATE</b> N/A		

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

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







# CONTRACT DATA REQUIREMENTS LIST

(2 Data Items)

Form Approved  
OMB No. 0704-0188

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<b>A. CONTRACT LINE ITEM NO.</b> 0002, 0004, 0006, 0008, 0010				<b>B. EXHIBIT</b> A		<b>C. CATEGORY:</b> TDP _____ TM: _____ OTHER _____										
<b>D. SYSTEM / ITEM</b> Prototype Spacecraft R&D				<b>E. CONTRACT / PR NO.</b> 81-0158-99		<b>F. CONTRACTOR</b> To Be Determined per N00173-99-R-JW04										
<b>1. DATA ITEM NO.</b> A007	<b>2. TITLE OF DATA ITEM</b> Progress/Cost Reports					<b>3. SUBTITLE</b>										
<b>4. AUTHORITY (Data Acquisition Document No.)</b> N/A			<b>5. CONTRACT REFERENCE</b> SOW 3.0.1, 3.4.1.2			<b>6. REQUIRING OFFICE</b> NRL 8130										
<b>7. DD 250 REQ</b> LT	<b>8. DIST STATEMENT REQUIRED</b>	<b>10. FREQUENCY</b> MTHLY		<b>12. DATE OF FIRST SUBMISSION</b> 1st full mon. + 25 days		<b>14. DISTRIBUTION</b>										
<b>9. APP CODE</b> N/A*	N/A	<b>11. AS OF DATE</b> End of reporting mon.		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> End report. mon. +25		<b>a. ADDRESSEE</b>		<b>b. COPIES</b>								
<b>10. REMARKS</b> *(Re Block 8) Format must meet NRL programmatic requirements and comply with SOW 3.0.3.						<b>COR</b>		Draft	Final							
								Reg	Repro							
												<b>ACO</b>		0	2	0
														0	0	1
												<b>15. TOTAL</b>		0	2	1

  

<b>1. DATA ITEM NO.</b> A008				<b>2. TITLE OF DATA ITEM</b> MRDs, SPDRs, ICDs, etc.				<b>3. SUBTITLE</b>								
<b>4. AUTHORITY (Data Acquisition Document No.)</b> N/A			<b>5. CONTRACT REFERENCE</b> See Block 16.			<b>6. REQUIRING OFFICE</b> NRL 8130										
<b>7. DD 250 REQ</b> NO	<b>8. DIST STATEMENT REQUIRED</b>	<b>10. FREQUENCY</b> ONE/R		<b>12. DATE OF FIRST SUBMISSION</b> ASREQ		<b>14. DISTRIBUTION</b>										
<b>9. APP CODE</b> See Blk. 16.	N/A	<b>11. AS OF DATE</b> N/A		<b>13. DATE OF SUBSEQUENT SUBMISSION</b> ASREQ		<b>a. ADDRESSEE</b>		<b>b. COPIES</b>								
<b>10. REMARKS</b> Contract reference: SOW 3.0.2, 3.1.10.1, 3.1.11.1, 3.1.11.2, 3.1.12.1, 3.1.13.1  Re Block 8: Approval is required for MRDs, SPDRs, and ICDs. The COR shall provide comments within 14 days of receipt of each draft. The contractor shall provide the response within 7 days of receipt of comments.						<b>COR</b>		Draft	Final							
								Reg	Repro							
														1	1	0
												<b>15. TOTAL</b>		1	1	0

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

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





**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 8133.

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.

a. TYPED NAME OF CERTIFYING OFFICIAL <b>TINA SMALLWOOD</b>	b. TITLE <b>Contracting Officer, Security</b>	c. TELEPHONE (Include Area Code) <b>(202)767-2240/2521</b>
d. ADDRESS (Include Zip Code) <b>Naval Research Laboratory 4555 Overlook Ave., SW Washington, DC 20375-5320</b>	<b>17. REQUIRED DISTRIBUTION</b> <input checked="" type="checkbox"/> a. CONTRACTOR <input type="checkbox"/> b. SUBCONTRACTOR <input checked="" type="checkbox"/> c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR <input type="checkbox"/> d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION <input type="checkbox"/> e. ADMINISTRATIVE CONTRACTING OFFICER <input checked="" type="checkbox"/> f. OTHERS AS NECESSARY 1221.11, 1221.4, 8133, 8102	
e. SIGNATURE 		

## Personnel Qualifications

**The following is a list of the personnel qualifications required for the subject procurement. One person is key in each category for which "Key Personnel" is indicated. A resume must be submitted where Key Personnel are indicated.**

It is strongly desired that key personnel possess all the educational and experience qualifications expressed for their positions. In addition, all proposed key personnel must be U.S. Citizens and must be eligible for a SECRET clearance.

It is strongly desired for non-key personnel that the average experience of the group for each position satisfy each of the experience requirements expressed in years. In addition, it is strongly desired that each non-key person satisfy any educational requirement expressed for the position. Other experience requirements of the position are not requirements for non-key personnel, unless no key person is indicated for the position. It is preferable that non-key personnel be U.S. citizens and eligible for SECRET clearance; personnel who lack these qualifications are subject to the approval of the Contracting Officer's Representative.

The foregoing notwithstanding, up to five non-key personnel for the entire non-key personnel staff, in any positions at the contractor's discretion, need not satisfy the educational requirement, provided their experience and other qualifications are acceptable to the COR (and to the evaluation panel during the RFP). The offeror/Contractor shall submit resumes only for these non-key personnel, for non-key personnel who are not US citizens or who lack eligibility for SECRET clearance, and for non-key personnel identified for spot-checking by the Government.

For both key and non-key personnel, relevant experience while or prior to satisfying any educational requirement counts toward experience.

For both key and non-key personnel, where a BS degree is indicated, a bachelor's degree in the same field also qualifies; for example, a BEE degree would be equivalent to a BSEE degree. Where a lower degree is required, possession of a higher degree in the same field also qualifies.

### **1) Program Manager/Senior Systems Engineer [Key Personnel]**

- The Program Manager must be one person.
- Bachelor degree in science, engineering or mathematics
- 15 years experience in aerospace systems. This includes 9 years senior-level experience in system-wide management of spacecraft programs, including conceptualization, design, development, manufacturing, test, launch, operation, demonstration, and documentation.
  - Experience in management/systems engineering for software development and/or maintenance for space missions
  - Experience in management/systems engineering of the writing and editing of aerospace specifications

- Knowledge of and experience with mission operation, demonstration activities for real-time experimental spacecraft
- Familiarity with launch/operational/mission facilities of various government centers, e.g. Navy-Blossom Point, Air Force-Cape Canaveral and Vandenberg, NASA-Wallops Island, Johnson Space Center and Deep Space Network
- Familiarity with planning and scheduling activities for aerospace system development
- Experience in the management/systems engineering of aerospace scientific and engineering data reduction.

## **2) Systems Engineer [Key Personnel]**

- Bachelor's degree in science, engineering or mathematics
- 9 years experience in aerospace systems. (For the Key individual, this includes 5 years experience in system-wide management of spacecraft programs, including conceptualization, design, development, manufacturing, test, launch, operation, demonstration, documentation.)
- Experience in management/systems engineering for software development and/or maintenance for space missions
- Experience in management/systems engineering of the writing and editing of aerospace specifications
- Knowledge of and experience with mission operation, demonstration activities for real-time experimental spacecraft
- Familiarity with launch/operational/mission facilities of various government centers, e.g. Navy-Blossom Point, Air Force-Cape Canaveral and Vandenberg, NASA-Wallops Island, Johnson Space Center and Deep Space Network
- Familiarity with planning and scheduling activities for aerospace system development
- Experience in the management/systems engineering of aerospace scientific and engineering data reduction.

## **3) Administrative Specialist (may be combined with Position 4, but keeping the total of hours for the two positions)**

- High School degree or equivalent.
- 3 years experience in running Microsoft application programs, including 2 years experience with Microsoft Desk-top publishing software
- Experience in using Local Area Network and standard Internet application software for transferring and distributing documents, drawings and memoranda
- Experience with scanning peripheral devices for reading in from paper media
- Experience with Optical Character Recognition standard application software
- Experience with planning and scheduling software

## **4) Secretarial/Clerical Support (may be combined with Position 3, but keeping the total of hours for the two positions)**

- High School degree or equivalent.
- Capabilities/experience in the areas of typing, word processing, filing, organizing, message control, etc.

- Experience in running standard application software for Personal Computers
- Experience with desk-top publishing software

**5) Electrical Power Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering
- 10 years aerospace design, development engineering experience including 7 years design experience in spacecraft electrical power systems
- Experience with standard application programs for Personal Computers
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications

**6) Harness Subsystem Personnel**

- High School degree or higher
- 10 years aerospace design, development engineering experience with a high school degree (or 5 years of such experience with a bachelor's degree in a scientific, mathematical, or engineering discipline), including 5 years design experience in harness subsystems
- Demonstrated ability in the design and fabrication of multi-subsystem flight harnesses.
- Experience with standard application programs for Personal Computers
- Experience with environmental testing and qualification of aerospace electrical products
- Experience in writing/editing aerospace technical specifications

**7) Telemetry, Tracking and Command Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering
- 10 years aerospace design, development engineering experience, including 7 years design experience in telemetry, tracking and command systems
- Experience with standard application programs for Personal Computers
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications

**8) Mechanisms Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Mechanical Engineering, Aerospace Engineering, Physics or Mathematics
- 10 years aerospace design, development engineering experience including 7 years experience in design of mechanism subsystems
- Experience in spacecraft and launch vehicle mechanisms systems; both ordnance actuated and non-ordnance actuated

- Experience with environmental testing and qualification of aerospace mechanism and other articulated systems including: a) random vibration, b) acoustic testing, c) shock testing, d) temperature cycling, d) extreme temperature
- Experience with computer aided modeling and analysis of mechanism systems
- Experience with safety assessment of mechanism systems that are ordnance actuated
- Experience in writing/editing aerospace technical specifications
- Experience with standard application programs for Personal Computers
- First hand experience with composing, presenting and defending the safety program associated with the use of mechanism systems that are ordnance actuated, at the U.S. launch sites
- Experience with complying with military safety regulations, at a minimum EWR 127-1

### **9) Structures Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Mechanical Engineering, Aerospace Engineering, Physics or Mathematics
- 10 years aerospace design, development engineering experience. The experience should include design of structural subsystems
- Experience in spacecraft and launch vehicle structural systems.
- Experience with environmental testing and qualification of aerospace structural systems including: a) random vibration, b) acoustic testing, c) shock testing, d) temperature cycling, d) extreme temperature
- Experience with computer aided modeling and analysis of structural systems
- Experience with safety assessment of structural systems
- Experience in writing/editing aerospace technical specifications
- Experience with standard application programs for Personal Computers

### **10) Attitude Control Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering, Mechanical Engineering, Aerospace Engineering, Physics or Mathematics
- 10 years aerospace design, development engineering experience, including 7 years design experience in attitude control systems
- Experience with standard application programs for Personal Computers
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications

### **11) Reaction Control Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Engineering (Aerospace or Mechanical Engineering desired)
- 10 years aerospace design, development engineering experience.
- Experience in spacecraft and/or launch vehicle reaction control systems

- Experience with environmental testing and qualification of reaction control systems including: a) random vibration, b) acoustic testing, c) shock testing, d) temperature cycling, d) extreme temperature
- Experience with safety assessment of reaction control systems
- First hand experience with composing, presenting and defending the safety program associated with the use of reaction control systems at the U.S. launch sites
- Experience in writing/editing aerospace technical specifications
- Experience with complying with military safety regulations, at a minimum EWR 127-1

**12) Orbit and Trajectory Analyst [Key Personnel]**

- Bachelor degree in science, engineering or mathematics
- 10 years experience in aerospace systems in general
- 5 years experience in orbit dynamics/trajectory analysis as relates to aerospace (may be concurrent with 10 years requirement, above)
- Familiarity with standard software programs for the analysis and prediction of orbits and trajectories
- Ability to perform scientific computer programming
- Familiarity with encounter planning for aerospace systems
- Experience in running standard application programs for Personal Computers

**13) Engineer - General Design and Support**

- Bachelor degree in science, engineering or mathematics
- 5 years aerospace design, development engineering experience with spacecraft subsystems.
- 3 years experience in scheduling/planning aerospace development and mission operations activities (may be concurrent with 5 years requirement, above)
- Experience in space and ground subsystem design, development, test
- Experience in engineering/scientific data analysis for on-orbit systems
- Experience in running standard application programs for Personal Computers
- Experience in writing/editing aerospace technical specifications
- Experience in the use of computers for analysis and display of spacecraft data

**14) Thermal Control Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Engineering
- 10 years aerospace design, development engineering experience.
- Experience in spacecraft and launch vehicle thermal control systems
- Experience with environmental testing and qualification of aerospace thermal control systems
- Experience with computer aided modeling and analysis of thermal systems
- Experience in writing/editing aerospace technical specifications
- Experience with standard application programs for Personal Computers.

**15) Ordnance Control Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering (for non-key personnel, degree may be in Aerospace Engineering or Physics)
- 10 years aerospace design, development engineering experience, including 5 years design experience in ordnance control systems and 5 years experience with safety assessment of ordnance control systems
- Experience with standard application programs for Personal Computers
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications
- First hand experience with composing, presenting and defending the safety program associated with the use of ordnance control systems at the U.S. launch sites
- Experience with complying with military safety regulations, at a minimum EWR 127-1.

**16) Radio Frequency Subsystem Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering (for non-key personnel, degree may be in Aerospace Engineering or Physics)
- 10 years aerospace design, development engineering experience, including 8 years design experience in radio frequency systems
- Experience with standard application programs for Personal Computers
- Experience submitting and processing Satellite communication licenses.
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications

**17) Antenna Engineer [Key Personnel]**

- Bachelor of Science in Electrical Engineering (for non-key personnel, degree may be in Aerospace Engineering or Physics)
- 10 years aerospace, design, development engineering experience, including 5 years design experience in radio frequency antenna systems
- Experience with standard application programs for Personal Computers
- Experience with design of antenna product packaging
- Experience with environmental testing and qualification of aerospace antenna products
- Experience with computer aided modeling and analysis of antennas
- Experience in writing/editing aerospace technical specifications

**18) Senior Software Programmer [Key Personnel]**

- Bachelor degree in computer science, science, engineering or mathematics
- 10 years experience in programming digital computer systems
- 5 years experience in flight and ground segment software for space systems (may be concurrent with first ten years requirement, above)
- Experience developing software for handling of scientific and engineering data from space systems
- Experience in setting up, operating and controlling various standard computer peripherals
- Experience in setting up, operating and controlling standard networks.
- Experience running a variety of standard application programs on Sun, IBM (and compatible) and/or Apple Computers.

**19) Software Engineer - General Software Support**

- Bachelor degree in computer science, mathematics, or engineering
- 7 years aerospace design, development engineering experience with software.
- 5 years experience in scheduling/planning software development and mission operations activities (may be concurrent with 7 years requirement, above)
- Experience in space and ground subsystem design, development, test
- Experience in engineering/scientific data analysis for on-orbit systems
- Experience in running standard application programs for Personal Computers
- Experience in writing/editing software technical specifications including requirements documents
- Experience in the use of general purpose and specialized computers for analysis and display of spacecraft data

**20) Instrumentation Engineer**

- Bachelor of Science in Electrical Engineering (for non-key personnel, degree may be in Aerospace Engineering or Physics)
- 5 years aerospace design, development engineering experience, including 5 years design experience in measurement and instrumentation systems
- Experience with standard application programs for Personal Computers
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of electrical circuits
- Experience in writing/editing aerospace technical specifications

**21) Physicist - Theoretical/Experimental [Key Personnel]**

- Master's Degree in Physics.
- 10 years experience in space system experimental data gathering and analysis, in general
- Experience performing theoretical prediction of experiment responses pursuant to developing modeling equations
- Experience developing custom software for modeling and prediction.
- Experience programming for and operation of standard computer platforms
- Experience running a variety of standard application programs.

**22) Mathematician for Aerospace Analysis and Prediction [Key Personnel]**

- Bachelor's degree in science or engineering or mathematics
- 10 years experience in aerospace systems - in general
- Experience in performing modeling, prediction and analysis related to mission and operational aspects of aerospace systems
- Experience in developing software for modeling, prediction and analysis
- Experience in spacecraft orbit prediction and analysis
- Experience in running standard mission planning software
- Experience running a variety of standard application programs on Personal Computers

**23) Optical Engineers [Key Personnel]**

- Bachelor's degree in science, engineering, or mathematics
- 10 years aerospace design, development engineering experience, including 5 years experience in spacecraft optical systems
- Experience with design of aerospace electrical product packaging
- Experience with environmental testing and qualification of aerospace electrical products
- Experience with computer aided modeling and analysis of optical systems
- Experience in writing/editing aerospace technical specifications

**24) Spacecraft Electronics Assembly Manager [Key Personnel]**

- Bachelor's degree in science or engineering
- 15 years aerospace assembly experience, including 8 years (minimum) in a supervisory role.
- Experience with design, fabrication and assembly of aerospace electronics including subsystem packaging.
- Experience providing assembly support for NASA and other high reliability space programs.
- Experience writing assembly and inspection procedures.
- Experience maintaining certification of processes and facilities to required Hi-Reliability Spacecraft standards.

**25) Spacecraft Electronics Assembly Technicians**

- High School Degree (minimum) or equivalent
- 2 each (minimum) with a minimum of 10 years aerospace assembly experience
- 3 each (minimum) with a minimum of 5 years aerospace assembly experience
- Experience with design/fabrication of aerospace electronics and component packaging
- Experience providing support for NASA and other high reliability space programs.

**FORMAT FOR NON-KEY PERSONNEL QUALIFICATIONS**

(Expand Names, etc. as needed. Include code for corporate affiliation. A Word version of this document is available from waldenfels@contracts.nrl.navy.mil)

Entry of name signifies possession of qualifications established for the position in a non-key capacity, in the Personnel Qualifications attachment.

#	Position Title	Synopsis of Years of Experience*	Names/ firm	Years Experience		
				a.	b.	c.
1	Program Mgr./Sen. Sys. Eng.	(Key position only)	///	///	///	///
2	Systems Engineer	<ul style="list-style-type: none"> <li>a. 9 years aerospace systems</li> </ul>		///	///	///
		<ul style="list-style-type: none"> <li>Averages for Position 2</li> </ul>	//////////	///	///	///
3	Administrative Assistant	<ul style="list-style-type: none"> <li>a. 3 years running Microsoft</li> <li>b. 2 years Desk-top</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 3</li> </ul>	//////////			///
4	Secretarial/Clerical	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>	///	///	///	///
5	Electrical Power Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. including 7 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 5</li> </ul>	//////////			///
6	Harness Subsystem Eng.	<ul style="list-style-type: none"> <li>a. 5 years aerospace</li> <li>b. including 5 years in harness subsystems</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 6</li> </ul>	//////////			///
7	Telemetry, Tracking and Command Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. including 7 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 7</li> </ul>	//////////			///
8	Mechanisms Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. including 7 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 8</li> </ul>	//////////			///
9	Structures Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> </ul>		///	///	///
		<ul style="list-style-type: none"> <li>Averages for Position 9</li> </ul>	//////////	///	///	///

#	Position Title	Synopsis of Years of Experience*	Names/ firm	Years Experience		
				a.	b.	c.
10	Attitude Control Subsys. Eng.	<ul style="list-style-type: none"> <li>A. 10 years aerospace</li> <li>b. including 7 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 10</li> </ul>	//////////			///
11	Reaction Control Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> </ul>			///	///
		<ul style="list-style-type: none"> <li>Averages for Position 11</li> </ul>	//////////		///	///
12	Orbit/Trajectory Analyst	<ul style="list-style-type: none"> <li>a. 10 years in aerospace systems</li> <li>b. 5 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 12</li> </ul>	//////////			///
13	Engineer Gen. Design/Support	<ul style="list-style-type: none"> <li>a. 5 years aerospace</li> <li>b. 3 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 13</li> </ul>	//////////			///
14	Thermal Control Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> </ul>			///	///
		<ul style="list-style-type: none"> <li>Averages for Position 14</li> </ul>	//////////		///	///
15	Ordance Control Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. 5 years specialized</li> <li>c. 5 years specialized safety</li> </ul>				
		<ul style="list-style-type: none"> <li>Averages for Position 15</li> </ul>	//////////			
16	Radio Frequency Subsys. Eng.	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. including 8 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 16</li> </ul>	//////////			///
17	Antenna Engineer	(Key person only)	///	///	///	///
18	Senior Software Programmer	<ul style="list-style-type: none"> <li>a. 10 years programming digital computer systems</li> <li>b. 10 years specialized software</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 18</li> </ul>	//////////			///

#	<u>Position Title</u>	<u>Synopsis of Years of Experience*</u>	<u>Names/ firm</u>	<u>Years Experience</u>		
				<u>a.</u>	<u>b.</u>	<u>c.</u>
19	Software Engineer	<ul style="list-style-type: none"> <li>a. 7 years aerospace harness subsystems</li> <li>b. 5 years scheduling/ planning software development and mission operations</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 19</li> </ul>	//////////			///
20	Instrumentation Engineer	<ul style="list-style-type: none"> <li>(Key person only)</li> </ul>	///	///	///	///
21	Physicist	<ul style="list-style-type: none"> <li>a. 10 years in experimental data and analysis</li> </ul>			///	///
		<ul style="list-style-type: none"> <li>Averages for Position 21</li> </ul>	//////////		///	///
22	Mathematician	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> </ul>			///	///
		<ul style="list-style-type: none"> <li>Averages for Position 22</li> </ul>	//////////		///	///
23	Optical Engineer	<ul style="list-style-type: none"> <li>a. 10 years aerospace</li> <li>b. including 5 years specialized</li> </ul>				///
		<ul style="list-style-type: none"> <li>Averages for Position 23</li> </ul>	//////////			///
24	Spacecraft Electron. Ass'y. Mgr.	<ul style="list-style-type: none"> <li>(Key person only)</li> </ul>	///	///	///	///
25	Spacecraft Electronics Ass'y. Technicians**	<ul style="list-style-type: none"> <li>a. 2 each (minimum) with a minimum of 10 years aerospace</li> <li>b. 3 others each (minimum) with a minimum of 5 years aerospace</li> </ul>				///
*As detailed in the Personnel Qualifications attachment. **No averaging for position 25, Spacecraft Electronics Assembly Technicians						

## **RECAP OF RESPONSES TO COMMENTS DURING PRE-SOLICITATION PHASE**

This list reflects changes to draft documents issued to potential offerors for comments. It also includes a few changes made during the review process. While it is believed to be comprehensive and accurate regarding responses to comments from offerors, it does not reflect numerous changes in the SOW as a result of NRL review. (The SOW changes in the main altered language to achieve usage and style more typical of contract documents.) The text of the RFP as issued is the only official text.

### **CHANGES TO THE LEVEL OF EFFORT CLAUSE**

The new version of the clause was approved for use. In paragraph (a), the word “require” replaced “be” in each bullet, and a duplicated sentence was eliminated.

One commenter requested the level of effort clause indicate the percentage of effort to be performed in contractor and in Government provided facilities, as the location has a significant effect on rates. Section L indicates the proposal should be based on performance at contractor facilities, though there may be minor performance at Government facilities. (CDRL Item A006, “Contractor On-Site Labor Report,” covers labor performed at NRL.)

### **CHANGES TO SECTION L**

The anticipated start date for pricing purposes was slipped to February 28, 2000, with award anticipated in February 2000. The deadline for questions was changed to 21 days before closing.

A question was added to clarify whether the offeror proposes labor by category but accumulates and bills by individual employee. A question was added to clarify actual labor rates.

Statements were added that subcontractors (for labor positions) should provide the same information as the offeror regarding burdens that were significantly changing and regarding cost of money.

The sentence regarding rates that were not DCAA approved was moved.

A statement was deleted from “Other Background Information” regarding individual or joint sponsored activities.

### **CHANGES TO SECTION M**

The evaluation of facilities was clarified by including the word “proximity” in addition to adequacy.

Under M-2-2, clarified meaning to be “proposed estimated cost plus fixed fee.”

Under M-2-3, added “realistic” to modify “credible extent.”

### **CHANGES TO THE SOW/CDRL**

Paragraph 2.3: Added the following at the end –

“The Contractor shall report the technical results and status of its efforts under the contract via CDRL submittals and formal and informal documents and memoranda.” Decided not to elaborate further.

Paragraph 3.0.1 – Changed “contractor manager shall” to “contractor’s Program Manager shall.” Also changed “... by task and subtask (i.e., Task X may have multiple Subtasks)...” by substituting “n” for X, clarifying that this indicates a generic task.

Paragraph 3.1.2.1 – Declined to adopt suggestion that would have limited the choice of scheduling tools.

Paragraph 3.1.8.1 – Changed MIL-STD-217 to MIL-HDBK-217. NCST Document SSD-D-303 is available on request to [waldenfels@contracts.nrl.navy.mil](mailto:waldenfels@contracts.nrl.navy.mil).

Paragraph 3.1.10 – Added “for each major space system development” for the MRD and SPDR and “as applicable” for the ICD.

Paragraph 3.1.10 – The Government will make NCST Document SSD-D-303 available upon request to [waldenfels@contracts.nrl.navy.mil](mailto:waldenfels@contracts.nrl.navy.mil) .

Paragraph 3.3.3.1 – Deleted words “develop and/or” [provide ...]

**Numerous other changes were made as the result of internal NRL review.** The main impact of the changes was to make the language more precise and the usage more customary.

CDRLs A002 and A009 were changed in line with changes in the SOW.

CDRL A006 – On-Site Labor Report. Whether this implied substantial performance at Government sites

As Section L will state, labor should be proposed at the offeror’s sites and not at Government sites. There may be some minor performance at Government sites, and A006 is needed to capture hours performed at NRL for NRL management purposes.

CDRL A010 – The Management Plan.

Questioner asked whether the Management Plan was to be submitted with the proposal, and asked whether it was part of the page count.

It must be submitted with the proposal but will not count against the page limitation.

Questioner asked whether the Management Plan should include a transition plan from the incumbent contractor, and if so whether Government could make available relevant TDMs.

No transition plan should be provided in the proposal by any offeror. This will simplify the evaluation process by removing a product of marginal worth until a source has been selected. After award, the Government may request a transition plan as part of the final Management Plan.

## SUMMARY OF CHANGES TO PERSONNEL QUALIFICATIONS

This list reflects changes to draft documents issued to potential offerors for comments. While it is believed to be comprehensive and accurate, the text of the RFP as issued is the only official text.

### Preamble

Added that a bachelor's degree in the same field satisfied the BS—requirement; e.g., BEE = BSEE.

Added that a higher degree in the same field satisfies a requirement for a lower degree.

Added that up to five non-key personnel, at the offeror's discretion, for the entire non-key staff, need not satisfy the educational requirement, provided their qualifications are judged acceptable.

Clarified submission of resumes.

### General question about equivalent qualifications

Question: "The personnel qualification listing seems to favor years of experience over educational qualifications (e.g., 15 years of experience with a bachelor's degree). Will the Government allow combinations of successfully completed graduate level education and specialized experience to meet total experience requirements for the required personnel qualifications? If yes, will the Government allow the usage of the guidelines promulgated by the Office of Personnel Management (OPM) Operating Manual for Qualification Standards for General Schedule Positions (Section IV-A, pp. 19-24)? (available at <http://www.opm.gov/qualifications/index.htm> on the internet.)

Response: Qualifications for key personnel are different from the qualifications for non-key personnel and are addressed separately in this response.

For key personnel, achievement of stated experience levels is "strongly desired," as stated in the preamble to the Personnel Qualifications attachment, but not mandatory. Therefore, proposals will not fail solely due to shortfalls in experience for a key person. A shortfall would pose the risk of a lower score, but the shortfall might be mitigated by other qualifications documented in the resume. It is in the best interest of the competition to leave such issues to the scorers' judgments.

Regarding non-key personnel, the experience requirements are expressed as an average for the people in a position, and that average is "strongly desired," not mandatory. No resumes are to be submitted (unless requested as a spot check by the Government). Use of a "strongly desired" average as the requirement is considered to provide sufficient flexibility to offerors. A shortfall for some personnel could be made up by extra experience for other personnel, and a group shortfall will not cause a proposal to be unacceptable, but will tend to lead to a lower score.

For such a large group of key and non-key personnel, use of the OPM guidelines could lead to administrative problems in proposing and evaluating. In this procurement, use of the guidelines offer no clear advantages over the approach described above.

Position 2) Systems Engineer

The experience level was reviewed and confirmed at the level stated.

Positions 3) and 4) Could positions be combined

Added statement that the two could be combined while keeping the total of hours for the two positions.

Positions 5) and 7) Whether the Government would consider alternate degrees (e.g., Physics or Mathematics

After review the decision was to keep the requirement as a bachelor's of electrical engineering degree without adding equivalents.

Position 6) Harness Subsystem "Engineer"

The designation and qualifications of the position were reviewed. The designation was changed to "Harness Subsystem Personnel," and the educational qualification was changed in conjunction with a change in the experience requirement. The change clarifies that either a very experienced technician or an experienced engineer could satisfy the requirement.

Position 7) See Position 5).

Positions 8) – 10) Whether to add additional degrees as equivalents, particularly Aerospace Engineering, Physics and Mathematics

Bachelor's degrees in Aerospace Engineering, Physics and Mathematics were added to Positions 8, 9 and 10. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

Position 11) Whether to add additional degrees as equivalents, particularly Aerospace Engineering, Physics and Mathematics, or qualification on the basis of recognized experience

Position 11) already allowed engineering degrees. A phrase was added expressing a desire for Aerospace or Mechanical Engineering degrees. Degrees in Mathematics and Physics will not meet the requirement and were not added. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement. The degree requirements for key personnel are "strongly desired," but not mandatory.

Position 12) Clarified that 5 years specialized experience could be concurrent.

Position 13) Clarified that 3 years specialized experience could be concurrent.

Positions 15), 16), 17), and 20) Whether to add equivalent degrees, particularly Physics and Aerospace Engineering

For non-key personnel, bachelor's degrees in Physics and Aerospace Engineering were added as equivalents. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

Position 18) Changed requirement for specialized experience from 10 to 5 years. Clarified that 5 years specialized experience could be concurrent.

Position 19) Whether to add Mathematics as an equivalent, and correction of an editorial mistake that substituted "harness subsystems" for software

Added Mathematics as an equivalent. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

Corrected "harness subsystems" to "software."

Also clarified that 5 years specialized experience could be concurrent.

Position 20) For non-key personnel, bachelor's degrees in Physics and Aerospace Engineering were added as equivalents. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

Positions 21, 22, and 23) Eliminated the phrase (or higher) after the degree as the preamble states the requirement is satisfied by a higher degree in the same field.

Position 23) Whether to add additional degrees as equivalents, particularly Aerospace Engineering, Physics and Mathematics

Position 23 already allowed engineering and science degrees. A degree in Mathematics will also meet the requirement and was added. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

Position 24) Whether to add additional degrees as equivalents, particularly Aerospace Engineering, Physics and Mathematics

Position 24 already allowed engineering and science degrees. A degree in Mathematics will not meet the requirement. Also, see statement in preamble allowing up to five non-key personnel (total for all non-key positions) who do not meet the educational requirement.

### **CHANGES TO FORMAT FOR NON-KEY PERSONNEL**

A requirement to indicate US citizenship/SECRET clearance eligibility was added.

Hash marks (///) were added and used throughout to indicate blocks requiring no entry.

Question: "The table (with the statement of "Entry of name signifies possession of qualifications...") seems to indicate that only the Position Title, Synopsis of Experience, Names, Years of Experience and Corporate Affiliation are required to be submitted for non-key positions. Does the Government want or require capsule summaries of each [non-key] person's qualifications? Does the Government want or require the submission of detailed resumes for non-key personnel for the purposes of evaluation? If submitted, will these resumes be a factor of evaluation by the Government?"

Answer: The Government does not want capsule summaries or resumes for non-key persons except in those cases where resumes are required in special circumstances. One such circumstance includes persons who are not US citizens or eligible for SECRET clearance; another includes persons in the group of up to five who do not meet the stated educational qualifications. A third includes resumes specifically requested by the Government as a spot check. If other resumes are submitted, they will not be considered in the evaluation. The Position Title and Synopsis of Experience should be repeated as stated. Entries include names, corporate affiliation (may be coded), a "Y" or "N" indicating whether person is both a US citizen and eligible for SECRET clearance, and years of experience.