

<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 <b>1</b>   <b>27</b> PAGES	
2. CONTRACT NO.	3. SOLICITATION NO. <b>N00173-00-R-JW02</b>	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED <b>3/07/2000</b>	6. REQUISITION/PURCHASE NO. <b>67-0391-99</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) <b>SAME AS BLOCK 7.</b>			

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 BUILDING 222 ROOM 115 until 4:00 local time 4/7/2000  
(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 (See Section I, Clause No. 52-232-8)	10 CALENDAR DAYS	%	20 CALENDAR DAYS	%	30 CALENDAR DAYS	%	CALENDAR DAYS	%
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE				

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
15B. TELEPHONE NO. (Include area code)	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.		17. SIGNATURE
			18. OFFER DATE

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

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION	
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:		23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM
<input type="checkbox"/> 10 U.S.C. 2304(c)	<input type="checkbox"/> 41 U.S.C. 253(c)		
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 NO.	SUPPLIES OR SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0001	The contractor shall conduct research involving analysis of the interaction of radiation with non-LTE plasmas as described below and in Section C.	\$	\$	\$
0002	Data in accordance with Exhibit A (DD 1423) and Enclosure (1).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0001 AND 0002		\$	\$	\$
<b>OPTION 1</b>				
0003	The contractor shall conduct research involving analysis of the interaction of radiation with non-LTE plasmas as described below and in Section C.	\$	\$	\$
0004	Data in accordance with Exhibit A (DD 1423) and Enclosure (1)	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0003 AND 0004		\$	\$	\$

## OPTION 2

ITEM NO.	SUPPLIES OR SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0005	The Contractor shall conduct research involving analysis of the interaction of radiation with non-LTE plasmas as described below and in Section C.	\$	\$	\$
0006	Data in accordance with Exhibit A (DD 1423) and Enclosure (1)	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0005 AND 0006		\$	\$	\$

## OPTION 3

ITEM NO.	SUPPLIES OR SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0007	The Contractor shall conduct research involving analysis of the interaction of radiation with non-LTE plasmas as described below and in Section C.	\$	\$	\$
0008	Data in accordance with Exhibit A (DD 1423) and Enclosure (1).	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0007 AND 0008		\$	\$	\$

**OPTION 4**

ITEM NO.	SUPPLIES OR SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0009	The contractor shall	\$	\$	\$
0010	Data in accordance with Exhibit A (DD 1423) and Enclosure (1)	* NSP	* NSP	* NSP
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0009 AND 0010		\$	\$	\$
TOTAL ESTIMATED COST PLUS FIXED FEE FOR CLINS 0001 THROUGH 0010		\$	\$	\$

\* Not Separately Priced

**SECTION C  
DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK**

**C-1 STATEMENT OF WORK**

The work and services to be performed hereunder shall be subject to the requirements and standards contained in Attachment (1), Statement of Work, with Exhibit A, Contract Data Requirements List, and all other Attachments cited in Section J, which are incorporated by reference into Section C.

**C-2 REQUIREMENTS FOR ON-SITE CONTRACTORS**

For those portions of the work under this contract performed at any NRL site, the contractor shall comply with the Requirements for On-Site Contractors dated 28 July 1999 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/home.htm>.

**SECTION D  
PACKAGING AND MARKING**

**D-1 PACKAGING AND MARKING**

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

**SECTION E  
INSPECTION AND ACCEPTANCE**

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

**FAR CLAUSE    TITLE**

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

**E-2 INSPECTION AND ACCEPTANCE**

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

**SECTION F  
DELIVERIES OR PERFORMANCE**

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

**FAR CLAUSE    TITLE**

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

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

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

(a) The term of this contract is from the date of award through one year after the date of award with four options that will extend the period of performance for an additional twelve months each if exercised.

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

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

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

**G-1 PROCURING OFFICE REPRESENTATIVE**

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

Contract Matters- \*

Security Matters- \*

Safety Matters- \*

Patent Matters- \*

Release of Data- \*

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

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

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

\* is hereby designated the cognizant COR who will represent the Contracting Officer in the administration of technical details within the scope of this contract and inspection and acceptance. The COR is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or change the specifications in the contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statements of work, a modification must be issued in writing and signed by the Contracting Officer. The COR is responsible for reviewing the bills and charges submitted by the Contractor and informing the ACO of areas where exceptions are to be taken.

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

**G-3 TECHNICAL DIRECTION MEMORANDUM (TDM)**

(a) For the purposes of this clause, technical direction includes the following:

- (1) Direction to the Contractor which shifts work emphasis between work areas or tasks, requires pursuit of certain lines of inquiry, fills in details or otherwise describes work which will accomplish the objectives described in the statement of work;
- (2) Guidelines to the Contractor which assist in interpretation of drawings, specifications or

technical portions of work description.

(b) Technical instructions must be within the scope of work stated in the contract. Technical instructions may not be used to:

- (1) Assign additional work under the contract;
- (2) Direct a change as defined in the contract clause entitled "Changes";
- (3) Increase or decrease the estimated contract cost, the fixed fee, or the time required for contract performance; or
- (4) Change any of the terms, conditions or specifications of the contract

(c) The TDM shall be written by the Contracting Officer's Representative (COR), with the original given to the Contractor and a copy retained in the CORs file. Technical direction may be issued orally only in emergency situations. If technical direction is issued orally, a TDM must follow within two (2) working days from the date of the oral direction. Amendments, corrections, or changes to TDMs shall also be in written format and shall include all the information set forth in paragraph (e) below.

(d) A TDM shall be considered issued when the Government deposits it in the mail, or if transmitted by other means, when it is physically delivered to the contractor.

(e) TDMs shall include, but not be limited to, the following information:

- (1) Date of TDM,
- (2) Contract Number,
- (3) Reference to the relevant portion or item in the Statement of Work,
- (4) The specific technical direction or clarification, and
- (5) The signature of the COR.

(f) CORs shall retain all files containing TDMs for a period of two (2) years after the final contract completion date.

(g) The only individual authorized in any way to amend or modify any of the terms of this contract shall be the Contracting Officer. When, in the opinion of the Contractor, any technical direction calls for effort outside the scope of the contract or inconsistent with this special provision, the Contractor shall notify the Contracting Officer in writing within ten (10) working days after its receipt.

**G-4 CONTRACTOR-ACQUIRED PROPERTY**

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

Items to be Acquired

Estimated Cost

\*

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

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

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

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

#### **G-5 SUBCONTRACTORS/CONSULTANTS**

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

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

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

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

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

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

*(To be completed at time of award)*

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

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

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

- (1) Contract line item number (CLIN)
- (2) Subline item number (SLIN)
- (3) Accounting Classification Reference Number(ACRN)
- (4) Payment terms
- (5) Procuring activity
- (6) Date supplies provided or services performed
- (7) Costs incurred and allowable under the contract

- (8) Vessel (e.g., ship, submarine or other craft) or system for which supply/service is provided
- (e) A DD Form 250, "Material Inspection and Receiving Report",  
  \*\*   is required with each invoice submittal.  
  \*\*   is required only with the final invoice.  
  \*X\*   is not required.
- (f) A Certificate of Performance  
  \*\*   shall be provided with each invoice submittal.  
  \*X\*   is not required.
- (g) The Contractor's final invoice shall be identified as such, and shall list all other invoices (if any) previously tendered under this contract.
- (h) Cost of performance shall be segregated, accumulated and invoiced to the appropriate ACRN categories to the extent possible. When such segregation of costs by ACRN is not possible for invoices submitted with CLIN/SLINS with more than one ACRN, an allocation ratio shall be established in the same ratio as the obligations cited in the accounting data so that costs are allocated on a proportional basis.

#### **G-7 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-8 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (COST-REIMBURSEMENT)**

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

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

## SECTION H SPECIAL CONTRACT REQUIREMENTS

### H-1 TYPE OF CONTRACT

This is a \*

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

### H-2 ONR 5252.237-9705 - KEY PERSONNEL (DEC 88)

- (a) The Contractor agrees to assign to the contract tasks those persons whose resumes were submitted with its proposal and who are necessary to fulfill the requirements of the contract as "key personnel". No substitutions may be made except in accordance with this clause.
- (b) The Contractor understands that during the first ninety (90) days of the contract performance period, no personnel substitutions will be permitted unless these substitutions are unavoidable because of the incumbent's sudden illness, death or termination of employment. In any of these events, the Contractor shall promptly notify the Contracting Officer and provide the information described in paragraph (c) below. After the initial ninety (90) day period the Contractor must submit to the Contracting Officer all proposed substitutions, in writing, at least fifteen (15) days in advance (thirty (30) days if security clearance must be obtained) of any proposed substitution and provide the information required by paragraph (c) below.
- (c) Any request for substitution must include a detailed explanation of the circumstances necessitating the proposed substitution, a resume for the proposed substitute, and any other information requested by the Contracting Officer. Any proposed substitute must have qualifications equal to or superior to the qualifications of the incumbent. The Contracting Officer or his/her authorized representative will evaluate such requests and promptly notify the Contractor of his/her approval or disapproval thereof.
- (d) In the event that any of the identified key personnel cease to perform under the contract and the substitute is disapproved, the contract may be immediately terminated in accordance with the Termination clause of the contract.

The following are identified as key personnel: \*

*(\*To be completed at time of award. The person filling the Senior Physicist position is anticipated as the only key person.)*

### H-3 ONR 5252.216-9706 - LEVEL OF EFFORT (DEC 88)

- (a) The Contractor agrees to provide the total level of effort specified in the next sentence in performance of the work described in this contract. The total level of effort for performance of this contract shall be 3,500 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 4,500\* hours for a total of 8,000\* 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 4,500\* hours for a total of 12,500\* 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 4,500\* hours for a total of 17,000\* 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 4,500\* hours for a total of 21,500\* 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 any of the following situations occur, or are anticipated to occur: If during any three consecutive months the monthly average is exceeded by 25% or, if at any time it is forecast that during the last three months of the contract less than 50% of the monthly average will be used during any given month; or, when 85% of the total level of effort has been expended.

(d) If, during the term of the contract, the Contractor finds it necessary to accelerate the expenditure of direct labor to such an extent that the total hours of effort specified would be used prior to the expiration of the term, the Contractor shall notify the Contracting Officer in writing, setting forth the acceleration required, the probable benefits which would result, and an offer to undertake the acceleration at no increase in the estimated cost or fixed fee together with an offer setting forth a proposed level of effort, cost breakdown, and proposed fixed fee for continuation of the work until expiration of the term hereof. The offer shall provide that the work proposed will be subject to the terms and conditions of this contract and any additions or changes required by then current law, regulations, or directives, and that the offer, with a written notice of acceptance by the Contracting Officer, shall constitute a binding contract. The Contractor shall not accelerate any effort until receipt of such written approval by the Contracting Officer. Any agreement to accelerate will be formalized by contract modification.

(e) The Contracting Officer may, by written order, direct the Contractor to accelerate the expenditure of direct labor such that the total hours of effort specified in paragraph (a) above would be used prior to the expiration of the term. This order shall specify the acceleration required and the resulting revised term. The Contractor shall acknowledge this order within five days of receipt.

(f) If the total level of effort specified in paragraph (a) above is not provided by the Contractor during the term of this contract, the Contracting Officer shall either (i) reduce the fixed fee of this contract as follows:

$$\text{Fee Reduction} = \text{Fixed Fee} \times \frac{(\text{Required LOE Hours} - \text{Expended LOE Hours})}{\text{Required LOE Hours}}$$

or (ii) subject to the provisions of the clause of this contract entitled "Limitation of Cost," require the Contractor to continue to perform the work until the total number of hours of direct labor specified in paragraph (a) shall have been expended, at no increase in the fixed fee of this contract.

(g) In the event the government fails to fully fund the contract in a timely manner, the term of the contract may be extended accordingly with no change to cost or fee. If the government fails to fully fund the contract, the fee will be adjusted in direct proportion to that effort which was performed.

(h) Notwithstanding any of the provisions in the above paragraphs, the Contractor may furnish hours up to five percent in excess of the total hours specified in paragraph (a) above, provided that the additional effort is furnished within the term hereof, and provided further that no increase in the estimated cost or fixed fee is required, and no adjustment in the fixed fee shall be made provided that the Contractor has delivered at least 95% of the level of effort required in paragraph (a) above.

(i) It is understood that the mix of labor categories provided by the Contractor under the contract, as well as the distribution of effort among those categories, may vary considerably from the initial mix and distribution of effort which was estimated by the government or proposed by the Contractor.

(j) Nothing herein shall be construed to alter or waive any of the rights or obligations of either party

pursuant to the Clause entitled "Limitation of Costs" or "Limitation of Funds," either of which clauses as incorporated herein applies to this contract.

(k) The anticipated breakdown by labor category of the total level of effort is as follows:

<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- <u>0002</u>	0001- <u>0004</u>	0001- <u>0006</u>	0001- <u>0008</u>	0001- <u>0010</u>
Senior Physicist*	2,000	2,000	2,000	2,000	2,000
Physicist*	1,000	2,000	2,000	2,000	2,000
Physicist*	500	500	500	500	500
Support Labor*	**	**	**	**	**
TOTAL*	<u>3,500</u>	<u>4,500</u>	<u>4,500</u>	<u>4,500</u>	<u>4,500</u>

\* The Senior Physicist shall work primarily at the Naval Research Laboratory in Washington, D.C. The performance location of the other personnel is not limited.

\*\*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 ON-SITE USE OF GOVERNMENT PROPERTY**

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

**H-7 YEAR 2000 COMPLIANT INFORMATION TECHNOLOGY**

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

**H-8 REPRESENTATIONS AND CERTIFICATIONS**

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

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

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

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

Also, the full text of a clause may be accessed electronically at this/these address(es):

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

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

**a. FEDERAL ACQUISITION REGULATION CLAUSES**

**FAR CLAUSE    TITLE**

- |           |   |  |
|-----------|---|--|
| 52.202-1  | - | Definitions (OCT 1995)   |
| 52.203-3  | - | Gratuities (APR 1984)  |
| 52.203-5  | - | Covenant Against Contingent Fees (APR 1984)  |
| 52.203-6  | - | Restrictions On Subcontractor Sales To The Government (JUL 1995)   |
| 52.203-7  | - | Anti-Kickback Procedures (JUL 1995)  |
| 52-203-8  | - | Cancellation, Rescission, And Recovery Of Funds For Illegal Or Improper Activity (JAN 1997)  |
| 52.203-10 | - | Price Or Fee Adjustment For Illegal Or Improper Activity (JAN 1997)  |
| 52.203-12 | - | Limitation On Payments To Influence Certain Federal Transactions (JUN 1997)  |
| 52.204-4  | - | 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)<br>( <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.
- 52.219-6 - Notice Of Total Small-Business Set-Aside (JUL 1996)
- 52.219-8 - Utilization Of Small Business Concerns (OCT 1999)
- 52.219-14 - Limitations On Subcontracting (DEC 1996)
- 52.222-2 - Payment For Overtime Premiums (JUL 1990) -The Use Of Overtime Is Authorized Under This Contract If The Overtime Premium Does Not Exceed "0"
- 52.222-20 - 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)
- 52.223-3 - Hazardous Material Identification And Material Safety Data (JAN 1997)
- 52.223-5 - Pollution Prevention and Right-To-Know Information (APR 1998)
- 52.223-6 - Drug-Free Workplace (JAN 1997)
- 52.223-14 - Toxic Chemical Release Reporting (OCT 1996)
- 52.225-11 - Restrictions On Certain Foreign Purchases (AUG 1998)
- 52.227-1 - Authorization And Consent (JUL 1995)- Alternate I (APR 1984)
- 52.227-2 - Notice And Assistance Regarding Patent And Copyright Infringement (AUG 1996)
- 52.227-11 - Patent Rights - Retention By The Contractor (Short Form) (JUN 1997)  
*(will be included if the successful offeror is a small business or a non-profit organization)*
- 52.228-7 - Insurance - Liability To Third Persons (MAR 1996)
- 52.232-9 - Limitation On Withholding Of Payments (APR 1984)
- 52.232-17 - Interest (JUN 1996)
- 52.232-20 - 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)
- 52.237-10 - 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)
- 52.246-23 - 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)
- 252.204-7000 - 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)
- 252.205-7000 - 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)
- 252.223-7006 - 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)
- 252.225-7026 - 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)
  - 252.243-7002 - 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 - 4 Pages, With Exhibit A - DD Form 1423, Contract Data Requirements List, 6 Pages.
- J-2** Attachment (2) – Personnel Qualifications, 1 Page.
- J-3** Attachment (3) – Accounting and Appropriation Data- 1 page. \*  
*(\* To be included at time of award)*

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

**K-1 Representations, Certifications, and Other Statements of Offerors or Respondents**

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

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

The fill in information is as follows:

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

The small business size standard is 500.

**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)
52.214-34	-	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 (NOV 1999)
52.215-16	-	Facilities Capital Cost Of Money (OCT 1997)
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-12, 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 AND MATERIAL/COMPUTER ESTIMATE**

The travel and material/computer estimate set forth below must be included in each offeror's cost proposal for evaluating purposes only. The contractor will be reimbursed allowable travel and material costs incurred in performance of the contract.

**TRAVEL COSTS - \$100,000 (\$20,000 PER YEAR) PLUS ANY APPLICABLE INDIRECT COSTS.**

**MATERIAL COSTS - \$25,000 (\$5,000 PER YEAR) PLUS ANY APPLICABLE INDIRECT COSTS.**

**L-9 INQUIRIES CONCERNING THE RFP**

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

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

(1) Information for the technical/management proposal shall be placed in Volume I and be completely separate from the business proposal (Volume II).

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

**Solicitation No. N00173-00-R-JW02**  
**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. However, the proposal should be written and organized so as to be compatible with the RFP, the Statement of Work, company's organization and accounting structure, and proposed cost estimate. Offerors are encouraged to use recycled paper and maximize the use of double sided copying when preparing responses to solicitations.

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

REQUIRED COPIES: 1 ORIGINAL AND 3 COPIES .

(1) Include a matrix indicating proposed labor hours by skill category required to perform the statement of work. If your standard labor categories do not match the categories in this RFP, indicate which of your categories match the RFP categories. You must propose in accordance with the level of effort breakdown identified in this RFP. This matrix shall not contain labor rates or any other indication of price.

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

**Personnel Qualifications:** The proposal must demonstrate the experience, understanding, knowledge, education level and other qualifications of its proposed personnel, as well as the length of time each will be working on the project, with respect to the requirements set forth in the Statement of Work, set forth in RFP Attachment No. 1- and in Personnel Qualifications, RFP Attachment No. 2, *For each proposed person, state the year and field for each degree earned. (May be done in the resume.)* Cover past performance with regard to the performance of key personnel assigned to contracts. Also cover these areas for any proposed subcontractors and/or consultants assigned to the project.

**Technical Understanding:** The proposal must demonstrate technical understanding of each of the tasks in the statement of work. Your company should also demonstrate its expertise in the technical fields supporting the tasks, indicating how that expertise will be transfused through its proposed personnel into performance. This may be evident from the data on each proposed person.

**Corporate Experience And Management Approach:** your company must demonstrate (1) its company experience in projects substantially similar to the tasks set forth in the Statement of Work and (2) the soundness of its project management approach for accomplishing the Statement of Work, including management support to the performing staff, staff management, and business interactions. This includes your company's means for managerial control of quality, cost and timeliness.

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

REQUIRED COPIES: 1 ORIGINAL AND 2 COPIES

**(1) COST PROPOSAL**

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

If a period of performance (e.g., the first year, second year, etc.) overlaps the point where a rate changes, 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. This may be submitted as a summary table, separate from the cost tables for each priced CLIN.

If labor fringe 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.

If at least some of the work is proposed at a Government site and some work at a contractor site, and if the offeror has a separate burden rate for work at customer sites, the offeror should explain its policy for applying burdens to staff that perform all or some of their work at customer sites.

If facilities capital cost of money is proposed, the offeror shall submit a table showing the allocation by year of each cost of money factor to land, buildings and equipment.

## SECTION M EVALUATION FACTORS FOR AWARD

### M-1 EVALUATION

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

### M-2 EVALUATION FACTORS FOR AWARD

Proposals will be evaluated in accordance with the following criteria. The technical factor is more important than the cost factor. The Personnel Qualifications sub-factor is nearly twice as important as the Technical Understanding subfactor, which is in turn more important than the Corporate Experience and Management Approach subfactor.

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

##### (1) PERSONNEL QUALIFICATIONS

The proposed personnel will be evaluated on their experience, understanding, knowledge, education level and other qualifications, as well as the length of time each will be working on the project, with respect to the requirements set forth in the Statement of Work, set forth in RFP Attachment No. 1- and in Personnel Qualifications, RFP Attachment No. 2, This will include the offeror's past performance with regard to the performance of key personnel assigned to contracts.

##### (2) TECHNICAL UNDERSTANDING

The proposal will be evaluated on the soundness of the Offeror's technical understanding, including the Offeror's understanding of the technical requirement.

##### (3) CORPORATE EXPERIENCE AND MANAGEMENT APPROACH

The proposal will be evaluated on the soundness of the Offeror's experience in similar projects and its project management approach for accomplishing the task.

#### M-2-2 COST TO THE GOVERNMENT

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

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

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

## STATEMENT OF WORK FOR ANALYSIS OF THE INTERACTION OF RADIATION WITH NON-LTE PLASMAS

### 1. INTRODUCTION AND SCOPE

The Naval Research Laboratory Laser Plasmas branch successfully built in recent years a kilojoule-class KrF laser called the Nike facility. The major purpose of Nike is to investigate various methods of controlling hydrodynamic instabilities in laser accelerated targets. One of the primary methods considered uses controlled amounts of high-Z-generated radiation. This preheats the ablator, thus modifying the density profile of the target while leaving the fuel on a low isentrope. As part of that program, NRL Laser Plasma Branch currently has a team of about five government scientists who develop and utilize a set of radiation-hydrodynamics computer codes to explore various target designs for a possible future laser fusion facility and to design and interpret experiments for Nike. The program is equipped with several powerful workstations, including some parallel clusters.

The current radiation hydrodynamics codes at the NRL Laser Plasma Branch (FAST) use Local Thermodynamic Equilibrium (LTE) atomic physics to calculate opacities of various materials, in particular, the Super-Transition-Array (STA) model and the corresponding code. The STA approach is widely recognized as one of the most accurate methods of calculating LTE opacities.

However, the interaction of intense laser light with a target is known to have several features that are essentially non-LTE, because of the unavoidable existence of temperature and density gradients, and optically thin regions. These effects are even more pronounced for high Z materials now considered in target design.

There are non-LTE models at various US laboratories that can rapidly estimate the opacities of various materials, but they are based on over-simplified atomic models such as the average atom model. To take into account non-LTE effects with the same accuracy as the STA model for LTE, the NRL Laser Plasma Branch has since 1994 implemented the approach of Busquet, where an effective ionization temperature is calculated by a simple on-line algorithm, and subsequently used instead of the regular temperature for look up in STA-generated opacity tables. Comparison with benchmark computations shows that the agreement is generally satisfactory.

#### 1.1. Short Term Needs: The contractor shall fulfil the following needs:

1.1.1 *Databases*: There is a need for continued generation of STA opacities for materials and mixtures, as specified by the target development team, to meet the objectives of Nike experiment design and advanced pellet investigations.

1.1.2. *Support of experiments*: The validation of target designs requires x-ray emission experiments. The Contractor shall provide theoretical guidance in planning these experiments, shall assist in their design, and shall interpret them with state-of-the-art post-processors.

1.1.3 *Improvement of Busquet's algorithm*. The present algorithm yields temperatures that are sensitive to the choice of photon groups in the radiation package. Convergence requires a large number of groups and this slows considerably 2D and 3D simulations. There is a need for a new, quicker, more reliable and less sensitive algorithm to be implemented in FAST.

### 1.2 Long Term needs:

There are some indications that Busquet's approach neglects dielectronic recombination, and the average charge state could be in error by more than 10 units in some cases. Concurrently, the NRL Laser Plasma Branch has invested efforts in developing SCROLL, a super-configuration collisional radiative model, that was originally thought of as a benchmark, and indeed showed the above discrepancies in Busquet's approach.

In the meantime, progress in computer hardware and refinements in SCROLL code made its use for building non-LTE databases a real possibility. However, one fundamental problem remains, i.e. how to take into account the non-Planckian radiation field in each plasma cell. Indeed for direct drive ICF, the radiation field is generated by the plasma itself, and is very far from Planckian. It is simple to run SCROLL for any temperature, density and given arbitrary impinging spectrum, but running SCROLL on line is absolutely prohibitive. The problem is how to represent accurately arbitrary radiation field spectra in such a way that resulting databases would not be enormous and could be handled in present day computers.

The long term goal of the present research program then is to investigate ways of representing the radiation field in a collisional radiative model such that SCROLL could be interfaced with FAST in a satisfactory manner (not only for optically thin cases). It is worth adding that such an achievement would be of considerable interest for all collisional radiative models applied to non-LTE plasmas, and thus would benefit the entire plasma community.

The contractor shall develop a new model for representing radiation field, including both analytic theory and software development. The contractor should perform or propose specific modifications to FAST in order to implement such an interface, and perform computations of usable opacity and emissivity databases for elements of interest. The contractor shall check the accuracy of the new software by comparing to experimental results that could obtain at NRL Laser Plasma Branch, and shall participate in proposing such experiments.

The new software shall be the property of NRL. The senior scientist in the contract shall be located on-site at NRL, to facilitate the development and

incorporation of the software into radiation-hydrodynamics code developed by NRL scientists. Other scientists may be on-site or off-site, as warranted and as approved by NRL.

## 2. TECHNICAL SUPPORT

As the non-LTE radiation model is being developed, the contractor shall work closely with NRL scientists to ensure that it is appropriate for the laser fusion program applications. Specifically, the contractor shall provide the following technical support:

### 2.1. Software Maintenance:

Continuous maintenance and upgrade of the above mentioned existing software: STA, Busquet's algorithm, SCROLL, etc...

### 2.2. Opacity Database management:

Maintaining the best available STA opacities for any element or mixture as requested by the target development team.

### 2.3. Theoretical support for experiments

Performing atomic modeling with post processors (such as TRANSPEC) to help planning and interpreting experiments performed on Nike.

### 2.4 Radiation model capabilities.

The contractor shall implement the above mentioned new software in the SCROLL code, and interface it with the existing radiation-hydrodynamics codes in use at NRL Laser Plasma Branch. The contractor shall provide maintenance and improvements as required for this new model and software. The contractor will work closely with NRL scientists to ensure that this new model is compatible with, and can be incorporated into existing or possibly new radiation-hydrodynamics codes at NRL. The model must be capable of being applied to mixtures of atomic species, of electron temperatures from 1 electron-volt to 25 kilo electron volts, and electron densities from  $10^{18}$  to  $10^{26}$  electrons/cc.

In fifth year: collaboration with NRL scientists in the use of the non-LTE software to design and interpret experimental data; possible extension of the software for increased flexibility, ease of use, and accuracy.

**Classification.** The radiation model, and the corresponding non- LTE software will be unclassified. It shall be developed at the NRL site, and shall be the property of NRL. Copies of the software may not be made available outside NRL without the explicit permission of NRL. The contractor employees need not be US citizens, but the senior physicist shall be a permanent resident of the United States.

### 3. DELIVERABLES

The following are general objectives. Delivery is predicated on the exercise of options that would support delivery. Also see DD Form 1423.

3.1 STA databases as requested by the Laser Plasma Branch of the Naval Research Laboratory.

3.2 Within a year: Improved algorithm for the implementation of Busquet's non-LTE algorithm, specially adapted to 2D and 3D simulations.

3.3 Within three years: Software that can calculate opacities and emissivities with radiation field; manual that contains the specific physics in the software, along with operating instructions for its usage. Few-page half year written progress reports; archived data (disks, tapes, etc....) with specific examples of opacity/emissivity calculations; collaboration in the use of the software. 3.4 Within three to four years: SCROLL databases of opacities/emissivities usable by the FAST code for selected elements.







# 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> Interaction radiation/non-LTE plasmas		<b>E. CONTRACT / PR NO.</b> PR 67-0391-99		<b>F. CONTRACTOR</b> TBD (RFP N00173-00-R-JW02)				
<b>1. DATA ITEM NO.</b> A007	<b>2. TITLE OF DATA ITEM</b> SCROLL databases			<b>3. SUBTITLE</b> N/A				
<b>4. AUTHORITY (Data Acquisition Document No.)</b> N/A		<b>5. CONTRACT REFERENCE</b> SOW Para. 3.4		<b>6. REQUIRING OFFICE</b> NRL Code 6731				
<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b> N/A	<b>10. FREQUENCY</b> ASREQ		<b>12. DATE OF FIRST SUBMISSION</b> 1,460 DAC				
<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> The Contractor shall deliver SCROLL databases of opacities/emissivities usable by the FAST code for selected elements. The goal is to produce the databases within three to four years.				<b>14. DISTRIBUTION</b>				
				<b>a. ADDRESSEE</b> COR Code 6730		<b>b. COPIES</b>		
						Draft	Final	
						Reg	Repro	
					0	1	0	
					0	0	1	
				<b>15. TOTAL</b> →		0	1	1
<b>G. PREPARED BY</b> NRL Code 6731		<b>H. DATE</b> 2/17/00		<b>I. APPROVED BY</b>				
				<b>J. DATE</b>				

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

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



**INSTRUCTIONS FOR COMPLETING DD FORM 1423***(See DoD 5010.12-M for detailed instructions.)***FOR GOVERNMENT PERSONNEL**

- Item A. Self-explanatory.
- Item B. Self-explanatory.
- Item C. Mark (X) appropriate category: TDP - Technical Data Package; TM - Technical Manual; Other - other category of data, such as "Provisioning," "Configuration Management", etc.
- Item D. Enter name of system/item being acquired that data will support.
- Item E. Self-explanatory (to be filled in after contract award).
- Item F. Self-explanatory (to be filled in after contract award).
- Item G. Signature of preparer of CDRL.
- Item H. Date CDRL was prepared.
- Item I. Signature of CDRL approval authority.
- Item J. Date CDRL was approved.
- Item 1. See DoD FAR Supplement Subpart 4.71 for proper numbering.
- Item 2. Enter title as it appears on data acquisition document cited in Item 4.
- Item 3. Enter subtitle of data item for further definition of data item (optional entry).
- Item 4. Enter Data Item Description (DID) number, military specification number, or military standard number listed in DoD 5010.12-L (AMSDL), or one-time DID number, that defines data content and format requirements.
- Item 5. Enter reference to tasking in contract that generates requirement for the data item (e.g., Statement of Work paragraph number).
- Item 6. Enter technical office responsible for ensuring adequacy of the data item.
- Item 7. Specify requirement for inspection/acceptance of the data item by the Government.
- Item 8. Specify requirement for approval of a draft before preparation of the final data item.
- Item 9. For technical data, specify requirement for contractor to mark the appropriate distribution statement on the data (ref. DoDD 5230.24).
- Item 10. Specify number of times data items are to be delivered.
- Item 11. Specify as-of date of data item, when applicable.
- Item 12. Specify when first submittal is required.
- Item 13. Specify when subsequent submittals are required, when applicable.
- Item 14. Enter addressees and number of draft/final copies to be delivered to each addressee. Explain reproducible copies in Item 16.
- Item 15. Enter total number of draft/final copies to be delivered.
- Item 16. Use for additional/clarifying information for Items 1 through 15. Examples are: Tailoring of documents cited in Item 4; Clarification of submittal dates in Items 12 and 13; Explanation of reproducible copies in Item 14.; Desired medium for delivery of the data item.

**FOR THE CONTRACTOR**

~~Item 17. Specify appropriate price group from one of the following groups of effort in developing estimated prices for each data item listed on the DD Form 1423.~~

~~a. Group I. Definition - Data which is not otherwise essential to the contractor's performance of the primary contracted effort (production, development, testing, and administration) but which is required by DD Form 1423.~~

~~Estimated Price - Costs to be included under Group I are those applicable to preparing and assembling the data item in conformance with Government requirements, and the administration and other expenses related to reproducing and delivering such data items to the Government.~~

~~b. Group II. Definition - Data which is essential to the performance of the primary contracted effort but the contractor is required to perform additional work to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, or quality of the data item.~~

~~Estimated Price - Costs to be included under Group II are those incurred over and above the cost of the essential data item without conforming to Government requirements, and the administrative and other expenses related to reproducing and delivering such data item to the Government.~~

~~c. Group III. Definition - Data which the contractor must develop for his internal use in performance of the primary contracted effort and does not require any substantial change to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, and quality of the data item.~~

~~Estimated Price - Costs to be included under Group III are the administrative and other expenses related to reproducing and delivering such data item to the Government.~~

~~d. Group IV. Definition - Data which is developed by the contractor as part of his normal operating procedures and his effort in supplying these data to the Government is minimal.~~

~~Estimated Price - Group IV items should normally be shown on the DD Form 1423 at no cost.~~

~~Item 18. For each data item, enter an amount equal to that portion of the total price which is estimated to be attributable to the production or development for the Government of that item of data. These estimated data prices shall be developed only from those costs which will be incurred as a direct result of the requirement to supply the data, over and above those costs which would otherwise be incurred in performance of the contract if no data were required. The estimated data prices shall not include any amount for rights in data. The Government's right to use the data shall be governed by the pertinent provisions of the contract.~~

## PERSONNEL QUALIFICATIONS

### 1. Desired Qualifications for Senior Physicist

Education: A Ph.D. degree physics, with a Ph.D. in electrical engineering acceptable as an equivalent.

Experience: A minimum of five years experience in the field of non-LTE atomic physics and opacities after the Ph.D. A working knowledge of the STA atomic code and at least one other large atomic code. Expertise in the writing of very large computer software, including innovative knowledge of numerical techniques, and familiarity in programming of large codes. While knowledge of existing NRL code is not required at the start of performance, the senior physicist must be capable of the interfacing required in SOW paragraph 2.4. Recognized leadership and expertise in atomic physics as demonstrated by refereed journal publications and citations. Experience in the technical direction of other scientists in their research.

### 2. Desired qualifications for other Physicists or Computationalists

Education: A Ph.D. degree or equivalent in physics or a related field, such as electrical engineering.

Experience: A minimum of three years experience in atomic physics or computation, including Ph.D. research and postdoctoral research.