

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30				1. REQUISITION NUMBER 53-1047-00		PAGE 1 OF 11	
2. CONTRACT NO.		3. AWARD/EFFECTIVE DATE		4. ORDER NUMBER		5. SOLICITATION NUMBER N00173-00-R-CB01	
7. FOR SOLICITATION INFORMATION CALL:		a. NAME Cheri R. Burkhardt				b. TELEPHONE NUMBER (No collect calls) (202)-767-6542	
9. ISSUED BY CONTRACTING OFFICER NAVAL RESEARCH LABORATORY ATTN: CODE 3220.CB WASHINGTON DC 20375-5326		CODE N00173		10. THIS ACQUISITION IS <input type="checkbox"/> UNRESTRICTED <input checked="" type="checkbox"/> SET ASIDE: 100% FOR <input checked="" type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> SMALL DISAV. BUSINESS <input type="checkbox"/> 8(A) SIC: 3825 SIZE STANDARD: 500		11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE <input checked="" type="checkbox"/> 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) 13b. RATING DO-C9 14. METHOD OF SOLICITATION <input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP	
15. DELIVER TO NAVAL RESEARCH LABORATORY, BLDG. 49 4555 OVERLOOK AVE.SW., WASHINGTON, DC 20375-5326		CODE		16. ADMINISTERED BY TBD		CODE	
17a. CONTRACTOR/OFFEROR CODE		FACILITY CODE		18a. PAYMENT WILL BE MADE BY TBD		CODE	
TELEPHONE NO.				17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER <input type="checkbox"/>			
18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM							
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES			21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	Offer Due: 4:00 P.M. - 16 June 2000 See Continuation of Blocks 19 - 24						
<i>(Attach Additional Sheets as Necessary)</i>							
25. ACCOUNTING AND APPROPRIATION DATA						26. TOTAL AWARD AMOUNT (For Govt. Use Only)	
<input checked="" type="checkbox"/> 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, FAR 52.212-4, FAR 52.212-3 AND 52.212-5 ARE ATTACHED.				<input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED			
<input checked="" type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4, FAR 52.212-5 IS ATTACHED. ADDENDA				<input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED			
28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <input type="checkbox"/> TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.				29. AWARD OF CONTRACT: REFERENCE _____ OFFER <input type="checkbox"/> DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH			
30a. SIGNATURE OF OFFEROR/CONTRACTOR				31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)			
30b. NAME AND TITLE OF SIGNER		30c. DATE SIGNED		31b. NAME OF CONTRACTING OFFICER		31c. DATE SIGNED	
32a. QUANTITY IN COLUMN 21 HAS BEEN <input type="checkbox"/> RECEIVED <input type="checkbox"/> INSPECTED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED				33. SHIP NUMBER PARTIAL FINAL		34. VOUCHER NUMBER	
32b. SIGNATURE OF AUTHORIZED GOVT. REPRESENTATIVE				32c. DATE		35. AMOUNT VERIFIED CORRECT FOR	
41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT				36. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		37. CHECK NUMBER	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER		41c. DATE		38. S/R ACCOUNT NUMBER		39. S/R VOUCHER NUMBER	
42a. RECEIVED BY (Print)				40. PAID BY			
42b. RECEIVED AT (Location)							
42c. DATE REC'D (YY/MM/DD)				42b. TOTAL CONTAINERS			

**1. CONTINUATION OF THE SF 1449 - SOLICITATION/CONTRACT/ORDER FOR
COMMERCIAL ITEMS**

A. Blocks 19 - 24 are completed as follows:

Item No.	Schedule of Supplies/Services	Quantity	Unit	Unit Price	Amount
0001	The contractor shall provide a Near Field Planar Scanner Measurement System and training in accordance with Specification/SOW, Attachment No.1	1	EA	\$	\$
0002	The contractor shall provide technical Telephone/fax support in accordance With the Specification/SOW, Attachment No. 1	1	LO	\$	\$
0003	Data in accordance with Exhibit A, DD1423	*NSP	*NSP	*NSP	*NSP
Option 1					
0004	RF Absorber, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 2					
0005	Probe: A, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 3					
0006	Probe: B, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 4					
0007	Probe: C, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 5					
0008	Probe: D, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 6					
0009	Probe: E, Specification/SOW, Attachment No. 1	1	EA	\$	\$

Option 7 0010	Probe: F, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 8 0011	Probe: G, Specification/SOW, Attachment No. 1	1	EA	\$	\$
Option 9 0012	Probe Travel: z-axis travel, Specification/SOW, Attachment No. 1	1	EA	\$	\$

***NOT SEPARATELY PRICED**

B. Block 25 Accounting and Appropriation Data will be inserted at time of award.

2. ADDENDA TO FAR 52.212-4 CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEMS (MAY 1999)

A. REQUIRED DELIVERY OR PERIOD OF PERFORMANCE

The required delivery is as follows:

ITEM NO.	QUANTITY	WITHIN DAYS AFTER DATE OF CONTRACT AWARD
0001	1	210 Days
0004	1	210 Days after exercise of option
0005	1	210 Days after exercise of option
0006	1	210 Days after exercise of option
0007	1	210 Days after exercise of option
0008	1	210 Days after exercise of option
0009	1	210 Days after exercise of option
0010	1	210 Days after exercise of option
0011	1	210 Days after exercise of option
0012	1	210 Days after exercise of option

The period of performance for CLIN 0002 will begin with delivery and continue (12) months after acceptance of CLIN 0001, in accordance with 7.0 Technical Support of the Specification, Attachment No. 1.

B. OPTION(S)

The Government may require delivery of the optional items by the contracting officer giving written notice any time prior to contract completion.

C. AUTHORIZED GOVERNMENT REPRESENTATIVE

*,Code *,Telephone number *, is hereby designated the Authorized Government Representative for inspection and acceptance purposes.

*(To be filled in at time of award)

D. 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.

E. INSPECTION AND ACCEPTANCE

Inspection and acceptance of the Near Field Planar Scanner Measurement System will be accomplished by the Technical Manager within 7 days from setup time by the contractor and training on the system.

The system performance verification procedures provided by the contractor 30 days after contract award will be used to verify system performance specification in accordance with Attachment 1, paragraph 9.

F. 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 11 April 2000 which are hereby incorporated by reference. The full text is available at <http://heron.nrl.navy.mil/contracts/home.htm>.

3. FAR 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (FEB 2000)

(a) The Contractor agrees to comply with the following FAR clauses, which are incorporated in this contract by reference, to implement provisions of law or executive orders applicable to acquisitions of commercial items:

- (1) 52.222-3, Convict Labor (E.O.11755).
- (2) 52.225-13, Restrictions on Certain Foreign Purchases (E.O.'s 12722, 12724, 13059, and 13067).
- (3) 52.233-3, Protest after Award (31 U.S.C 3553).

(b) The Contractor agrees to comply with the FAR clauses in this paragraph (b) which the contracting officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items or components:

(Contracting Officer shall check as appropriate.)

- (1) 52.203-6, Restrictions on Subcontractor Sales to the Government, with Alternate I (41 U.S.C.253g and 10 U.S.C.2402).
- (2) 52.219-3, Notice of HUBZone Small Business Set-Aside (Jan 1999)
- (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999) *(if the offeror elects to waive the preference, it shall so indicate in its offer)*
- (4) (i) 52.219-5, Very Small Business Set-Aside (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994)
- (ii) Alternate I to 52.219-5
- (iii) Alternate II to 52.219-5
- (5) 52.219-8, Utilization of Small Business Concerns (15 U.S.C.637 (d)(2) and (3)).
- (6) 52.219-9, Small Business Subcontracting Plan (15 U.S.C.637 (d)(4)).
- (7) 52.219-14, Limitations on Subcontracting (15 U.S.C.637(a)(14)).
- (8) (i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer)
- (ii) Alternate I of 52.219-23.
- (9) 52.219-25, Small Disadvantaged Business Participation Program - Disadvantaged Status and Reporting (Pub L. 103-355, section 7102, and 10 U.S.C. 2323).
- (10) 52.219-26, Small Disadvantaged Business Participation Program - Incentive Subcontracting (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (11) 52.222-21, Prohibition of Segregated Facilities (Feb 1999)
- (12) 52.222-26, Equal Opportunity (E.O.11246).
- (13) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C.4212).
- (14) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C.793).
- (15) 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C.4212).

- (16) 52.225-1, Buy American Act – Balance of Payments Program--Supplies (41 U.S.C.10a – 10d).
- (17) 52.225-3, Buy American Act –North American Free Trade Agreement—Israeli Trade Act -- Balance of Payments Program (41 U.S.C.10a –10d, 19 U.S.C.3301 note, 19 U.S.C. 2112 note).
 - (ii) Alternate I to 52.225-3.
 - (iii) Alternate II to 52.225-3.
- (18) 52.225-5, Trade Agreements (19 U.S.C. 2501, *et seq.*, 19 U.S.C. 3301 note).
- (19) 52.225-15, Sanctioned European Union Country End Products (E.O.12849).
- (20) 52.225-16, Sanctioned European Union Country Services (E.O.12849).
- (21) Reserved
- (22) 52.232-33, Payment by Electronic Funds Transfer -- Central Contractor Registration (31 U.S.C. 3332).
- (23) 52.232-34, Payment by Electronic Funds Transfer --Other than Central Contractor Registration (31 U.S.C. 3332).
- (24) 52.232-36, Payment by Third Party (31 U.S.C. 3332).
- (25) 52.239-1, Privacy or Security Safeguards (5 U.S.C.552a).
- (26) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (46 U.S.C.1241).

(c) The Contractor agrees to comply with the FAR clauses in this paragraph (c), applicable to commercial services, which the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items or components:

(Contracting Officer check as appropriate.)

- (1) 52.222-41, Service Contract Act of 1965, As Amended (41 U.S.C.351, *et seq.*).
- (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (29 U.S.C.206 and 41 U.S.C.351, *et seq.*).
- (3) 52.222-43, Fair Labor Standards Act and Service Contract Act -- Price Adjustment (Multiple Year and Option Contracts) (29 U.S.C.206 and 41 U.S.C.351, *et seq.*).
- (4) 52.222-44, Fair Labor Standards Act and Service Contract Act - Price Adjustment (29 U.S.C.206 and 41 U.S.C.351, *et seq.*).

- (5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreement (CBA) (41 U.S.C.351, *et seq.*).
- (6) 52.222-50, Nondisplacement of Qualified Workers (Executive Order 12933).

(d) *Comptroller General Examination of Record.* The Contractor agrees to comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records -- Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c) or (d) of this clause, the Contractor is not required to include any FAR clause, other than those listed below (and as may be required by an addenda to this paragraph to establish the reasonableness of prices under Part 15), in a subcontract for commercial items or commercial components --

- (1) 52.222-26, Equal Opportunity (E.O.11246);
- (2) 52.222-35, Affirmative Action for Special Disabled and Vietnam Era Veterans (38 U.S.C.2012(a));
- (3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C.793); and
- (4) 52.247-64, Preference for Privately-Owned U.S.- Flag Commercial Vessels (46 U.S.C.1241) (flow down not required for subcontracts awarded beginning May 1, 1996).

4. ADDENDA TO FAR 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (FEB 2000)

52.219-6 – Notice of Total Small-Business Set-Aside (JUL 1996)

52.237-1 – Site Visit (APR 1984)

5. 252.212-7001 -- CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS. (MAR 2000)

(a) The Contractor agrees to comply with any clause that is checked on the following list of DFARS clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items or components.

- | | | |
|-------------------------------------|--------------|---|
| <input type="checkbox"/> | 252.205-7000 | Provision of Information to Cooperative Agreement Holders (10 U.S.C.2416). |
| <input type="checkbox"/> | 252.206-7000 | Domestic Source Restriction (10 U.S.C.2304). |
| <input type="checkbox"/> | 252.219-7003 | Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DOD Contracts) (15 U.S.C.637). |
| <input type="checkbox"/> | 252.225-7001 | Buy American Act and Balance of Payment Program (41 U.S.C.10 a-10d, E.O. 10582). |
| <input checked="" type="checkbox"/> | 252.225-7007 | Buy American Act -Trade Agreements - Balance of Payments Program (41 U.S.C. 10a-10d, 19 U.S.C.2501-2518, and 19 U.S.C. 3301 note). |
| <input checked="" type="checkbox"/> | 252.225-7012 | Preference for Certain Domestic Commodities. |
| <input type="checkbox"/> | 252.225-7014 | Preference for Domestic Specialty Metals (10 U.S.C.2241 note). |
| <input type="checkbox"/> | 252.225-7015 | Preference for Domestic Hand or Measuring Tools (10 U.S.C.2241 note). |
| <input type="checkbox"/> | 252.225-7021 | Trade Agreements (19 U.S.C. 2501-2518 and 19 U.S.C. 3301 note). |
| <input type="checkbox"/> | 252.225-7027 | Restriction on Contingent Fees for Foreign Military Sales (22 U.S.C.2779). |
| <input type="checkbox"/> | 252.225-7028 | Exclusionary Policies and Practices of Foreign Governments (22 U.S.C.2755). |
| <input type="checkbox"/> | 252.225-7029 | Preference for United States or Canadian Air Circuit Breakers (10 U.S.C.2534(a)(3)). |
| <input type="checkbox"/> | 252.225-7036 | Buy American Act -- North American Free Trade Agreement Implementation Act.-- Balance of Payment Program (<input type="checkbox"/> Alternate I) (41 U.S.C. 10a-10d and 19 U.S.C. 3301 note). |
| <input checked="" type="checkbox"/> | 252.227-7015 | Technical Data -- Commercial Items (10 U.S.C.2320). |
| <input checked="" type="checkbox"/> | 252.227-7037 | Validation of Restrictive Markings on Technical Data (10 U.S.C.2321). |
| <input checked="" type="checkbox"/> | 252.243-7002 | Requests for Equitable Adjustment (10 U.S.C. 2410). |
| <input type="checkbox"/> | 252.247-7023 | Transportation of Supplies by Sea (<input type="checkbox"/> Alternate I) (<input type="checkbox"/> Alternate II) |

(10 U.S.C. 2631).

252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C.2631).

- (b) In addition to the clauses listed in paragraph (e) of the Contract Terms and Conditions Required to Implement Statutes or Executive Orders-Commercial Items clause of this contract (Federal Acquisition Regulation 52.212-5), the Contractor shall include the terms of the following clause, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:

252.225-7014 Preference for Domestic Specialty Metals, Alternate I (10 U.S.C.2241 note).

252.247-7023 Transportation of Supplies by Sea (10 U.S.C. 2631).

252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C. 2631).

DFARS:

252.204-7004 Required Central Contractor Registration (MAR 2000)

6. CONTRACT DOCUMENTS, EXHIBITS OR ATTACHMENTS:

1. Contract Data Requirements List, DD 1423 – 2 Pages
2. Attachment No. 1 - Statement of Work/Specifications – 6 Pages
3. Attachment No. 2 – Chamber Layout – 1 Page
4. Attachment No. 4 - Accounting and Appropriation Data – 1 Page*
(* To be included at time of award)

7. FAR 52.212-2 - EVALUATION - COMMERCIAL ITEMS (JAN 1999)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, price and other factors considered. The following factors shall be used to evaluate offers:

1. Technical capability of the item offered to meet the Government requirement.

The proposal provided must clearly demonstrate the offeror's ability to meet the specifications for the Near Field Planner Scanner Measurement System stated in the SOW. It must also clearly demonstrate the offeror's understanding of Near Field Measurements and Computational Requirements as well as their technical expertise in this area. Description of Measurements requirements and techniques used to perform complex antenna measurements should be addressed. Mathematical understanding of Near Field Probe Correction should also be addressed.

Any deviations from the specifications must be discussed.

2. Past Performance (a)(1) Offerors shall submit the following information as part of their proposal. (Offerors are encouraged to submit the information prior to other parts of the proposal to assist the government in reducing the length of the evaluation period). List the last 6 contracts or subcontracts completed during the past 4 years for services similar in nature to this requirement. Include in the 6 any current contracts or subcontracts for similar services that were awarded at least one year prior to the date of this solicitation. Offerors that have no similar previous or current contracts should provide the requested information for proposal subcontractors that will perform major or critical aspects of the requirement or for the proposed project manager or key personnel responsible for major or critical aspects of the requirement.

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

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

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

3. Price

Technical and past performance, when combined, are of equal importance when compared to price.

(b) Options. The Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. The Government may determine that an offer is unacceptable if the option prices are significantly unbalanced. Evaluation of options shall not obligate the Government to exercise the option(s).

(c) A written notice of award or acceptance of an offer, mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer, shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award.

8. OFFEROR REPRESENTATIONS AND CERTIFICATIONS

Offeror must complete and submit with its proposal, FAR 52.212-3 (FEB 2000) *Offeror Representations and Certifications--Commercial Items* and DFARS 252.212-7000 *Offeror Representations and Certifications--Commercial Items.*, which are available electronically in full text at : <http://heron.nrl.navy.mil/contracts/rep&certs.htm>

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.

A. CONTRACT LINE ITEM NO. 0003	B. EXHIBIT A	C. CATEGORY: TDP _____ TM _____ OTHER _____
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D. SYSTEM / ITEM 0001	E. CONTRACT / PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. A003	2. TITLE OF DATA ITEM Manufacturer's Data and Specs	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.) N/A	5. CONTRACT REFERENCE SOW Paragraph 10.0	6. REQUIRING OFFICE NRL Code 5317
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7. DD 250 REQ No	9. DIST STATEMENT REQUIRED	10. FREQUENCY 1 Time	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION			
8. APP CODE A	N/A	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	b. COPIES		
					Draft	Final	
				TM	0	1	0

16. REMARKS The manufacturer's published specifications, for all subsystems to be delivered under the contract, must be submitted 30 days after contract award for Government review.	15. TOTAL → 0 1 0
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17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO. A004	2. TITLE OF DATA ITEM Acceptance Test Procedure	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.) N/A	5. CONTRACT REFERENCE SOW Paragraph 9.0	6. REQUIRING OFFICE NRL Code 5317
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7. DD 250 REQ No	9. DIST STATEMENT REQUIRED	10. FREQUENCY 1 Time	12. DATE OF FIRST SUBMISSION See Block 16	14. DISTRIBUTION			
8. APP CODE N/A	N/A	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	b. COPIES		
					Draft	Final	
				TM	0	1	0

16. REMARKS The contractor must submit 30 days after contract award, for government approval, a system performance verification procedure for the overall system and subsystem, which will be used to verify system performance specifications.	15. TOTAL → 0 1 0
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17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY NRL Code 5317	H. DATE 3/18/00	I. APPROVED BY	J. DATE
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Specification/SOW
Near Field Planar Scanner
Measurement System

1.0 Background

The Near Field Planar Scanner Measurement System will be used to make antenna pattern measurements on various antenna systems by using the concept that an aperture field close to the antenna contains all the information required to determine the far-field pattern of the antenna under test (AUT). Unlike a conventional antenna range which requires that the antenna be located some distance away from a transmitter site, in a near field scanner system a small probe is placed close to the antenna under test. The probe will be moved across the entire aperture of the antenna while both the phase and amplitude of the received signal is recorded. After the data has been collected, various mathematical transforms will be performed on the data to produce the far field response of the AUT. The main use of this scanner will be to measure large phased array antenna system and subsystems.

The Near Field Scanner will be installed in a existing Compact Range Facility. The Scanner System must be compatible with existing RF hardware and positioners that are installed in the Compact Facility.

2.0 Scope

The contractor shall provide a Planar Near Field Antenna Measurement System that is capable of scanning in a 12 foot vertical plane with a horizontal scanning plane that is 22' based on the physical dimensions of the existing chamber (absorber tip to absorber tip). The system must be able to utilize the existing HP 8530 Microwave receiver using a dual source configuration or a Scientific Atlanta 1795 Microwave Receiver system and interface to a SA 4139-positioner controller to allow both cylindrical and spherical near field scanning capabilities. The physical hardware, which will be installed in the chamber must be upgradeable to provide for a larger scanning area (up to a 23 x 22) for possible future measurement requirements. The basic system must provide for this upgrade path.

3.0 Near Field Measurement System

3.1 The contractor shall provide a Planar Near Field Scanner System and Software package that meet or exceed the following specifications.

3.2 Hardware System Requirements

- | | |
|------------------------------|----------------------------------|
| 3.2.1 Usable Scanner Area: | 12'(vertical) x 22' (horizontal) |
| 3.2.2 Scanner Configuration: | X-Y and rotational Travel |
| 3.2.3 Operating Environment: | 0 to 50 degree C |
| 3.2.4 Portability: | Must be able to relocate |

- 3.2.5 Safety Features: Incorporate failsafe Safety System, motor brakes and Switches
- 3.2.6 RF System: Must support HP and SA receivers
- 3.2.7 Positioning Equipment: Must support SA Positioners
- 3.2.8 Computer System: IBM Compatible
- 3.2.9 Probes: X-Band
- 3.2.10 Main Drive System: Stepper Motors
- 3.2.11 Leveling casters for portability
- 3.2.12 Controller electronics and motor cables
- 3.2.13 X-band waveguide probe with a waveguide to coax adapter
Frequency Range 8.2 – 12.4 GHz (WR90)
- 3.2.14 Two 50 foot RF cables (18 GHz)

3.3 System Performance Specifications

3.3.1 X-Axis

- 3.3.1.1 Travel: 22 feet
- 3.3.1.2 Speed: 10 ips
- 3.3.1.3 Accuracy: +/- 0.001"
- 3.3.1.4 Resolution: 0.002"

3.3.2 Y-Axis

- 3.3.2.1 Travel: 12 feet
- 3.3.2.2 Speed: 10 ips
- 3.3.2.3 Accuracy: +/- 0.001"
- 3.3.2.4 Resolution: 0.002"

3.3.3 Pol-Axis

- 3.3.3.1 Travel: 360 degrees
- 3.3.3.2 Speed: 8 degrees / sec
- 3.3.3.3 Accuracy: +/- 0.05 degrees
- 3.3.3.4 Resolution: 0.01 degrees

3.3.4 Probe Weight Requirements

The scanner must be able to support probes down to a WR 975 (.75 – 1.12 GHz) with a suitable counter balance.

3.3.5 Operating Environment

The system will be installed in a pre-existing chamber facility with both temperature (70 deg F +/- 4 deg F) and humidity control (45% +/- 15%).

4.0 Software Package

4.1.1 The computer system must be a minimum of a 800 MHz Pentium III (or equivalent) operating under Windows 98 and includes the following items:

- 4.1.1.1 Read / Write CD unit
- 4.1.1.2 Two Removable Hard Drives
- 4.1.1.3 2 GB Jaz Drive
- 4.1.1.4 256 MB Memory (minimum)
- 4.1.1.5 21 inch Monitor
- 4.1.1.6 Graphics Card (minimum of 2 MB on card memory)

- 4.1.1.7 Network Card (10-based T)
- 4.1.2 Operate on windows NT or 98 operating system
- 4.1.3 Provide full 32-bit multi-tasking
- 4.1.4 Provide both Near Field and Far Field Measurement systems
- 4.1.5 Provide the following Measurement capabilities
 - 4.1.5.1 Planar near-field
 - 4.1.5.2 Cylindrical near-field
 - 4.1.5.3 Spherical near-field
 - 4.1.5.4 Far-Field
 - 4.1.5.5 Multibeam, Multifrequency measurements
 - 4.1.5.6 Acquire and process data simultaneous
- 4.1.6 Provide the following Processing capabilities
 - 4.1.6.1 Near-field transforms
 - 4.1.6.1.1 Planar
 - 4.1.6.1.2 Cylindrical
 - 4.1.6.1.3 Spherical
 - 4.1.6.2 Coordinate Systems
 - 4.1.6.2.1 K-Space
 - 4.1.6.2.2 Az-over-EI
 - 4.1.6.2.3 EI-over-Az
 - 4.1.6.2.4 Theta-phi
 - 4.1.6.3 Linear and Circular polarization
 - 4.1.6.3.1 Ludwig-3 (Eh,Ev)
 - 4.1.6.3.2 Ludwig-2 (Eaz/Eel)
 - 4.1.6.3.3 Ludwig-2 (Eel/Eaz)
 - 4.1.6.3.4 Ludwig-2(Eq/Ef)
 - 4.1.6.4 Holographic Back Projection
 - 4.1.6.5 Gain and Directivity
- 4.1.7 Probe Correction
 - 4.1.7.1 Models
 - 4.1.7.1.1 Open-ended waveguide
 - 4.1.7.1.2 Cosine
 - 4.1.7.1.3 None
 - 4.1.7.2 Aperture Truncation and Tapering
 - 4.1.7.3 Probe Position compensation and K-Correction
- 4.1.8 Plotting Capabilities
 - 4.1.8.1 Antenna Patterns
 - 4.1.8.1.1 Amplitude
 - 4.1.8.1.2 Phase
 - 4.1.8.1.3 Principal polarization
 - 4.1.8.1.4 Cross polarization
 - 4.1.8.2 Plot types
 - 4.1.8.2.1 Linear
 - 4.1.8.2.2 Polar
 - 4.1.8.2.3 Gray-scale
 - 4.1.8.2.4 Contour
 - 4.1.8.2.5 3D plots
 - 4.1.8.2.6 Listing
 - 4.1.8.3 File Format
 - 4.1.8.3.1 ASCII

- 4.1.8.3.2 Proprietary
- 4.1.8.4 Misc.
 - 4.1.8.4.1 Multiple on screen plots
 - 4.1.8.4.2 Multiple plot overlays
- 4.1.9 The software must be able to allow for multi-tasking. This includes working with word processors or process data while acquiring new data.
- 4.1.10 The software must include all documentation and be a supported software package.
- 4.1.11 The software package must be upgradeable to allow for the following functionality.
 - 4.1.11.1 Probe pattern file correction
 - 4.1.11.2 Arbitrary surface hologram
 - 4.1.11.3 Scripting Capabilities
 - 4.1.11.4 Active Test Procedures
 - 4.1.11.5 Motion Tracking Software
 - 4.1.11.6 Optical Alignment System

5.0 Options

5.1 Option 1 RF Absorber

The RF absorber provided by the contractor must have a minimum attenuation of 30 dB @ 1 GHz for a quantity of one.

5.2 Option 2 Probe A

Probe A provided by the contractor must have a frequency range of .75 – 1.12 GHz utilizing a WR-975 open ended waveguide for a quantity of one.

5.3 Option 3 Probe B

Probe B provided by the contractor must have a frequency range of 1.12 – 1.7 GHz utilizing a WR-650 open ended waveguide for a quantity of one.

5.4 Option 4 Probe C

Probe C provided by the contractor must have a frequency range of 1.7 – 2.6 GHz utilizing a WR-430 open ended waveguide for a quantity of one.

5.5 Option 5 Probe D

Probe D provided by the contractor must have a frequency range of 2.6 – 3.95 GHz utilizing a WR-284 open ended waveguide for a quantity of one.

5.6 Option 6 Probe E

Probe E provided by the contractor must have a frequency range of 3.95 – 5.85 GHz utilizing a WR-187 open ended waveguide for a quantity of one.

5.7 Option 7 Probe F

Probe F provided by the contractor must have a frequency range of 5.85 – 8.2 GHz utilizing a WR-137 open ended waveguide for a quantity of one.

5.8 Option 8 Probe G

Probe G provided by the contractor must have a frequency range of 12.4 – 18.0 GHz utilizing a WR-62 open ended waveguide for a quantity of one.

5.9 Option 9 Probe Travel: z-axis travel

The Probe provided by the contractor must have the following specifications (for a quantity of one)

Travel:	3 inches
Speed:	3 ips
Accuracy:	+/- 0.001"
Resolution:	0.00205
Planarity(rms.):	0.004

Note: All probes, Options 2 through 8, must have a waveguide to SMA female coax adapter included.

6.0 Installation and Integrating

The Contractor is responsible for installing and integrating a fully functional system at NRL no later than 14 days after delivery of the system , 210 days, to the laboratory.

7.0 Technical Support

The contractor shall provide telephone/fax technical support for a period starting with delivery of the completed system and extending for 12 months after the installation and training is completed.

8.0 Training

The contractor shall provide training for the Near Field Scanner Measurement System. The training will take place at NRL for four personnel for a period of eight (8) hours. The operators' manuals shall be used in the training session.

9.0 Acceptance Test Procedures

The contractor must submit 30 days after contract award, for government approval, a system performance verification procedure for the overall system and subsystems, which will be used to verify system performance specifications.

10.0 Manufacturers Data and Specs

The manufactures published specifications, for all subsystems to be delivered under the contract, must be submitted 30 days after contract award for Government review.

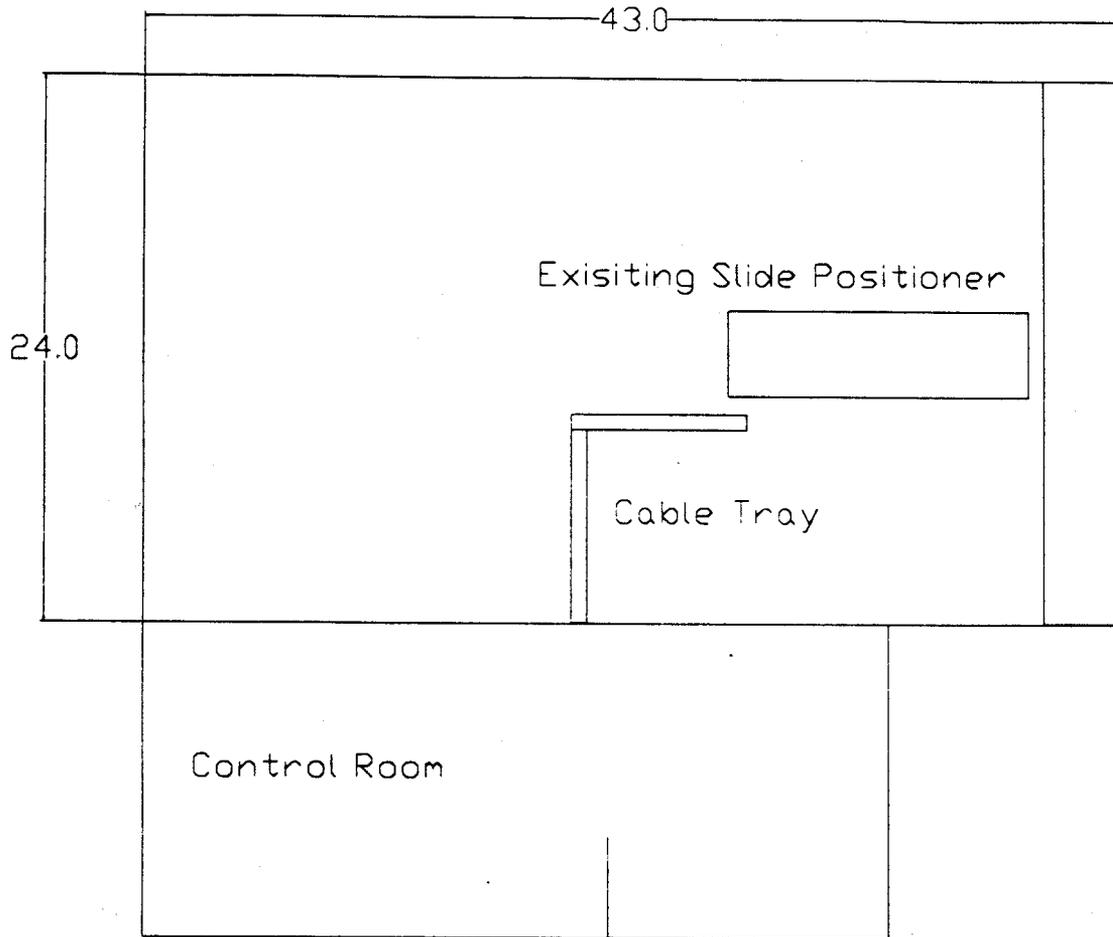
11.0 System Verification and Acceptance

The contractor shall provide test data, based on Section 9 procedures, verifying that all system performance parameters are met for the Near Field Scanner System. Acceptance is complete following a system demonstration at the Naval Research Laboratory that includes measurement of a parabolic antenna at 10GHz. The antenna for this demonstration shall be provided by NRL.

12.0 Warranties

The contractor must provide a standard commercial warranty for the Near Field Planar Scanner Measurement System.

CHAMBER LAYOUT



The Scanner will be raised off the ground by a minimum of 1 foot using a structural support structure provided by the government