

REQUEST FOR QUOTATION (THIS IS NOT AN ORDER)		THIS RFQ <input checked="" type="checkbox"/> IS <input type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE			PAGE 1	OF PAGES 27
1. REQUEST NO. N66001-04-Q-9596	2. DATE ISSUED 24 JUN 04	3. REQUISITION/PURCHASE REQUEST NO. 7000010417	4. CERT. FOR NAT. DEF. UNDER BDSA REG. 2 AND/OR DMS REG. 1	RATING		
5a. ISSUED BY CONTRACTING OFFICER SPAWAR SYSTEMS CENTER 53560 HULL STREET SAN DIEGO CA 92152-5302			6. DELIVER BY (Date) SEE F-302			
5b. FOR INFORMATION CALL (NO COLLECT CALLS)			7. DELIVERY <input checked="" type="checkbox"/> FOB DESTINATION <input type="checkbox"/> OTHER (See Schedule)			
NAME MIKE VALDEZ		TELEPHONE NUMBER		9. DESTINATION		
		AREA CODE 619	NUMBER 553-4532	a. NAME OF CONSIGNEE RECEIVING OFFICER, SPAWARSYSCEN		
8. TO:			b. STREET ADDRESS 53605 HULL STREET			
a. NAME		b. COMPANY		c. CITY SAN DIEGO		
c. STREET ADDRESS				d. STATE CA	e. ZIP CODE 92152-5410	
d. CITY		e. STATE	f. ZIP CODE			
10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5a ON OR BEFORE CLOSE OF BUSINESS (Date) 9 JULY 2004		IMPORTANT: This is a request for information, and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5a. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or service. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this Request for Quotation must be completed by the quoter.				
11. SCHEDULE (Include applicable Federal, State and local taxes)						
ITEM NO. (a)	SUPPLIES/SERVICES (b)		QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)
	DESIGN, FABRICATE, TEST, AND DELIVER GPS ANTENNA SYSTEM WDM FIBER OPTIC LINK IN ACCORDANCE WITH THE SPECIFICATIONS, [ATTACHMENT (5)].		1	EA		\$ _____
12. DISCOUNT FOR PROMPT PAYMENT		a. 10 CALENDAR DAYS (%)	b. 20 CALENDAR DAYS (%)	c. 30 CALENDAR DAYS (%)	d. CALENDAR DAYS NUMBER PERCENTAGE	
NOTE: Additional provisions and representations <input type="checkbox"/> are <input type="checkbox"/> are not attached.						
13. NAME AND ADDRESS OF QUOTER			14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION		15. DATE OF QUOTATION	
a. NAME OF QUOTER						
b. STREET ADDRESS						
c. COUNTY			16. SIGNER			
			a. NAME (Type or print)		b. TELEPHONE AREA CODE	
d. CITY		e. STATE	f. ZIP CODE	c. TITLE (Type or print)		NUMBER

LIST OF ATTACHMENTS

ATTACHMENT	TITLE
1	Clauses, 10 pages
2	Instructions, Conditions, and Notices to Quoters, 3 pages
3	Evaluation Factors for Award, 2 pages
4	Representations and Certifications, 3 pages
5	Specifications, 2 pages
6	Background-GPS Antenna System WDM Fiber Optic Link, 5 pages

Attachment 1 CLAUSES

C-303 COMPLIANCE WITH SPECIFICATION (DEC 1999)

The effort required hereunder shall be in accordance with the specifications set forth herein and the offeror's technical proposal _____ [Contracting officer, at time of award, insert title, date and/or other identification (e.g., number of contractor's proposal). Incorporate only the applicable technical portions of contractor's proposal.] which is incorporated herein by reference and made a part hereof. In the event any discrepancy between the Government's specification and the Contractor's proposal, the Government's specification shall control unless otherwise noted herein.

D-305 PREPARATION FOR DELIVERY (MAR 1999)

(a) Supplies shall be prepared for delivery in accordance with ASTM-D-3951, "Standard Practice for Commercial Packaging", dated 1 September 1995.

(b) The contractor shall mark all shipments under this contract in accordance with MIL-STD-129 "Military Standard Marking for Shipment and Storage."

D-307 PROHIBITED PACKING MATERIALS (DEC 1999)

The use of asbestos, excelsior, newspaper or shredded paper (all types including waxed paper, computer paper and similar hydroscopic or non-neutral material) is prohibited. In addition, loose fill polystyrene and plastic as packing materials are prohibited for items destined for afloat units.

D-308 MARKING OF SHIPMENT (DEC 1999)

Each shipment of material and/or data shall be clearly marked to show the following information:

SHIP TO:	MARK FOR:
RECEIVING OFFICER	Contract #: N66001-04-M-9596
SPAWAR Systems Center San Diego	Item #: _____
53560 Hull Street	
San Diego, CA 92152-5410	Receiving Officer Code: 242

The receiving office is located at SSC-SD and is open for deliveries Monday through Thursday from 7:30 a.m. to 4:30 p.m.

E-303 INSPECTION AND ACCEPTANCE--DESTINATION (JAN 2002)

Inspection and acceptance of the supplies/services to be furnished hereunder shall be made at destination by the Contracting Officer's Technical Representative or his duly authorized representative.

F-302 TIME AND PLACE OF DELIVERY--F.O.B. DESTINATION (DEC 1999)

Destination and delivery schedule are set forth below:

<u>ITEM</u>	<u>DESTINATION</u>	<u>QUANTITY</u>	<u>DELIVERY SCHEDULE</u>
0001	SPAWAR Systems Center San Diego	1	4 Months from Date of Award

H-355 CONTRACTOR IDENTIFICATION (DEC 1999)

(a) Contractor employees must be clearly identifiable while on Government property by wearing appropriate badges.

(b) Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with Government personnel by telephone or other electronic means.

H-360 STATE SALES TAX EXEMPTION (OCT 2003)

(a) The contractor's price shall not include state sales tax, unless the location of the contractor's business is in a state that does not afford the Federal Government a tax exemption status under its state and local laws (e.g., Arizona, Hawaii). The contract price excludes all state and local taxes levied on or measured by the contract or sales price of the services or materials furnished under this contract.

(b) To the extent that the guidance in FAR Part 31 and DFARS Part 231 applies to this contract, such tax or duty shall not constitute an allowable cost under this contract, unless specifically permitted by the Contracting Officer.

(c) Contractors may be taxed by a state or local authority when procuring goods and services for performance of this contract. Such taxation does not constitute a tax levied on the Federal Government; rather it is a tax levied on the contractor for which the contractor is liable. However, the Federal Government is exempt from state and local taxation. Therefore, the contractor shall state separately on its invoices taxes excluded from the contract price, and the contracting officer agrees to either pay the amount of the taxes to the contractor or provide evidence necessary to sustain an exemption.

(d) No exemption certificate is required.

52.213-4 -- Simplified Acquisitions (Other Than Commercial Items) (May 2004)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses that are incorporated by reference:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.222-3, Convict Labor (June 2003) (E.O. 11755).

(ii) 52.222-21, Prohibition of Segregated Facilities (Feb 1999) (E.O. 11246).

(iii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iv) 52.225-13, Restrictions on Certain Foreign Purchases (Dec 2003) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

(v) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(2) Listed below are additional clauses that apply:

(i) 52.232-1, Payments (Apr 1984).

(ii) 52.232-8, Discounts for Prompt Payment (Feb 2002).

- (iii) 52.232-11, Extras (Apr 1984).
- (iv) 52.232-25, Prompt Payment (Oct 2003).
- (v) 52.233-1, Disputes (July 2002).
- (vi) 52.244-6, Subcontracts for Commercial Items (May 2003).
- (vii) 52.253-1, Computer Generated Forms (Jan 1991).

(b) The Contractor shall comply with the following FAR clauses, incorporated by reference, unless the circumstances do not apply:

(1) The clauses listed below implement provisions of law or Executive order:

- (i) 52.222-19, Child Labor—Cooperation with Authorities and Remedies (Jan 2004) (E.O. 13126).
- (ii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212)
- (iii) 52.222-36, Affirmative Action for Workers with Disabilities (Jun 1998) (29 U.S.C. 793)
- (iv) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212)
- (v) 52.225-1, Buy American Act—Supplies (June 2003) (41 U.S.C. 10a-10d)
- (vi) 52.232-33, Payment by Electronic Funds Transfer—Central Contractor Registration (Oct 2003).

(2) Listed below are additional clauses that apply:

- (i) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (JULY 1995)
- (ii) 52.247-34, F.o.b. Destination (Nov 1991)

(c) *FAR 52.252-2, Clauses Incorporated by Reference (Feb 1998)*. This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/>
<http://www.arnet.gov/far/>

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

<u>REFERENCE</u>	<u>TITLE</u>	<u>DATE</u>
52.204-6	Data Universal Numbering System (DUNS) Number	Oct 2003

52.204-7	Central Contractor Registration	Oct 2003
52.219-6	Notice of Total Small Business Set-Aside	Jun 2003
52.232-23	Assignment of Claims	Jan 1986
52.243-1	Changes—Fixed Price	Aug 1987

DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 2) CLAUSES

<u>REFERENCE</u>	<u>TITLE</u>	<u>DATE</u>
252.204-7003	Control of Government Personnel Work Product	Apr 1992
252.204-7004	Alt A	Nov 2003
252.225-7001	Buy American Act and Balance of Payments Program	Apr 2003
252.225-7002	Qualifying Country Sources as Subcontractors	Apr 2003
252.243-7001	Pricing of Contract Modifications	Dec 1991
252.246-7000	Material Inspection and Receiving Report	Mar 2003

(d) *Inspection/Acceptance.* The Contractor shall tender for acceptance only those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights –

- (1) Within a reasonable period of time after the defect was discovered or should have been discovered; and
- (2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(e) *Excusable delays.* The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(f) *Termination for the Government's convenience.* The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges that the Contractor can demonstrate to the satisfaction of the Government, using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided.

(g) *Termination for cause.* The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the

Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(h) *Warranty*. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

Note: The following clause is incorporated in full text:

252.211-7003 Item Identification and Valuation.

(a) *Definitions*. As used in this clause-

"Automatic identification device" means a device, such as a reader or interrogator, used to retrieve data encoded on machine-readable media.

"Commonly accepted commercial marks" means any system of marking products for identification that is in use generally throughout commercial industry or within commercial industry sectors. Some examples of commonly accepted commercial marks are: EAN.UCC Global Trade Item Number; Automotive Industry Action Group B-4 Parts Identification and Tracking Application Standard, and B-2 Vehicle Identification Number Bar Code Label Standard; American Trucking Association Vehicle Maintenance Reporting Standards; Electronic Industries Alliance EIA 802 Product Marking Standard; and Telecommunications Manufacturers Common Language Equipment Identification Code.

"Concatenated unique item identifier" means-

(1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; or

(2) For items that are serialized within the original part number, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, original part number, and serial number within the part number.

"Data qualifier" means a specified character (or string of characters) that immediately precedes a data field that defines the general category or intended use of the data that follows.

"DoD recognized unique identification equivalent" means a unique identification method that is in commercial use and has been recognized by DoD. All DoD recognized unique identification equivalents are listed at <http://www.acq.osd.mil/uid>.

"DoD unique item identification" means marking an item with a unique item identifier that has machine-readable data elements to distinguish it from all other like and unlike items. In addition-

(1) For items that are serialized within the enterprise identifier, the unique identifier shall include the data elements of issuing agency code, enterprise identifier, and a unique serial number.

(2) For items that are serialized within the part number within the enterprise identifier, the unique identifier shall include the data elements of issuing agency code, enterprise identifier, the original part number, and the serial number.

"Enterprise" means the entity (i.e., a manufacturer or vendor) responsible for assigning unique item identifiers to items.

"Enterprise identifier" means a code that is uniquely assigned to an enterprise by a registration (or controlling) authority.

"Government's unit acquisition cost" means-

(1) For fixed-price type line, subline, or exhibit line items, the unit price identified in the contract at the time of delivery; and

(2) For cost-type line, subline, or exhibit line items, the Contractor's estimated fully burdened unit cost to the Government for each item at the time of delivery.

"Issuing agency code" means a code that designates the registration (or controlling) authority.

"Item" means a single hardware article or unit formed by a grouping of subassemblies, components, or constituent parts required to be delivered in accordance with the terms and conditions of this contract.

"Machine-readable" means an automatic information technology media, such as bar codes, contact memory buttons, radio frequency identification, or optical memory cards.

"Original part number" means a combination of numbers or letters assigned by the enterprise at asset creation to a class of items with the same form, fit, function, and interface.

"Registration (or controlling) authority" means an organization responsible for assigning a non-repeatable identifier to an enterprise (i.e., Dun & Bradstreet's Data Universal Numbering System (DUNS) Number, Uniform Code Council (UCC)/EAN International (EAN) Company Prefix, or Defense Logistics Information System (DLIS) Commercial and Government Entity (CAGE) Code).

"Serial number within the enterprise identifier" or "unique serial number" means a combination of numbers, letters, or symbols assigned by the enterprise to an item that provides for the differentiation of that item from any other like and unlike item and is never used again within the enterprise.

"Serial number within the part number" or "serial number" means a combination of numbers or letters assigned by the enterprise to an item that provides for the differentiation of that item from any other like item within a part number assignment.

"Serialization within the enterprise identifier" means each item produced is assigned a serial number that is unique among all the tangible items produced by the enterprise and is never used again. The enterprise is responsible for ensuring unique serialization within the enterprise identifier.

"Serialization within the part number" means each item of a particular part number is assigned a unique serial number within that part number assignment. The enterprise is responsible for ensuring unique serialization within the part number within the enterprise identifier.

"Unique item identification" means marking an item with machine-readable data elements to distinguish it from all other like and unlike items.

"Unique item identifier" means a set of data marked on items that is globally unique, unambiguous, and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users.

"Unique item identifier type" means a designator to indicate which method of uniquely identifying a part has been used. The current list of accepted unique item identifier types is maintained at <http://www.acq.osd.mil/uid>.

(b) The Contractor shall deliver all items under a contract line, subline, or exhibit line item.

(c) *Unique item identification.*

(1) The Contractor shall provide DoD unique item identification, or a DoD recognized unique identification equivalent, for-

(i) All items for which the Government's unit acquisition cost is \$5,000 or more; and

(ii) The following items for which the Government's unit acquisition cost is less than \$5,000:

Contract Line, Subline, or

Exhibit Line Item Number Item Description

_____ NONE _____

(iii) Subassemblies, components, and parts embedded within items as specified in Exhibit Number ____ or Contract Data Requirements List Item Number ____.

(2) The unique item identifier and the component data elements of the unique item identifier shall not change over the life of the item.

(3) *Data syntax and semantics.* The Contractor shall-

(i) Mark the encoded data elements (except issuing agency code) on the item using any of the following three types of data qualifiers, as specified elsewhere in the contract:

(A) Data Identifiers (DIs) (Format 06).

(B) Application Identifiers (AIs) (Format 05), in accordance with ISO/IEC International Standard 15418, Information Technology - EAN/UCC Application Identifiers and ASC MH 10 Data Identifiers and ASC MH 10 Data Identifiers and Maintenance.

(C) Text Element Identifiers (TEIs), in accordance with the DoD collaborative solution "DD" format for use until the final solution is approved by ISO JTC1/SC 31. The DoD collaborative solution is described in Appendix D of the DoD Guide to Uniquely Identifying Items, available at <http://www.acq.osd.mil/uid>; and

(ii) Use high capacity automatic identification devices in unique identification that conform to ISO/IEC International Standard 15434, Information Technology - Syntax for High Capacity Automatic Data Capture Media.

(4) *Marking items.*

(i) Unless otherwise specified in the contract, data elements for unique identification (enterprise identifier, serial number, and, for serialization within the part number only, original part number) shall be placed on items requiring marking by paragraph (c)(1) of this clause in accordance with the version of MIL-STD-130, Identification Marking of U.S. Military Property, cited in the contract Schedule.

(ii) The issuing agency code-

(A) Shall not be placed on the item; and

(B) Shall be derived from the data qualifier for the enterprise identifier.

(d) *Commonly accepted commercial marks.* The Contractor shall provide commonly accepted commercial marks for items that are not required to have unique identification under paragraph (c) of this clause.

(e) *Material Inspection and Receiving Report.* The Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

(1) Description.*

(2) Unique identifier,** consisting of-

(i) Concatenated DoD unique item identifier; or

(ii) DoD recognized unique identification equivalent.

(3) Unique item identifier type.**

(4) Issuing agency code (if DoD unique item identifier is used).**

(5) Enterprise identifier (if DoD unique item identifier is used).**

(6) Original part number.**

- (7) Serial number. **
- (8) Quantity shipped. *
- (9) Unit of measure. *
- (10) Government's unit acquisition cost. *
- (11) Ship-to code.
- (12) Shipment date.
- (13) Contractor's CAGE code or DUNS number.
- (14) Contract number.
- (15) Contract line, subline, or exhibit line item number. *
- (16) Acceptance code.

* Once per contract line, subline, or exhibit line item.

** Once per item.

(f) *Material Inspection and Receiving Report for embedded subassemblies, components, and parts requiring unique item identification.* The Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

- (1) Unique item identifier of the item delivered under a contract line, subline, or exhibit line item that contains the embedded subassembly, component, or part.
- (2) Unique item identifier of the embedded subassembly, component, or part, consisting of-
 - (i) Concatenated DoD unique item identifier; or
 - (ii) DoD recognized unique identification equivalent.
- (3) Unique item identifier type. **
- (4) Issuing agency code (if DoD unique item identifier is used). **
- (5) Enterprise identifier (if DoD unique item identifier is used). **
- (6) Original part number. **
- (7) Serial number. **
- (8) Unit of measure.
- (9) Description.

** Once per item.

(g) The Contractor shall submit the information required by paragraphs (e) and (f) of this clause in accordance with the procedures at <http://www.acq.osd.mil/uid>.

(h) *Subcontracts*. If paragraph (c)(1)(iii) of this clause applies, the Contractor shall include this clause, including this paragraph (h), in all subcontracts issued under this contract.

Attachment 2

INSTRUCTIONS, CONDITIONS, AND NOTICES TO QUOTERS

L-316 SUBMISSION OF QUOTES

(a) Quotes shall be prepared and submitted as follows:

- (1) Technical Quote.
 Page Limitation: Factors 1 & 2, 8 pages
 Factor 3, 2 pages

(2) Contractual/Cost/Price. No page limitation.

(b) Content

(1) **TECHNICAL QUOTE.** The Technical Quote shall be separated into four (4) sections to address the (1) Technical Approach, (2) Desired Specifications, (3) Demonstrated Experience, and (4) Past Performance. Factor 1 is on a pass or fail basis. Factors 2, 3, and 4 are of equal importance.

Factor 1: Technical Approach (System Design). The quoters shall provide a proposed system design that meets the specifications, [Attachment (5)]. The proposed design shall include description of components, e.g. filter/amplifier module(s), laser transmitter module(s), WDM devices, phase matching fibers, optical detector module(s), or combination units which combines the filters, amplifiers, laser transmitters, and WDM device on the transmit side, and WDM device and optical detectors on the receive side. Quoters shall highlight those specifications that are considered desired (see Factor 2) by indicating "DESIRED" next to that specification. Attachment 6 "Background" is provided as information to prospective quoters to better understand the requirements.

Factor 2: Desired Specifications. Quoters shall indicate if the technical quote includes desired specifications by placing an "X" in either the "Yes" or "No" column of the table provided below, for each specification.

Specification	Desired Item	Provided	
		Yes	No
Overall Gain	Adjustment of gain at detector.		
Group Delay Variation	Group delay specification be met independently for both antenna transmit side of the link, and the receiver side of the link.		
Power Supplies	If system uses provided DC power, single supply, + 12 volts or + 15 volts (or 11-16 volts) desired. If two voltages required, symmetrical voltages desired.		
Power Requirements	It is highly desirable that the power requirement for the transmit side of the link is less than 50 watts. Further reduction of power requirement to 25 watts is also desirable.		
Size	The transmit side components use the same dimensions and mounting as the AE (8.0 inches by 10.5 inches)		

Specification	Desired Item	Provided	
		Yes	No
Bandwidth	-50 dB minimum at 200 MHz centered about the L1 and L2 frequencies.		

Factor 3: Demonstrated Experience: The quoter shall provide a narrative summary that demonstrates experience in designing, fabricating, testing, and delivering equipment appropriate for the Navy environment by describing two (2) previous systems that were delivered and are similar to this requirement. The quoters shall provide the name and phone number of a technical point of contact for each of the two systems. The recency and relevancy of the two systems will be evaluated. Recency is defined as within the last 3 years and relevancy is defined as similar to this requirement.

Factor 4: Past Performance. The references provided under Factor 3 shall be contacted to verify the firm's past performance specifically addressing the areas of cost control; quality of product; customer satisfaction; and timeliness of performance/delivery schedule.

(2) **CONTRACTUAL and COST/PRICE:**

- Standard Form 18 – completed in entirety the “Offeror” portion: 11(f); 13(a) thru (f); 14; 15; and 16(a) thru (b)

To analyze the reasonableness of the proposed price, the quoter shall include a cost breakdown as follows:

A breakout of the materials and labor costs -

(a) Itemize the significant material items (greater than or equal to \$2,500) associated with the proposed cost.

(b) Itemize the labor costs by showing the categories, number of labor hours per labor category, and burdened hourly labor rates per labor category.

- A completed Attachment 4, Representation and Certifications

L-349 SUBMISSION OF ELECTRONIC QUOTES (SEP 2003)(VARIATION)

(a) Quoters shall submit their quotes electronically to SPAWAR under the instructions contained in this provision. Quoters shall submit their signed quotes as either scanned (“TIFF”) or “PDF” documents. Electronic copies shall be submitted via the SPAWAR E-Commerce Central (SPAWAR E-CC). Quoters submitting electronic quotes (e-quotes) shall register in the SPAWAR E-CC and select their own password in order to submit a quote. Quoters are required to read the “Submitting a Proposal?” web page found in the SPAWAR E-CC. For information about “e-Proposal” submission, please visit the SPAWAR E-CC. The URL for the SPAWAR E-Commerce Central is <https://e-commerce.spawar.navy.mil>.

(b) Each electronic file shall also be clearly marked to show the Technical Quote section number, Request for Quotation number, and quoter's name. E-quote files shall not contain classified data. The quoter's e-quote shall be in accordance with the requirements set forth below:

(1) Adobe Acrobat version 4.01 or greater shall be used to create the “PDF” files.

(2) The quote submission files may be compressed (zipped) into one, ZIP file entitled “QUOTE. ZIP” using WinZip version 6.3 or greater.

(3) Cost or Pricing Type Data: All information relating to cost and pricing type data shall be included only in the section of the quote designated by the Contracting Officer as the cost portion of the quote. Under no circumstances shall cost and pricing type data be included elsewhere in the quote.

Paragraph cross-referencing between the cost portion of the quote and the technical quote is requested to provide clarity.

Attachment 3

EVALUATION FACTORS FOR AWARD

M-302 EVALUATION OF QUOTES (SINGLE AWARD FOR ALL ITEMS) (DEC 1999)(VARIATION)

A quoter must quote on all items in this solicitation to be eligible for award. The Government intends to make a single award to the acceptable quoter whose total quote on all items is the most advantageous to the Government considering price and other factors, if any, specified in the schedule.

M-313 EVALUATION FACTORS LISTED (FIXED PRICE CONTRACTS) (MAR 1999) (VARIATION)

(a) The technical quote must give clear, detailed information sufficient to enable evaluation based on the factors listed below. This acquisition will utilize the Technical/Price tradeoff source selection procedure to make an assessment for a best value award decision. A decision on the technical acceptability of each quoter's quote will be made on a pass/fail of the proposed system design (Factor 1). For those quoters who are determined to be technically acceptable, tradeoffs may be made among Desired Specifications, Demonstrated Experience, Past Performance and Price, with Desired Specifications, Demonstrated Experience and Past Performance being more important than Price.

(b) Evaluation for Award.

a. Factor 1 is on a pass or fail basis. Factors 2, 3, and 4 are of equal importance.

Factor 1 - Technical Approach (System Design). This factor is rated as a Pass/Fail. Quoters who do not meet the minimum specifications [Attachment (5)] will receive a "Fail" rating and will not receive further consideration.

Factor 2 – Desired Specifications.

The additional specifications below are not required, but are desired and are above and beyond the minimum specifications.

Specification	Desired Item	Provided	
		Yes	No
Overall Gain	Adjustment of gain at detector.		
Group Delay Variation	Group delay specification be met independently for both antenna transmit side of the link, and the receiver side of the link.		
Power Supplies	If system uses provided DC power, single supply, + 12 volts or + 15 volts (or 11-16 volts) desired. If two voltages required, symmetrical voltages desired.		
Power Requirements	It is highly desirable that the power requirement for the transmit side of the link is less than 50 watts. Further reduction of power requirement to 25 watts is also desirable.		
Size	The transmit side components use the same dimensions and mounting as the AE (8.0 inches by 10.5 inches)		

Specification	Desired Item	Provided	
		Yes	No
Bandwidth	-50 dB minimum at 200 MHz centered about the L1 and L2 frequencies.		

Factor 3 - Demonstrated Experience. The Quoter's references demonstrate recent and relevant experience in designing, fabricating, testing, and delivering two (2) similar systems as this requirement and provide technical points of contact and their phone numbers.

Factor 4 - Past Performance. The references provided under Factor 3, Demonstrated Experience, shall be contacted to verify the reference's level of satisfaction the areas of cost control; quality of product; customer satisfaction; and timeliness of performance/delivery schedule.

- b. **Price.** The evaluation will assess whether the offered prices/cost in the Schedule accurately represents the work effort included in the technical proposal.

Attachment 4

REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF QUOTERS

Note: The following provisions are incorporated by reference:

DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 2) CLAUSES

REFERENCE	TITLE	DATE
252.209-7002	Disclosure of Ownership or Control by a Foreign Government	Sep 1994

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002)--ALTERNATE I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 541330.

(2) The small business size standard is \$23 million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) *Representations.* (1) The offeror represents as part of its offer that it is, is not a small business concern.

(2) [*Complete only if offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents, for general statistical purposes, that it is, is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents as part of its offer that it is, is not a women-owned small business concern.

(4) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents as part of its offer that it is, is not a veteran-owned small business concern.

(5) [*Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.*] The offeror represents as part of its offer that it is, is not a service-disabled veteran-owned small business concern.

(6) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents, as part of its offer, that-

(i) It is, is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It is, is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. [*The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.*] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) [*Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.*] [The offeror shall check the category in which its ownership falls]:

_____ Black American.

_____ Hispanic American.

_____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

_____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

_____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

_____ Individual/concern, other than one of the preceding.

(c) *Definitions.* As used in this provision--

“Service-disabled veteran-owned small business concern”--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

“Small business concern,” as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

“Veteran-owned small business concern” means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

“Woman-owned small business concern,” as used in this provision, means a small business concern--

(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) *Notice.* (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm’s status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that--

- (a) It has, has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;
- (b) It has, has not filed all required compliance reports; and
- (c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that (a) it has developed and has on file, has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (b) it has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

252.225-7000 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM CERTIFICATE (APR 2003)

(a) *Definitions.* "Domestic end product", "foreign end product", "qualifying country", and "qualifying country end product" have the meanings given in the Buy American Act and Balance of Payments Program clause of this solicitation.

(b) *Evaluation.* The Government--

- (1) Will evaluate offers in accordance with the policies and procedures of Part 225 of the Defense Federal Acquisition Regulation Supplement; and
- (2) Will evaluate offers of qualifying country end products without regard to the restrictions of the Buy American Act or the Balance of Payments Program.

(c) *Certifications and identification of country of origin.*

(1) For all line items subject to the Buy American Act and Balance of Payments Program clause of this solicitation, the offeror certifies that--

- (i) Each end product, except those listed in paragraph (c)(2) or (3) of this provision, is a domestic end product; and
- (ii) Components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country.

(2) The offeror certifies that the following end products are qualifying country end products:

 (Line Item Number)

 (Country of Origin)

(3) The following end products are other foreign end products:

 (Line Item Number)

 (Country of Origin) (If known)

Attachment 5 Specifications

A GAS-WDM fiber optic link prototype to connect the seven antenna signals from the GPS GAS-1 Controlled Radiation Pattern Antenna (CRPA), which in deployed systems is mounted on the antenna mast, to the Antenna Electronics (AE), which will be mounted below deck, shall be designed, fabricated, tested, and delivered. The GAS-WDM fiber optic link prototype shall be suitable for deployed testing. As such, it is required to meet the minimum performance and configuration requirements below.

Combined amplifier/filter RF photonic WDM link (specifications are for complete link including amplifiers/filters, laser transmitters, WDM devices, optical receivers, fibers and connectors. The specifications below assume presence of 5 dB optical loss (10 dB RF loss) in the link due to connectors, optical splitter, and optical switch shown in Figure 1 of Attachment 6).

Operating Frequency:	GPS L1 (1575.42MHz) and L2 (1227.6 MHz) simultaneously.
Overall Gain	+3 dB minimum to +10 dB maximum.
Gain Variation:	2 dB maximum between any channels at L1 or L2, 3 dB maximum between L1 and L2.
Noise Figure:	4 dB maximum over temperature
Bandwidth:	24 MHz passband centered about the L1 and L2 frequencies Passband ripple 1 dB maximum -40 dB minimum at 200 MHz centered about the L1 and L2 frequencies -60 dB minimum at 300 MHz centered about the L1 and L2 frequencies (excluding between L1 and L2)
Out of band rejection:	A signal at any frequency between 30 Hz and 10 GHz, but excluding the frequency bands within ± 200 MHz of the L1 and L2 frequencies, shall not have an output response greater than -60 dB when compared to an in-band signal of equal level.
VSWR:	2:1 maximum at the RF inputs and output
Gain compression	measured at the input, the 1 dB gain compression point is -32 dBm minimum.
IP3	Input IP3 -23 dBm minimum
Burnout protection:	1 watt continuous, 450 watt peak with pulse width of 10 microseconds.
Phase Noise:	-100 dBc maximum added to the L1 or L2 signal over the frequency band of 100 Hz to 12 MHz
Group Delay Variation:	0.1 nsec between any channels at L1 or L2. It is acceptable to correct for the phase of the complete link on the transmit side of the link (as shown in Figure 1 of Attachment 6).

Electrical connectors:	
RF Input:	7 SMA connectors, one male, and 6 female.
RF Output:	either 7 SMA (1 male and 6 female) connectors, or coax contacts on a multi-pin connector. This connector may be the power connector or a separate connector. If SMA connectors are used, the male shall be on the same channel as the male connector of the input (referred to as the “reference channel)
Power:	solder terminals or multi-pin “D” or round connector
Optical connectors:	Diamond AVIM, angle polished. A pigtail is not acceptable.
Indicators & alarms:	LEDs on module, and open collector signals on electrical connector (low voltage for fault condition)
Laser:	Laser power and/or laser current, temperature stable.
Detector:	detector current and/or optical power input
Temperature:	For the transmit antenna side components: -40°C to +85°C operating, -55°C to +85°C storage, where the maximum cold plate temperature is 64°C. For the receiver side components: 0°C to +50°C. (Note: unit must operate within specification with transmit unit at one temperature extreme and receiver unit at the opposite temperature extreme.)
Vibration:	System shall be designed for 4 Hz to 50 Hz per MIL-STD-167 for mast mounted equipment. Testing and verification not required, testing is done on complete antenna assembly, not on individual components.
Shock:	System shall be designed for 9 hammer blows as specified in MIL-S-901, Type A, Grade A, Class I. Testing and verification not required, testing is done on complete antenna assembly and receiver rack, not on individual components.
Power supply:	Contractor shall specify. System can used provided DC or AC power. If DC, system shall not require more than two DC supplies (-16 V < VDC < 16 V). Alternately, 103 – 127 VAC, 47 – 440 Hz per MIL-STD 1399 may be used (i.e., if the contractor incorporates DC supplies in delivered system). If this option is chosen, external line filter and surge protection to meet the transient requirements are provided.
Power requirement:	The power requirement for the transmit side antenna components shall be 70 watts maximum.
Size:	Transmit side antenna unit shall fit in a space approximately 12 inches by 10 inches by 2 ½ inches high. A Drawing is supplied – see Figure 2 of Attachment 6. Receiver side detector unit shall fit in a space 7 inches by 7 inches by 2 ½ inches high.

Attachment 6

Background

GPS Antenna System WDM Fiber Optic Link

SPAWARSYSCEN has designed a GPS fiber-optic antenna system (FOAL) which is currently deployed onboard many Navy ships. A new program is underway with the goal of replacing these antennas with an anti-jam antenna system based on the GAS-1 antenna and processor.

In the current GAS-1 design, the Antenna Electronics (AE) are mounted in the CRPA antenna assembly. This greatly limits access to the AE. Moving the AE below decks will allow repair, replacement, and upgrading, without returning to dock to remove the antenna assembly from the mast. The objective of this procurement is development of a fiber optic WDM link to connect the seven antenna signals from the GPS GAS-1 Controlled Radiation Pattern Antenna (CRPA), mounted on the antenna mast, to the Antenna Electronics (AE) mounted below deck. The GPS Antenna System WDM (GAS-WDM) fiber optic link will require seven channels of RF to be amplified and transported, using WDM technology, and connected to the AE in such a manner that the GAS-WDM link is transparent to the AE, i.e., the AE operates as if it were mounted in the CRPA antenna assembly.

As part of this program development, SPAWARSYSCEN code 2825 fabricated a laboratory demonstration GAS-WDM fiber optic link to prove the feasibility of the system. The most significant difference between this laboratory demonstration link and the link under procurement here is that the laboratory demonstration link was not designed to meet size and power requirements, e.g., it used laboratory laser current and temperature controllers. The laboratory demonstration link was constructed of off-the-shelf components. Components were temperature tested to ensure that they could operate in the Navy's environment. A three channel (i.e., three antennas, three wavelengths) link was tested in a GPS simulation system with the actual GAS-1 AE to determine its effect on the anti-jam performance of the system. Little degradation in GPS anti-jam performance was observed. Tests on a seven-channel system, including a full systems temperature testing, are currently on going.

The laboratory demonstration link was tested with eight-channel 200 GHz WDM multiplexers from Optiwork. WDM multiplexers from other sources, e.g., Confluent Photonic and Gould are also available. The lasers used were Fujitsu temperature controlled 1550 nm DBF direct modulation lasers, (FLD5F7CZnnJ, where the nn was replaced with the standard ITC-T grid channel number). The lasers are available off-the-shelf for grid numbers 21-35, covering wavelengths from 1549.32 nm to 1560.61 nm. The lasers were controlled by ILX laboratory laser current sources and temperature controllers.

To meet the group delay requirements, phase measurements were performed on each wavelength channel, and fibers were cleaved to length and inserted between the laser transmitters and WDM to correct for the path length differences of all components in the link.

The receivers used for these tests were Fiber-Span (formerly Anacom) AC-223RS modules originally developed for the GPS FOAL. These consist of optical detectors, RF matching

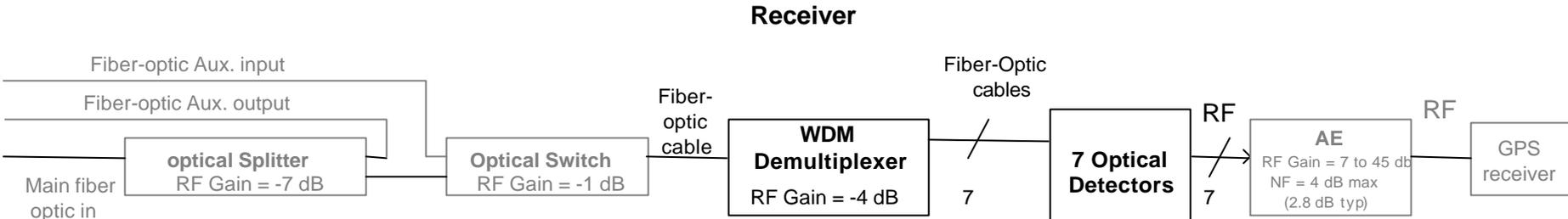
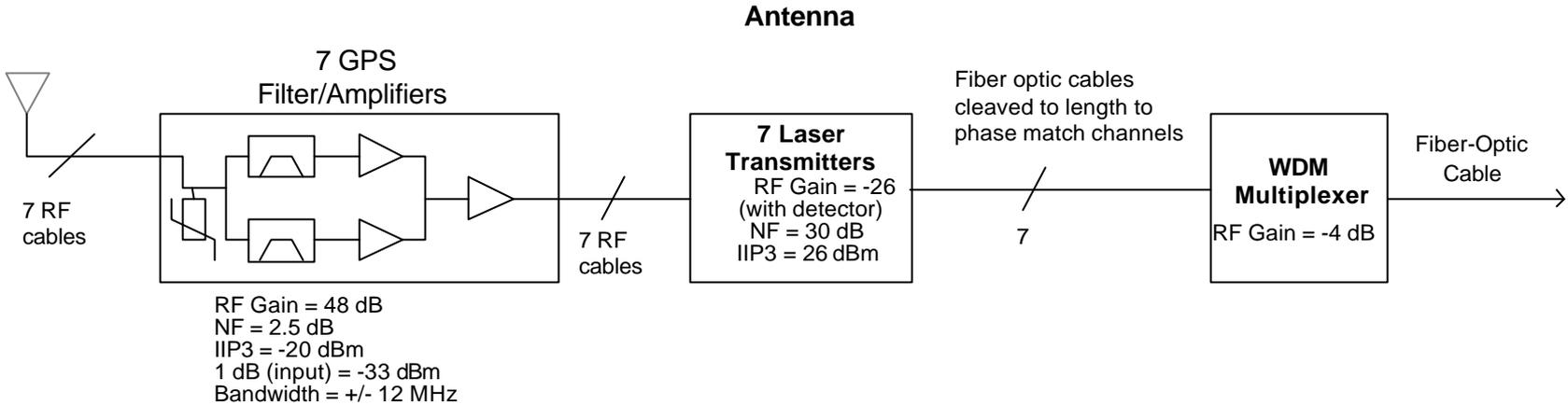
circuits, and monitoring circuits (the receivers did not have post amplifiers). The shock and vibration requirements of the FOAL necessitated the use of “AVIM” optical connectors for these modules.

The front-end amplifier/filters for the three channel test were Delta Microwave L54105 units originally designed for the GPS FOAL. The front-end amplifier/filters for the current seven channel tests are Delta Microwave L54105-AJ units, which were based on the amplifier/filters originally developed for the GPS FOAL. They were modified to allow a closer match of the group delay of the filters, and a lower amplifier gain. The improvement in filter timing matching resulted in a slightly wider filter bandwidth.

Components for the 3-channel test were tested over a -40 to $+85$ degree C temperature range. The WDM devices and amplifier/filters had no problems operating over this temperature range. Several of the lasers had problems at high temperatures. When the temperature exceeded $72 - 75$ degrees C, some integrated laser TECs were unable to maintain control. For these TECs, temperature stabilization worked better if the TEC current was limited to 850 mA instead of the 1300 mA maximum rating, in which case thermal run away was observed. Better heat sinking to the outer shell of the antenna is being considered, but an additional TEC may be necessary to keep the case temperature of the lasers under control. Minimizing the internal heat generation will also help. The actual requirement is for the enclosed system to operate with the antenna case maximum outside ambient temperature of 64 degrees C (includes sun load). The internal maximum temperature will be dependent on the dissipation of the laser system and power supplies, as well as the efficiency of the heat transfer to the antenna case.

The following slides (Figures 1 thru 3) are provided for background information only.

Figure 1. GAS-1 WDM FOAL

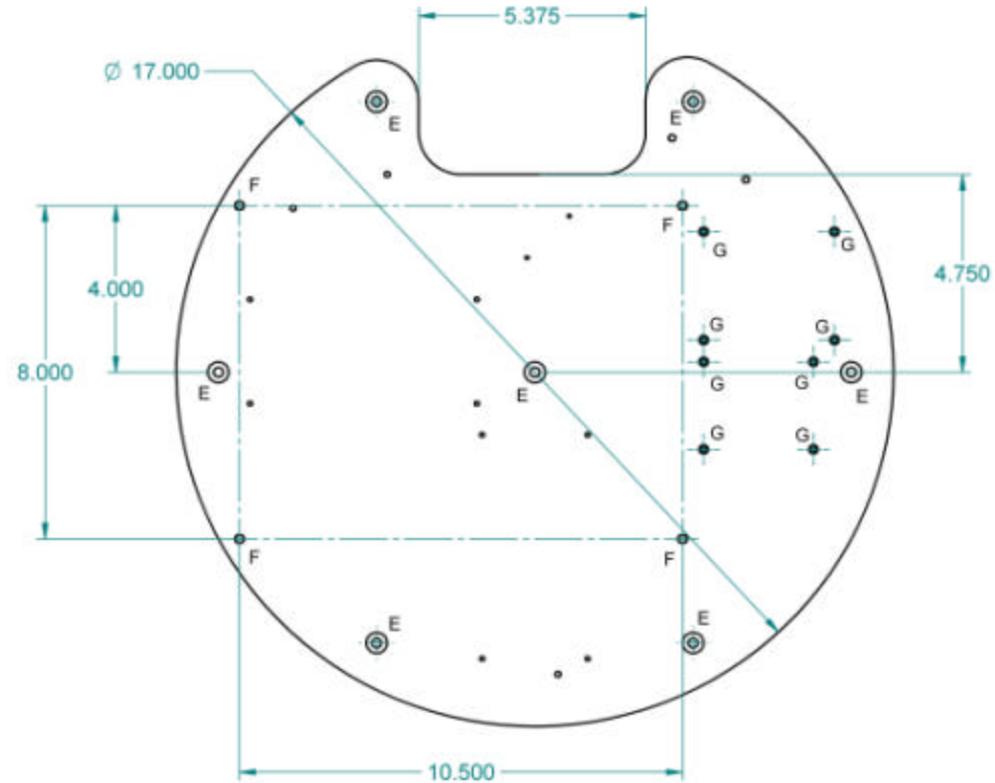
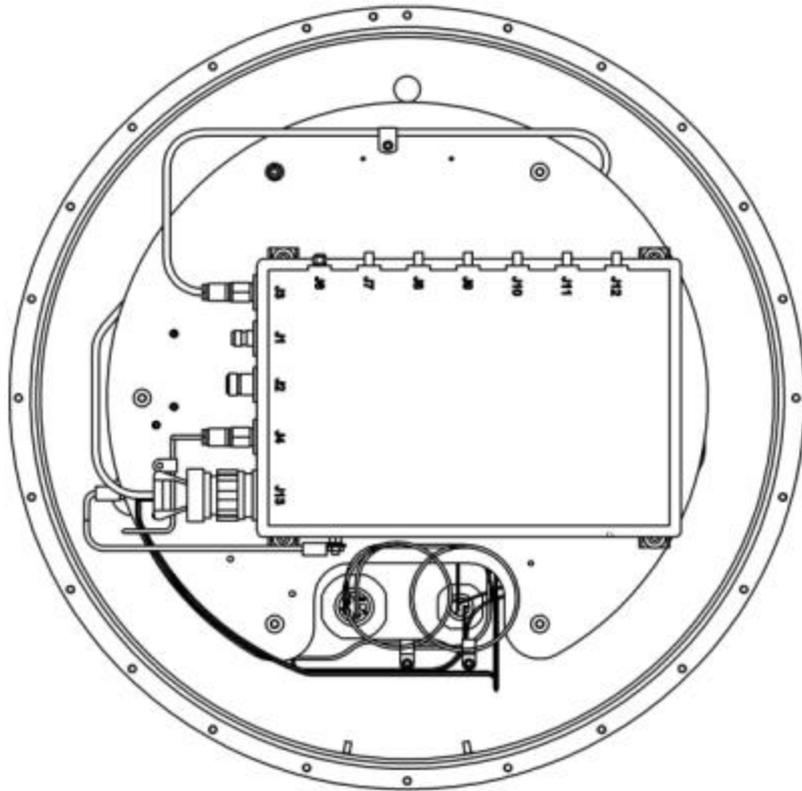


Not including AE:
 Overall Gain = 6 dB
 Overall noise figure = 3.8 dB max
 Overall input IP3 = -22 dBm
 Input 1 dB compression point = -33 dBm

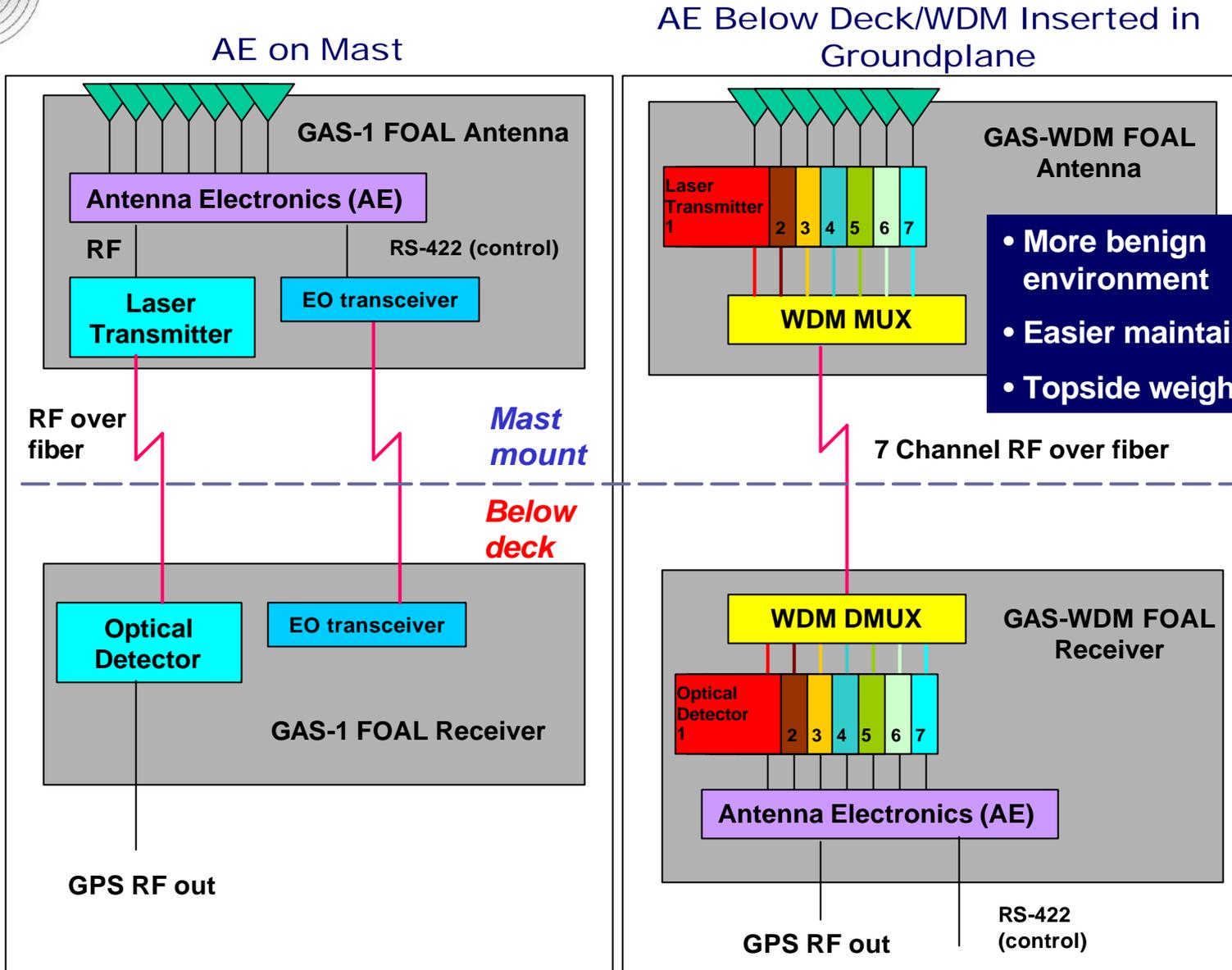
Note: Items in grey are shown for information only, they are not included as part of this procurement.
 Note: Though the optical splitter and switch are not included in this procurement, the WDM signal (i.e., spectral width) must be compatible with COTS splitters and switches.

This slide provided for background information only

Figure 2. AE / mounting plate



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