

National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland 20771

Reply to Attn of: 214.3

August 19, 1999

TO: All Potential Offerors

SUBJECT: RFO5-00651-311, Rapid Spacecraft Acquisition Request for Offer

NASA Goddard Space Flight Center invites you to submit a proposal in response to Request for Offer (RFO)5-00651-311 for the Rapid Spacecraft Acquisition (Rapid).

The Rapid RFO incorporates revisions from the Draft RFO that was issued on June 30, 1999. A redlined document, showing all revisions from the Draft RFO, is posted on the RSDO website at <http://rsdo.gsfc.nasa.gov/rapidii/rapidii.cfm>. Revisions are indicated by change bars in the margin, inserted text is underlined and deleted text is struck through. If inconsistencies exist between the redlined document and the original RFO, the original RFO shall prevail.

We thank you for your support to date and we look forward to receiving your proposal. We request that you notify us of your company's intention to submit a proposal and the number of busses you intend to propose by September 15, 1999, so that we may appropriately plan resources for the proposal evaluation phase. The due date for submission of proposals under this RFO is October 4, 1999. Refer to the RFO for further submission requirements.

Our schedule includes completion of the evaluation phase by November with contract awards occurring without discussions with offerors. We plan to award multiple Fixed Price IDIQ contracts under this RFO with placement of delivery orders for specific missions to occur during the contract effective period.

As of the release date of this RFO, all communications with industry regarding this RFO must be addressed to the Government Contracting Officer. Any and all questions regarding the RFO must be submitted in writing to me, e:mail is preferred. Written (hard copy) questions, may be sent to:

NASA Goddard Space Flight Center
Attn: Sharon Collignon, Code 214.3
Bldg. 16W, Room N115D
Greenbelt, MD 20771
FAX: 301-286-0530

Questions may be e:mail to Sharon.M.Collignon.1@gsfc.nasa.gov. All questions and resulting responses will be posted to the Internet.

This request for offer does not commit the Government to pay any proposal preparation costs nor does it obligate the Government to procure the subject items and shall not be construed as authorization to proceed with any work called for herein.

Original Signed By

Sharon M. Collignon
Contracting Officer

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS <i>OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30</i>				1. REQUISITION NO. 170-00651		PAGE 1 OF 58			
2. CONTRACT NO.		3. AWARD/EFFECTIVE DATE		4. ORDER NO.		5. SOLICITATION NO. RFO5-00651-311		6. SOLICITATION ISSUE DATE August 19, 1999	
7. FOR SOLICITATION INFORMATION CALL		a. NAME Sharon Collignon				b. TELEPHONE NO. <i>(No collect calls)</i> 301-286-9874		8. OFFER DUE DATE/LOCAL TIME October 4, 1999, 2:00 ET	
9. ISSUED BY NASA Goddard Space Flight Center Code 214.3 Greenbelt, MD 20771		CODE		10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED <input type="checkbox"/> SET ASIDE: % FOR <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> SMALL DISADV. BUSINESS <input type="checkbox"/> 8(A) SIC: 3769 SIZE STD: 1000		11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE <input type="checkbox"/> 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) 13b. RATING D0-C9		12. DISCOUNT TERMS	
15. DELIVER TO		CODE		16. ADMINISTERED BY		CODE		14. METHOD OF SOLICITATION <input type="checkbox"/> RFO <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFO	
17a. CONTRACTOR/OFFEROR OFFEROR		CODE		FACILITY CODE		18a. PAYMENT WILL BE MADE BY NASA/GSFC Financial Management Division Accounts Payable Section, Code 151.3A Greenbelt, MD 20771		CODE 151.3A	
TELEPHONE NO.									
<input type="checkbox"/> 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER				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
		See I.A.1, Deliverable Requirements and Prices							
		<i>(Attach Additional Sheets as Necessary)</i>							
25. ACCOUNTING AND APPROPRIATION DATA							26. TOTAL AWARD AMOUNT <i>(For Govt. Use Only)</i>		
<input checked="" type="checkbox"/> 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA <input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED. <input type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.									
28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN ____ COPIES 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. <input type="checkbox"/>					29. AWARD OF CONTRACT: REFERENCE _____ OFFER DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS: <input type="checkbox"/>				
30a. SIGNATURE OF OFFEROR/CONTRACTOR					31a. UNITED STATES OF AMERICA <i>(SIGNATURE OF CONTRACTING OFFICER)</i>				
30b. NAME AND TITLE OF SIGNER <i>(TYPE OR PRINT)</i>			30c. DATE SIGNED		31b. NAME OF CONTRACTING OFFICER <i>(TYPE OR PRINT)</i>			31c. DATE SIGNED	
32a. QUANTITY IN COLUMN 21 HAS BEEN ACCEPTED, AND CONFORMS TO THE <input type="checkbox"/> RECEIVED <input type="checkbox"/> INSPECTED <input type="checkbox"/> CONTRACT, EXCEPT AS NOTED					33. SHIP NUMBER <input type="checkbox"/> PARTIAL		34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	
32b. SIGNATURE OF AUTHORIZED GOVT REPRESENTATIVE			32c. DATE		36. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/>			37. CHECK NUMBER	
41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT					38. S/R ACCOUNT NO.		39. S/R VOUCHER NO.	40. PAID BY	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER			41c. DATE		42a. RECEIVED BY <i>(Print)</i>				
					42b. RECEIVED AT <i>(Location)</i>				
					42c. DATE REC'D <i>(YY/MM/DD)</i>		42d. TOTAL CONTAINERS		

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**I. CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEM
(52.212-4) (MAY 1999)**

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance 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 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.

(b) Assignment. The Contractor or its assignee's rights to be paid amounts due as a result of performance of this contract, may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727).

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-1, Definitions, is incorporated herein by reference.

(f) 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.

(g) Invoice. The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized,) to the address designated in the contract to receive invoices. An invoice must include--

(1) Name and address of the Contractor;

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- (2) Invoice date;
- (3) Contract number, contract line item number and, if applicable, the order number;
- (4) Description, quantity, unit of measure, unit price and extended price of the items delivered;
- (5) Shipping number and date of shipment including the bill of lading number and weight of shipment if shipped on Government bill of lading;
- (6) Terms of any prompt payment discount offered;
- (7) Name and address of official to whom payment is to be sent; and
- (8) Name, title, and phone number of person to be notified in event of defective invoice.

Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) Circular A-125, Prompt Payment. Contractors are encouraged to assign an identification number to each invoice.

(h) Patent indemnity. The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) Payment. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) Circular A-125, Prompt Payment. If the Government makes payment by Electronic Funds Transfer (EFT), see 52.212-5(b) for the appropriate EFT clause. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon:

- (1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or
- (2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b. destination.

(k) Taxes. The contract price includes all applicable Federal, State, and local taxes and duties.

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(l) 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 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 which reasonably could have been avoided.

(m) 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.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) 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.

(p) Limitation of liability. Except as otherwise provided by an express or implied warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract.

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C 327, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistle blower protections; 49 U.S.C 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity.

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order: (1) the schedule of supplies/services; (2) the Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause; (3) the clause at 52.212-5; (4)

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addenda to this solicitation or contract, including any license agreements for computer software; (5) solicitation provisions if this is a solicitation; (6) other paragraphs of this clause; (7) the Standard Form 1449; (8) other documents, exhibits, and attachments; and (9) the specification.

(End of clause)

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ADDENDUM TO FAR CLAUSE 52.212-4

I.A.1 DELIVERABLE REQUIREMENTS AND PRICES

The Contractor shall perform and/or deliver the items below in accordance with the Specifications/Statement of Work.

Contract Line Item Number	Description	Price
1	a) Core System Spacecraft and all associated hardware, software and documentation (TBP) b) Additional Core System(s) (Any additional core systems proposed shall be numbered as 1b, 1c, etc. The offeror shall provide the description for each individual core system proposed and associated NTE price.)	NTE \$TBP NTE \$TBP
2	a) Options to Core System 1a in accordance with Section I.A.31, List of Attachments, Attachment C, Option Description(s) b) Options to Additional Core System(s) as proposed	NTE \$TBP NTE \$TBP
3	Core Spacecraft Modifications as required by S.O.W 4.1.3 and the Delivery Order Requirements	PDO
4	Mission Specific Services as required S.O.W. 4.2.3 and the Delivery Order Requirements	PDO
5	Non-Mission Specific Services as required by S.O.W. 4.2.1 and the Delivery Order Requirements	PDO
6	Non-Mission Specific Standard Hardware as required by and S.O.W 4.2.2 and the Delivery Order Req.	PDO
7	Flight Software, Source Code and Software Development and Maintenance System as required by S.O.W. 4.3.6 and the Delivery Order Requirements	NSP
8	CDRL Documentation as required by Section I.A.31, List of Attachments, Attachment D	NSP
9	Standard Form 294 and 295 as required by Section I.A.27	NSP
10	NASA Form 1018 as required by a Delivery Order and 1852.245-73 (See Contract Section I.A.23)	NSP

NTE = Not to exceed

TBP = To be Proposed

NSP = Not Separately Priced

PDO = Priced for Specific Delivery Order (**Offerors shall not propose PDO prices for the Master Contract Competition.**)

(End of clause)

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ADDENDUM TO FAR CLAUSE 52.212-4

I.A.2 CHANGES TO CLAUSE 52.212-4

The following paragraphs of Section I, Clause 52.212-4, Contract Terms and Conditions-- Commercial Item, shall not be applicable to this contract:

<u>Non-Applicable Paragraph</u>	<u>Replaced By</u>
(c) Changes	Changes-Fixed Price, FAR 52.243-1 (See I.A.23)
(h) Patent Indemnity	Patent Indemnity, FAR 52-227-3 (See I.A.23)
(o) Warranty	n/a

(End of Text)

I.A.3 INDEFINITE QUANTITY (52.216-22) (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after the period of performance specified in any issued delivery orders.

(End of clause)

I.A.4 ORDERING (52.216-18) (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders by the individuals or activities designated in the Schedule. Such orders may be issued within the effective ordering period (see I.A.15).

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(b) All delivery orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order and this contract, the contract shall control.

(c) If mailed, a delivery order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the contract.

(End of clause)

I.A.5 ORDERING LIMITATIONS (52.216-19) (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than \$1,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of \$250,000,000;

(2) Any order for a combination of items in excess of \$500,000,000; or

(3) A series of orders from the same ordering office within thirty days that together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) of this section.

(c) Notwithstanding paragraphs (a) and (b) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within seven calendar days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

I.A.6 INDIVIDUALS AUTHORIZED TO ISSUE ORDERS

Only the Goddard Space Flight Center (GSFC) Contracting Officer is authorized to issue delivery orders under this contract unless otherwise delegated, as evidenced by a letter of delegation signed by the GSFC Contracting Officer.

(End of clause)

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ADDENDUM TO FAR CLAUSE 52.212-4

I.A.7 ORDERING PROCEDURES

One or more Delivery Orders may be issued during the ordering period of this contract. The Contracting Officer's (CO) decision to issue a Delivery Order to a particular contract holder shall be based on the criteria stated below. In accordance with FAR 16.505(b), the CO will give each contract holder a "fair opportunity to be considered" for each order in excess of \$2,500 unless one of the conditions in 16.505(b)(2) applies. Procedures and selection factors to be considered for each Delivery Order providing for a "fair opportunity to be considered" are set forth below.

The following provision defines the process by which (a) Fair Opportunity to be Considered will be afforded; (b) Delivery Orders will be competed; and (c) Delivery Orders will be awarded.

(a) Procedures for Providing for Fair Opportunity for Consideration:

The Government will provide all awardees a fair opportunity to be considered. This may be provided through the Government's examination of existing information and contract documents already in the Government's possession. The contractor capabilities information provided in contract's System Performance Specification and Integration and Operations Plan will be crucial information used by the CO and the Contracting Officer's Technical Representative to identify sources capable of providing the required service.

Although the Government may award delivery orders based on examination of existing information and contract documents, generally, the Government will compete missions in accordance with the procedures in paragraph (b) below.

(b) Delivery Order Competition Procedures

RFO Contents: When contractor submission of proposals is necessary, the Government will issue a Request for Offer (RFO). Each RFO will include the following information:

- Date of the RFO
- Description, Delivery Order statement of work and other documentation upon which the Delivery Order price is to be based
- Delivery or performance date
- Funding profile, if applicable
- Due date for submission of Offer

In addition, all RFO's will contain the evaluation criteria that will be utilized for placement of the delivery order and specific instructions regarding the level of detail contractors shall include in their proposal for the delivery order. Generally, offers responding to RFO's will be due within two weeks after the RFO issue date.

Delivery Order Evaluation/Selection Criteria: Upon receipt of the contractor's proposal, the Government shall review the proposal for completeness and acceptability. The determination of which contractor is awarded the mission shall be based upon the following evaluation factors:

- Approach to meeting the mission specific requirements;

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ADDENDUM TO FAR CLAUSE 52.212-4

- Total proposed firm-fixed price for the delivery order including consideration of the cost of financing; and
- Relevant Experience and Past Performance

The details of any relevant subfactors for each factor will be identified in the RFO and may be unique to each mission.

Response to RFO's: Contractors may "No Bid" any RFO. When a contractor responds to an RFO, it shall indicate that the proposal submitted in response to the RFO is compliant with the contract terms, statement of work, and RFO.

Pricing for all RFO's shall be based upon the Contract Line Item prices in I.A.1 Deliverable Requirements and Prices. The prices contained in Section I.A.1 are not-to-exceed prices which can be adjusted downward by the Contractor for the specific mission being proposed. Any contractor-proposed reduction will be applicable to the then current proposal only and shall not be deemed as a permanent reduction of the prices contained in I.A.1. Any mission unique modifications to a core system or option which are not included in either the core system NTE price or an option NTE price must be identified and priced, and need not be limited by the contract NTE prices. The proposed mission price, including the core system, applicable options, and mission unique modifications; shall be a firm-fixed price for all efforts required under the order for that mission. Bid and Proposal type costs associated with responding to an order, or with a RFO that may lead to an order, must be treated as an indirect cost, provided the contractor may "No Bid" the order.

All Delivery Order Proposals shall be submitted by the date and time specified in the RFO, or it will be treated as a late proposal and will not be considered by the Government, unless the Contracting Officer determines that it is in the Government's best interest to do so.

(c) Award of Delivery Order

Delivery Orders will be placed within the effective ordering period of this contract. Generally, delivery orders will be placed by original signed orders; however, orders may be placed by facsimile or electronically.

Each of the contractors will be notified of the Government's selection decision for the Delivery Order awarded. The Government's determination of the successful contractor for an individual Delivery Order is not subject to Protest under FAR Subpart 33.1. The debriefing requirements of FAR 15.506 are not applicable to orders issued under this contract. However, an Ombudsman has been appointed (see NASA FAR Supplement Clause 1815.215-84).

Each Delivery Order will include the following information:

- Date of the Delivery Order
- Contract number and Delivery Order number
- Description, Statement of Work and other documents upon which the Delivery Order price is based

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- Applicable changes to the Master Contract terms and conditions
- Delivery Order price
- Delivery or performance date
- Accounting and appropriation data
- Schedule of Government Furnished Property availability
- Funding Profile, if necessary

(End of Text)

I.A.8 ADDITIONAL ORDERING PROCEDURES FOR CONTINGENT ORDERS

(a) Orders Issued on a Contingent Basis. The Government may issue certain RFO's under I.A.7, ORDERING PROCEDURES, to provide a core-system to implement a proposed scientific mission in response to a Government Announcement Of Opportunity (AO) or similar competition. Funding may not be available for the effort until the mission is selected under the AO process. Consequently, delivery orders issued as a result of this type of RFO may be contingent upon funds becoming available through the mission's selection under the AO. The contractor shall not be obligated to begin performance on any contingent delivery order until the contracting officer notifies it in writing that funds are available. Additionally, no legal liability on the part of the Government for any payment may arise until both of the following occur: 1) an AO selection is signed and issued by the AO selection official identifying the contractor which was issued the contingent order under this contract, and 2) The Contracting Officer issues written notice to the contractor that funding is available for the order.

(b) The Government may provide any data submitted with a restricted legend to a Principle Investigator in accordance with 52.227-14, Alt. II, (g)2 (See Section I.A.23, LIST OF CLAUSES BY REFERENCE). The granting of these limited rights by the Contractor is independent from any other rights in data set forth in this contract.

(c) Protection of Data. Any RFO issued to provide a core-system must describe the proposed mission requirements. Because such an RFO may be issued prior to selection under the AO, the description of need contained in such an RFO is deemed procurement sensitive. All contractors competing for orders covered by this clause, therefore, agree to treat the requirements detailed in such an RFO, as well as their individual responses thereto, as bid and proposal information or source selection information in accordance with FAR Subpart 3.104. Additionally, all contractors agree to further protect such information from release within the contractor's company as well as outside of the contractor's company in accordance with Section I.A.17, HANDLING OF DATA.

(End of Text)

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I.A.9 MINIMUM/MAXIMUM ORDERS

The Government guarantees to issue one or more orders for an amount not less than \$50,000 under this contract. There will be no further obligation on the part of the Government to issue additional orders thereafter. The maximum quantity ordered under this contract shall not exceed \$1.5B cumulatively. All orders placed under this contract will be applied to the guaranteed minimum and maximum.

(End of Text)

**I.A.10 TERMS FOR FINANCING OF PURCHASES OF COMMERCIAL ITEMS
(52.232-29) (OCT 1995)**

(a) Contractor entitlement to financing payments. The Contractor may request, and the Government shall pay, a contract financing payment as specified elsewhere in this contract when: the payment requested is properly due in accordance with this contract; the supplies deliverable or services due under the contract will be delivered or performed in accordance with the contract; and there has been no impairment or diminution of the Government's security under this contract.

(b) Special terms regarding termination for cause. If this contract is terminated for cause, the Contractor shall, on demand, repay to the Government the amount of unliquidated contract financing payments. The Government shall be liable for no payment except as provided by the Termination for Cause paragraph of the clause at 52.212-4, Contract Terms and Conditions-- Commercial Items.

(c) Security for Government financing. In the event the Contractor fails to provide adequate security, as required in this contract, no financing payment shall be made under this contract. Upon receipt of adequate security, financing payments shall be made, including all previous payments to which the Contractor is entitled, in accordance with the terms of the provisions for contract financing. If at any time the Contracting Officer determines that the security provided by the Contractor is insufficient, the Contractor shall promptly provide such additional security as the Contracting Officer determines necessary. In the event the Contractor fails to provide such additional security, the Contracting Officer may collect or liquidate such security that has been provided and suspend further payments to the Contractor; and the Contractor shall repay to the Government the amount of unliquidated financing payments as the Contracting Officer at his sole discretion deems repayable.

(d) Reservation of rights. (1) No payment or other action by the Government under this clause shall--

(i) Excuse the Contractor from performance of obligations under this contract; or

(ii) Constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause-- (i) Shall not be exclusive, but rather shall be in addition to any other rights and remedies provided by law or this contract; and (ii) Shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

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(e) Content of Contractor's request for financing payment. The Contractor's request for financing payment shall contain the following:

- (1) The name and address of the Contractor;
- (2) The date of the request for financing payment;
- (3) The contract number and/or other identifier of the contract or order under which the request is made; and
- (4) An appropriately itemized and totaled statement of the financing payments requested and such other information as is necessary for computation of the payment, prepared in accordance with the direction of the Contracting Officer.

(f) Limitation on frequency of financing payments. Contractor financing payments shall be provided no more frequently than monthly.

(g) In the event of any conflict between the terms proposed by the offeror in response to an invitation to propose financing terms (52.232-31) and the terms in this clause, the terms of this clause shall govern.

(End of clause)

I.A.11 FINANCE PAYMENT EVENTS AND COMPLETION CRITERIA

In accordance with Clause 52.232-29 Terms for Financing of Purchases of Commercial Items, and upon successful completion of an event, the contractor may request interim payments. The payments shall be based on the events as listed below. The percents are based on the total value of the order. **(Note: Offerors shall propose not less than 10% per event for events 1, 3 and 4 below, and not less than 5% for event 2 below. The total percentage of payments proposed for all events, both interim and major, shall not exceed 90%. See Enclosure 1 to Section III for instructions for proposing interim milestone events and associated completion criteria.)**

Payment Event No.	Payment Event	Percent	Month
1	Mission Design Review (MDR)		ARO +
2	Instrument Integration Readiness Review		ARO +
3	Pre-Environmental Review		ARO +
4	Pre-Ship & Operations Readiness Review		ARO +

ARO = After Receipt of Order

The above events shall apply to each delivery order for a mission issued under this contract.

The Contracting Officer shall unilaterally determine the contractor's completion of each event. The Contracting Officer's determination of event completion will include, but is not limited to, the completion criteria listed below for the above major events and the applicable completion criteria listed in Section I.A.31, Attachment B. Generally, payment events shall be paid in succession. All preceding payment events shall be successfully completed before payment will be made for the next payment event, unless the prior written consent of the Contracting Officer is obtained.

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Major Event Completion Criteria

Mission Design Review (MDR)

1. All Contract Data Requirements List (CDRL) data item deliverables for which delivery is required prior to this milestone have been delivered and the requirements of the Data Item Descriptions (DIDs) have been met, and the Contracting Officer has approved those data items requiring Government approval.
2. The Contractor has met all requirements of the Mission Design Review in accordance with the Statement of Work (S.O.W.), and demonstrated to the satisfaction of the Government, a complete and thorough understanding of the mission specific requirements necessary to progress into the next phase of the effort. In addition, any critical action items* generated as a result of this review have been completed by the contractor to the satisfaction of the government.
3. There are no proposals due from the contractor which have exceeded the time periods in Clause I.A.28, paragraphs a, b, and c.
4. All previous milestones have been met and payment has been approved by the Contracting Officer.

Instrument Integration Readiness Review (IIRR)

1. All Contract Data Requirements List (CDRL) data item deliverables for which delivery is required prior to this milestone have been delivered and the requirements of the Data Item Descriptions (DIDs) have been met, and the Contracting Officer has approved those data items requiring Government approval.
2. The Contractor has met all requirements of the Instrument Integration Readiness Review in accordance with the S.O.W., and demonstrated to the satisfaction of the Government, a complete and thorough understanding of the mission specific requirements necessary to progress into the next phase of the effort. In addition, any critical action items* generated as a result of this review have been completed by the contractor to the satisfaction of the government.
3. The core system spacecraft bus is completely assembled, tested, and ready for instrument integration, and the Contractor is ready to receive the instrument, and all necessary procedures are in place.
4. There are no proposals due from the contractor which have exceeded the time periods in Clause I.A.28, paragraphs a, b, and c.
5. All previous milestones have been met and payment has been approved by the Contracting Officer.

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Pre-Environmental Review (PER)

1. All Contract Data Requirements List (CDRL) data item deliverables for which delivery is required prior to this milestone have been delivered and the requirements of the Data Item Descriptions (DIDs) have been met, and the Contracting Officer has approved those data items requiring Government approval.
2. The Contractor has met all requirements of the Pre-Environmental Review in accordance with the S.O.W., and demonstrated to the satisfaction of the Government, a complete and thorough understanding of the mission specific requirements necessary to progress into the next phase of the effort. In addition, any critical action items* generated as a result of this review have been completed by the contractor to the satisfaction of the government.
3. There are no proposals due from the contractor which have exceeded the time periods in Clause I.A.28, paragraphs a, b, and c.
4. All previous milestones have been met and payment has been approved by the Contracting Officer.

Pre-Ship & Operations Readiness Review (PS&O RR)

1. All Contract Data Requirements List (CDRL) data item deliverables for which delivery is required prior to this milestone have been delivered and the requirements of the Data Item Descriptions (DIDs) have been met, and the Contracting Officer has approved those data items requiring Government approval.
2. The Contractor has met all requirements of the Pre-Ship and Operations Readiness Review in accordance with the S.O.W., and demonstrated to the satisfaction of the Government, a complete and thorough understanding of the mission specific requirements necessary to progress into the next phase of the effort. In addition, any critical action items* generated as a result of this review have been completed by the contractor to the satisfaction of the government.
3. There are no proposals due from the contractor which have exceeded the time periods in Clause I.A.28, paragraphs a, b, and c.
4. All previous milestones have been met and payment has been approved by the Contracting Officer.

*A "Critical Action Item" is defined as an action item of a technical nature that, unless resolved prior to review closeout, appreciably increases the risk of mission failure.

(End of Clause)

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I.A.12 ACCEPTANCE AND FINAL PAYMENT FOR SPACECRAFT

This clause applies to delivery orders requiring delivery of an integrated spacecraft. Should a mission specific spacecraft require alternate acceptance terms, such terms shall be included in the mission specific RFO and resulting delivery order.

The Contracting Officer or authorized representative will verify the completion of on-orbit check-out. At the successful completion of all on-orbit check-out activities and upon the Contractor meeting all requirements for acceptance, the Government will make final acceptance for each spacecraft on-orbit at the location specified in the delivery order.

Upon delivery of the spacecraft to the point of delivery listed in the delivery order, the Contractor shall submit a DD Form 250 to the Contracting Officer. The Government will either accept or reject the spacecraft, as specified below, following completion of on-orbit check out and verification that the spacecraft meets all or fails to meet any of the performance and technical requirements of this contract and the delivery order. Acceptance of each spacecraft shall be accomplished by the Contracting Officer's signature on the DD Form 250. Following final acceptance by the Government, the Contractor may submit a final invoice for the unliquidated price of the spacecraft. The unliquidated price of the spacecraft shall be the delivery order price less any payments made to the Contractor in accordance with I.A.11 FINANCE PAYMENT EVENTS AND COMPLETION CRITERIA. The Contractor shall not be held liable for the degradation of the spacecraft nor for the risk of loss of the spacecraft due to failure of the Government provided launch vehicle, Government provided instrument(s), or Government provided ground operations.

Acceptance Criteria -- The acceptance of each spacecraft shall occur after the contractor demonstrates that each spacecraft meets all of the following:

1. The spacecraft, its subsystems, components, piece parts and materials meet all of their specifications, both individually and collectively as defined by the delivery order, and this compliance has been confirmed by Government approval of the Pre-Ship & Operations Readiness Review.
2. Successful delivery of the spacecraft to the orbit as specified in the delivery order.
3. The spacecraft:
 - a. Has completed 30-day (or a different period as defined in the delivery order) on-orbit check-out testing as defined in the delivery order .
 - b. Has suffered no ill effects, which would preclude the ability to satisfy mission objectives and the requirements as specified in this contract and the delivery order, either evident at the time of acceptance or expected over the spacecraft lifetime due to exposure to the environment.
4. All other requirements of the delivery order have been satisfied.

(End of Text)

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I.A.13 TITLE TO SPACECRAFT

(a) Title to the spacecraft furnished under this contract shall pass to the Government upon final acceptance, in accordance with Section I.A.12, regardless of when or where the Government takes physical possession, unless the contract or delivery order specifically provides for earlier passage of title.

(b) Unless the contract specifically provides otherwise, risk of loss of or damage to spacecraft shall remain with the Contractor until, and shall pass to the Government upon, final acceptance by the Government.

(c) Under paragraph (b) above, the Contractor shall not be liable for loss of or damage to the spacecraft caused solely by the gross negligence or willful misconduct of officers, agents, or employees of the Government acting within the scope of their employment.

(End of Text)

I.A.14 GOVERNMENT CONTRACT QUALITY ASSURANCE FUNCTIONS

The Government reserves the right to audit the Contractor's quality assurance procedures and practices should a spacecraft experience a failure during testing or on-orbit, or, if in the Government's opinion, a Quality Assurance Audit is otherwise warranted.

The Government audit of quality and performance assurance functions will be in accordance with the Statement of Work and the Contractor's internal quality and performance assurance procedures.

(End of Clause)

I.A.15 EFFECTIVE PERIOD

The effective ordering period of this contract is for five years after the initial Rapid II contract award on **TBD**.

(End of Clause)

I.A.16 LIMITATION OF FUNDS (FIXED PRICE CONTRACTS)(18-52.232-77)
(MARCH 1989)

Note: The Government contemplates incrementally funding delivery orders, therefore delivery orders may include this clause as applicable.

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(a) Of the total price of items through _____, the sum of \$ _____ is presently available for payment and allotted to this contract. It is anticipated that from time to time additional funds will be allocated to the contract in accordance with the following schedule, until the total price of said items is allotted:

SCHEDULE FOR ALLOTMENT OF FUNDS

Date	Amounts
------	---------

(b) The Contractor agrees to perform or have performed work on the items specified in paragraph (a) of this clause up to the point at which, if this contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause would, in the exercise of reasonable judgment by the Contractor, approximate the total amount at the time allotted to the contract. The Contractor is not obligated to continue performance of the work beyond that point. The Government is not obligated in any event to pay or reimburse the Contractor more than the amount from time to time allotted to the contract, anything to the contrary in the Termination for Convenience of the Government clause notwithstanding.

(c)(1) It is contemplated that funds presently allotted to this contract will cover the work to be performed until **TBD**.

(2) If funds allotted are considered by the Contractor to be inadequate to cover the work to be performed until that date, or an agreed date substituted for it, the Contractor shall notify the Contracting Officer in writing when within the next 60 days the work will reach a point at which, if the contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause will approximate 75 percent of the total amount then allotted to the contract.

(3) (i) The notice shall state the estimate when the point referred to in paragraph (c)(2) of this clause will be reached and the estimated amount of additional funds required to continue performance to the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it.

(ii) The Contractor shall, 60 days in advance of the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it, advise the Contracting Officer in writing as to the estimated amount of additional funds required for the timely performance of the contract for a further period as may be specified in the contract or otherwise agreed to by the parties.

(4) If, after the notification referred to in paragraph (c)(3)(ii) of this clause, additional funds are not allotted by the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it, the Contracting Officer shall, upon the Contractor's written request, terminate this contract on that date or on the date set forth in the request, whichever is later, pursuant to the Termination for Convenience of the Government clause.

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(d) When additional funds are allotted from time to time for continued performance of the work under this contract, the parties shall agree on the applicable period of contract performance to be covered by these funds. The provisions of paragraphs (b) and (c) of this clause shall apply to these additional allotted funds and the substituted date pertaining to them, and the contract shall be modified accordingly.

(e) If, solely by reason of the Government's failure to allot additional funds in amounts sufficient for the timely performance of this contract, the Contractor incurs additional costs or is delayed in the performance of the work under this contract, and if additional funds are allotted, an equitable adjustment shall be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the items to be delivered, or in the time of delivery, or both.

(f) The Government may at any time before termination, and, with the consent of the Contractor, after notice of termination, allot additional funds for this contract.

(g) The provisions of this clause with respect to termination shall in no way be deemed to limit the rights of the Government under the default clause of this contract. The provisions of this Limitation of Funds clause are limited to the work on and allotment of funds for the items set forth in paragraph (a) of this clause. This clause shall become inoperative upon the allotment of funds for the total price of said work except for rights and obligations then existing under this clause.

(h) Nothing in this clause shall affect the right of the Government to terminate this contract pursuant to the Termination for Convenience of the Government clause of this contract.

(End of clause)

I.A.17 HANDLING OF DATA (GSFC 52.203-90) (JAN 1995)

(a) In the performance of this contract, it is anticipated that the Contractor may have access to, be furnished, or use the following categories of data (which may be technical data, computer software, administrative, management information, or financial, including cost or pricing):

(1) Data of third parties which the Government has agreed to handle under protective arrangements; and

(2) Government data, the use and dissemination of which, the Government intends to control.

(b) In order to protect the interests of the Government and the owners, licensors and licensees of such data, the Contractor agrees, with respect to any such third party or Government data that is either marked with a restrictive legend, specifically identified in this contract, or otherwise identified in writing by the Contracting Officer as being subject to this clause, to:

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(1) Use, disclose, and reproduce such data only to the extent necessary to perform the work required under this contract;

(2) Allow access to such data only to those of its employees that require access for their performance under this contract;

(3) Preclude access and disclosure of such data outside the Contractor's organization; and

(4) Return or dispose of such data, as the Contracting Officer may direct, when the data is no longer needed for contract performance.

(c) The Contractor agrees to inform and instruct its employees of its and their obligations under this clause and to appropriately bind its employees contractually to comply with the access, use, disclosure, and reproduction provisions of this clause.

(d) In the event that data includes a legend that the Contractor deems to be ambiguous or unauthorized, the Contractor may inform the Contracting Officer of such condition. Notwithstanding such a legend, as long as such legend provides an indication that a restriction on use or disclosure was intended, the Contractor shall treat such data pursuant to the requirements of this clause unless otherwise directed, in writing, by the Contracting Officer.

(e) Notwithstanding the above, the Contractor shall not be restricted in use, disclosure, and reproduction of any data that:

(1) Is, or becomes, generally available or public knowledge without breach of this clause by the Contractor;

(2) Is known to, in the possession of, or is developed by the Contractor independently of any disclosure of, or without reference to, proprietary, restricted, confidential, or otherwise protectible data under this clause;

(3) Is rightfully received by the Contractor from a third party without restriction;

(4) Or is required to be produced by the Contractor pursuant to a court order or other Government action.

If the Contractor believes that any of these events or conditions that remove restrictions on the use, disclosure, and reproduction of the data apply, the Contractor shall promptly notify the Contracting Officer of such belief prior to acting on such belief, and, in any event, shall give notice to the Contracting Officer prior to any unrestricted use, disclosure, or reproduction of such data.

(End of clause)

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I.A.18 CONTRACTOR AND USER ASSISTANCE

Offerors are advised that specified employees and/or team members of Government and non-Government users (for example, Government employees, contractor employees, Government and non-Government Principle Investigators) and Government support contractors may assist the Government during the evaluation of offers submitted in response to a Request for Offer (RFO), and during performance of a delivery order. If such support is required, the RFO and the resulting delivery order will identify the respective individual(s) and their employer, and any support contractor(s). The individual(s) and support contractor(s) may be authorized access to all data necessary to enable them to provide specific advice on specialized matters or on particular issues.

In order to provide the required assistance, the specified individual(s) and support contractor(s) will need periodic access to data, and will be required to attend regular progress reviews at which data may be disclosed which the Contractor may consider proprietary or privileged. Accordingly, the Contractor agrees to cooperate with such individual(s) by engaging in technical matters of the program.

Any involvement of support by such individual(s) and support contractor(s) will subject them to the same requirements of the "Handling of Data" clause contained at I.A.17 of this contract.

The Contractor may negotiate its own non-disclosure agreement with such individual(s) and/or their employer(s), as well as with support contractor(s). However, the lack of an agreement between the Contractor and supporting individuals or support contractors shall not affect the ability of the Government to disclose data to those individuals or support contractors under this clause.

(End of Text)

I.A.19 LIST OF GOVERNMENT FURNISHED PROPERTY (18-52.245-76) (OCTOBER 1988)

For performance of work under this contract, the Government will make available Government property identified below on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at the contractor's facility and at other location(s) as may be approved by the Contracting Officer. Under the FAR 52.245 Government property clause of this contract, the Contractor is accountable for the identified property.

Item	Quantity	Acquisition Cost	Date to be Furnished to the Contractor
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The Government will furnish spaceflight instruments and associated equipment for the contractor to integrate into the spacecraft, unless otherwise specified in a delivery order. The Government provided spaceflight instrument will be specified in the delivery order.

(End of clause)

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I.A.20 PAYBACK/REPLACEMENT SPACECRAFT PROVISIONS

A payback of the total price or a replacement spacecraft for a mission shall be required if the spacecraft acceptance criteria are not met as determined by the Contracting Officer. Where the Government requires payback for the mission, this amount shall be equivalent to the respective spacecraft price in the delivery order, excluding any finance payments in Section I.A.11, not made to date. The Government's election and terms and conditions for payback or replacement will be set forth in the RFO and resulting delivery order.

In the event of an on-orbit spacecraft failure, the contractor shall not be liable for the payback or replacement of the government provided instrument and government provided launch service.

(End of Text)

I.A 21 LICENSES AND PERMITS FOR A LAUNCH SERVICES OPERATOR

[Note: This clause will only apply to delivery orders requiring contractor to provide launch service.]

The Contractor assumes all responsibility for obtaining the necessary licenses, permits and clearances that may be required by the Department of Transportation, Department of Commerce, Department of Defense, or other Governmental Federal, State and Local agencies in order to operate as a launch service Contractor under a Mission Specific Delivery Order. All costs and fees associated with obtaining licenses, permits and clearances are to be paid by the Contractor and have been included in the fixed priced option of this Mission Specific Delivery Order. The Government, at its own discretion, may provide assistance to the contractor in obtaining the necessary licenses and permits.

(End of clause)

I.A.22 GOVERNMENT INSIGHT AND APPROVAL OF LAUNCH SERVICES

[Note: This clause will only apply to delivery orders requiring contractor to provide launch service.]

NASA must be provided an adequate level of insight into and/or must approve certain Contractor tasks and milestones related to the acquisition of launch services.

The Government's monitoring of launch services has two elements, approval and insight. Government approval is defined as providing authority to proceed and/or formal acceptance of requirements or success criteria in specified areas. Where Government approval is required, the

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Contractor shall submit the necessary documentation to the Contracting Officer and copies to the Contracting Officer's Technical Representative.

Government insight is defined as gaining understanding necessary to knowledgeably concur with the Contractor's action through watchful observation, inspection, or review of program events, documents, meetings, tests, audits, hardware, etc., without approval/disapproval authority. Where Government insight is required, the Contractor shall notify the Contracting Officer, the Government Resident Office or the appropriate Government operations organization at the launch site of meetings, reviews or tests, related to launch services, in sufficient time to permit meaningful Government participation.

Should approval or insight identify noncompliance with the terms and conditions of the contract, a difference in interpretation of test results, requirements or contract terms, or disagreement with the Contractor technical directions, the Government will take appropriate action within the terms of the contract to ensure compliance or give direction to the Contractor.

The Government requires insight or approval into all areas associated with mission launch services including all processes, software, hardware, integration and test, launch operations, and manufacturing.

The Contractor shall ensure that Government insight is provided for in all subcontracts with Launch Services suppliers and contractors. Such subcontract provisions shall ensure that the Government shall have access to all facilities, data, hardware, software and personnel necessary to exercise insight as defined above.

(End of clause)

IA.23 LIST OF CLAUSES INCORPORATED BY REFERENCE

The following clauses are incorporated by reference in accordance with Federal Acquisition Regulation (FAR) 52.252-2 CLAUSES INCORPORATED BY REFERENCE (JUN 1988):

(52.227-1)	AUTHORIZATION AND CONSENT (JUL 1995)
(52.227-3)	PATENT INDEMNITY (APR 1984)
(52.227-14)	RIGHTS IN DATA--GENERAL (52.227-14) (JUN 1987) as modified by NASA FAR Supplement 18-52.227-14--ALTERNATE II (JUN 1987)
(52.243-1)	CHANGES-FIXED PRICE (AUG 1987)
(52.243-6)	CHANGE ORDER ACCOUNTING (APR 1984)
(52.243-7)	NOTIFICATION OF CHANGES (APR 1984)
(52.245-2)	GOVERNMENT PROPERTY (FIXED PRICE CONTRACTS)(DEC 1989)
(52.247-34)	F.O.B. DESTINATION (NOV 1991)
(52.253-1)	COMPUTER GENERATED FORMS (Jan 1991)
(1852.215-84)	OMBUDSMAN (OCT 1996) The installation Ombudsman is Mr. William Townsend at 301-286-5066.

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- (1852.219-75) SMALL BUSINESS SUBCONTRACTING REPORTING
(MAY 1999)
- (1852.219-76) NASA 8 PERCENT GOAL (JUL 1997)
- (1852.228-72) CROSS-WAIVER OF LIABILITY FOR SPACE SHUTTLE
SERVICES (SEP 1993)
- (1852.228-78) CROSS WAIVER OF LIABILITY FOR NASA EXPENDABLE
LAUNCH VEHICLE (ELV) LAUNCHES (SEP 1993)
- (1852.245-70) CONTRACTOR REQUESTS FOR GOVERNMENT-OWNED
EQUIPMENT (JUL 1997)
- (1852.245-73) FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY
OF CONTRACTORS (SEP 1996)
- (1852.246-72) MATERIAL INSPECTION AND RECEIVING REPORT
(JUN 1995)

(End of Clause)

I.A.24 CLAUSES INCORPORATED BY REFERENCE (52.252-2) (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):

Federal Acquisition Regulation (FAR) clauses:

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

NASA FAR Supplement (NFS) clauses:

<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

(End of clause)

I.A.25 CORE SYSTEM AND CORE SYSTEM OPTIONS UPDATES

The contractor may offer technology upgrades to its proposed core system and core system options listed in Section I.A.1 by submission of updates. Examples of technology upgrades include, but are not limited to, replacement of obsolete parts and advances in technology or production practices. Such updates may not be submitted more than once a year per core spacecraft and option.

The Government will consider offeror updates no sooner than one year after contract award and once a year from such update thereafter. Updates shall be submitted in a format consistent with the System Performance Specification (Section I.A.31, Attachment B1(a)) and the Integration and Operation Plan (Section I.A.31, Attachment B1(b)).

The Government will evaluate each update in terms of the degree to which it is applicable to NASA's earth science, space science, and technology programs and the reasonableness of the

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proposed price. If the updates are accepted by the Government, the contract will be modified to include such updates.

The Government will not accept proposals for additional satellite offerings and options as a contract update. Contractors may submit proposals for additional satellite offerings and options in accordance with I.A.26 Additional Satellite Offerings and Contract Awards.

(End of Clause)

I.A.26 ADDITIONAL SATELLITE OFFERINGS AND CONTRACT AWARDS

Semi-Annually, over the life of the contract, the Contracting Officer will accept and evaluate proposals with the intention of adding additional contracts and/or modifying existing contracts to add additional core busses and options. Unsolicited proposals will be accepted by the RSDO Contracting Officer during the months of February and August. In addition, the Contracting Officer may periodically solicit proposals.

Proposals shall be subject to the same proposal instructions and evaluation procedures as the Rapid II Request for Offers dated August 19, 1999. Proposal instructions and evaluation procedures may be obtained from the RSDO website (<http://rsdo.gsfc.nasa.gov>).

(End of Text)

I.A.27 SMALL BUSINESS SUBCONTRACTING PLAN AND REPORTS (GSFC 52.219-90) (JUL 1999)

a. Subcontracting Plan (Contractor)

FAR clause 52.219-9, "Small Business Subcontracting Plan" is included in this contract. The agreed to Subcontracting Plan required by the clause is included as an attachment to the contract.

b. Subcontracting Plan (Subcontractors)

In accordance with FAR clause 52.219-9, the Contractor must require that certain subcontractors adopt a plan similar to the Plan agreed to between the Contractor and the Government.

c. Reporting to Contracting Officer (SF 294--Semi-annual and Final)

The Contractor shall prepare and submit Standard Form 294 (Rev. 12-98), "Subcontracting Report for Individual Contracts" in accordance with the instructions on the back of the form.

The SF 294 must be submitted to the Contracting Officer on a semi-annual basis. This report must be received no later than April 30 and October 30 each year for the reporting periods

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ending March 31 and September 30, respectively. A final SF 294 must be submitted after contract completion. The final SF 294 submittal must be received no later than the due date for what would have been the next semi-annual report.

d. Reporting to NASA Headquarters (SF 295--Semi-annual)

The Contractor shall prepare and submit Standard Form 295 (Rev. 12-98), "Summary Subcontract Report" in accordance with the instructions on the back of the form and in accordance with NASA FAR Supplement clause 1852.219-75, "Small Business Subcontracting Reporting" of this contract.

The SF 295 must be submitted to "NASA, Office of Procurement, Code HC, Washington, D.C. 20546-0001" on an semi-annual basis no later than April 30 and October 30 each year for the reporting periods ending March 31 and September 30, respectively.

e. Subcontractor Reporting

FAR clause 52.219-9 and NASA FAR Supplement clause 1852.219-75 require that the Contractor ensure that SF 294 and SF 295 reports are submitted by those subcontractors that have been required to adopt a Subcontracting Plan under the terms of the clause. These subcontractor reports must be submitted as required by paragraphs (c) and (d) above. The reports may be submitted through the Contractor or submitted directly. Regardless, the Contractor is responsible for ensuring proper and timely submittal of the required reports.

(End of clause)

I.A.28 PROPOSALS IN RESPONSE TO CONTRACT CHANGES

The Contracting Officer may make changes to this contract or issued orders, as described in the "Changes" clause. The Contractor agrees that, when directed by the Contracting Officer, the Contractor shall provide, within the stated number of calendar days of receipt of the contract change:

- a. Within ten (10) calendar days, a Budgetary Cost Estimate (BCE) by effort, and a summary narrative description of how the change will be accomplished;
- b. Within fourteen (14) calendar days, a "Maximum Price" or "Not to Exceed (NTE) Price" estimate by effort, and a summary narrative description of how the change will be accomplished;
- c. Within thirty (30) calendar days, a change proposal which shall include a detailed narrative justification and description of the effort by effort as directed with a firm fixed price broken down by effort, and any other information that the Contracting Officer requests.

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d. Within sixty (60) calendar days, the delivery order will be modified to include the changed effort and associated impacts, which may include revisions to any or all of the following: the requirements, the price, performance-based payments and associated completion criteria, and the schedule for delivery under the contract or order.

(End of Text)

I.A.29 LAUNCH DELAY

NASA will make the final go or no-go decision for each launch. Launch delays after contractor delivery of the observatory to the Launch Site and at the convenience of the Government are covered by this clause.

For a maximum cumulative period of 30 days per spacecraft, and regardless of fault, each party shall be responsible for and bear any and all of its respective increases in costs associated with launch delays in this provision.

In the event of a Government directed delay of the launch date beyond the above specified number of days, the Contracting Officer shall inform the Contractor, in writing, of the revised launch date, and allow the Contractor to submit a proposal for the effect of such delay on the price, delivery schedule, or other terms of the order. However, any failure to make progress by the Contractor or other fault of the Contractor, shall not be excused by such Government direction, and any contractor fault or failure to make progress shall be considered in determining an appropriate contract adjustment, if any. This may result in any of the following: an equitable adjustment to the price of the order, finance payment and completion criteria (if any), change in the delivery schedule, or change in the period of performance. Upon failure to agree to an adjustment, the Contracting Officer may unilaterally adjust the order, or decline to adjust the order, which action may be the subject of a contractor claim under the Disputes clause. However, nothing in this clause shall excuse the Contractor from proceeding with the order as directed.

(End of Text)

I.A.30 EXPORTS TO FOREIGN COUNTRIES AND FOREIGN NATIONALS

a) The Contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120-130, and the Export Administration Regulations (EAR), 15 CFR Parts 730-774, in the performance of this contract. The Contractor shall be responsible for obtaining the appropriate licenses, where required, in the export of hardware, technical data, technical assistance and software.

b) The Contractor shall be responsible for obtaining the required export licenses before utilizing foreign nationals in the performance of this contract, including instances where the work is to be

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performed on-site at Goddard Space Flight Center, where the foreign nationals may have access to export-controlled hardware, technical data or software.

(End of Clause)

I.A.31 LIST OF ATTACHMENTS (GSFC 52.211-101) (OCT 1988)

The following attachments constitute part of this contract:

Attachment	Description	Date	# of Pages
A	Statement of Work	8/99	19
B	1. Core System (a) System Performance Specification (a) Integration and Operation Plans (b) Interim Finance Payment Events and Completion Criteria	TBP*	TBP*
	2. As Necessary based on number of core systems proposed	TBP*	TBP*
C	1. Option Description For Core System 1	TBP*	TBP*
	2. As Necessary based on number of core systems options proposed	TBP*	TBP*
D	Contract Data Requirements List	8/99	
E	Small Business Subcontracting Plan	TBP*	TBP*

*TBP = To be Proposed (The offeror must provide as part of their proposal in response to this solicitation)

(End of Clause)

II. CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (52.212-5) (MAY 1999)

(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); and
- (2) 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 Total 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 is 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) 52.225-3, Buy American Act--Supplies (41 U.S.C. 10).

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- (17) 52.225-9, Buy American Act--Trade Agreements Act--Balance of Payments Program (41 U.S.C. 10, 19 U.S.C. 2501-2582).
- (18) [Reserved]
- (19) 52.225-18, European Union Sanction for End Products (E.O. 12849).
- (20) 52.225-19, European Union Sanction for Services (E.O. 12849).
- (21)(i) 52.225-21, Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program (41 U.S.C 10, Pub. L. 103-187).
- (ii) Alternate I of 52.225-21.
- (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.).

(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

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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 Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212); and
- (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).

(End of clause)

RAPID II

ATTACHMENT A

STATEMENT OF WORK

20 August 1999

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1. Introduction

This statement of work (SOW) defines the contractor's efforts required to provide a spacecraft bus and associated services that meet the needs of the National Aeronautics and Space Administration's (NASA) flight science and technology missions. Other United States Government Departments and Agencies may also utilize this contract. Particular mission requirements and tailoring of this SOW shall be as defined in the delivery order issued for each specific mission.

2. Scope

The scope of the work encompasses all necessary effort from receipt of an Indefinite Delivery Indefinite Quantity (IDIQ) contract through the delivery and on-orbit check out of specific missions. A mission-specific delivery order will be issued by the Government in accordance with the ordering procedures contained in the contract schedule. Delivery orders for non-standard services may be issued by the Government.

3. Applicable and Reference Documentation

Reserved for mission specific use.

4. Work to be Performed by the Contractor

4.1 System Implementation

For this contract, the effort to produce a specified core spacecraft, the selected options, and the mission-unique modifications required in the delivery order in accordance with the Integration and Operations Plans, results in a product called the "Core Spacecraft" or spacecraft bus. The effort to integrate a payload (or instrument), and qualify the combined payload and core spacecraft in accordance with the delivery order, results in a system called an "Observatory".

An order for a specific core spacecraft placed via delivery order may be a combination of a core spacecraft and options as contained in the contract schedule, as well as mission-specific modifications to the applicable core spacecraft and options. The complete set of technical requirements as contained in the delivery order shall be applicable to the core spacecraft, the options and the mission-specific modifications.

4.1.1 Core Spacecraft(s)

The contractor shall develop, implement, integrate, and test flight hardware ready for payload integration, called the "core spacecraft", integrate the payload with the core spacecraft, qualify the resulting observatory, and provide launch support and operations support, as well as satisfy all requirements of section 4.3 of the SOW. The core spacecraft shall conform with the applicable System Performance Specification, Integration and Operation Plans, and Project Control Plans provided by the contractor with the proposal.

4.1.2 Core Spacecraft Option(s)

The contractor shall develop, implement, test, and qualify performance option(s) to the core spacecraft such that the combined options and core spacecraft are ready for payload integration, and satisfy all of the requirements of section 4.3 of this SOW. The option(s) to the core spacecraft shall conform with the applicable System Performance Specifications, Integration and Operation Plans, and Project Control Plans provided by the contractor for the option with the proposal.

4.1.3 Mission-Specific Modifications

In order to meet the unique requirements of a specific mission, a contractor may modify their core spacecraft and options. These modifications are to be implemented as necessary for the adaptation of the core spacecraft, options and implementation effort under the contract to meet the mission specific delivery order requirements. The extent of the modifications may include, but are not limited to, the addition of performance parameters; changes to any performance parameter; changes to Integration and Operation Plans and Project Control Plans; the addition of new specifications, requirements, analyses, tests, reports, hardware, software or support; adaptation of baseline hardware or software configurations; changes to baseline schedules, reviews, funding profiles, and milestones; and the modification of contract deliverable item lists, contents or formats. It is expected that in some cases the extent of modifications required to meet the specific mission requirements may be extensive.

4.2 Non-Standard Services

The contractor shall provide all personnel, facilities, materials, and other necessary resources for the performance of non-standard services as ordered under this contract.

4.2.1 Non-Mission-Specific Non-Standard Services

The Government may, from time to time within the period of performance of this contract, issue non-standard service delivery orders. Delivery orders issued under this section shall not be specific to any delivery order previously issued, but may address issues associated with possible future missions.

These delivery orders may be issued for the following types of efforts:

- a. Analyses related to a core spacecraft or to a potential core spacecraft, which includes, but is not limited to, performance capability analyses, modeling parameters, modification analyses, launch vehicle compatibility analyses, instrument interface analyses, integration analyses, launch support and on-orbit check out analyses.
- b. Tasks, including but not limited to, core spacecraft design envelope enhancement, core spacecraft modifications, verification testing, core spacecraft technology update feasibility, process definitions, reviews, and updates.

4.2.2 Non Mission Specific Hardware

The Government may order Flight Hardware at a level below an integrated spacecraft, which meets the specifications in accordance with the Non-Mission Specific delivery order. The flight hardware shall be accompanied with analysis, certifications, and data that are specified in the Non-Mission Specific delivery order. Acceptance criteria will be specified in the Non-Mission Specific delivery order.

4.2.3 Mission Specific Non-Standard Services

The purpose of non-standard services ordered under this section of the statement of work shall be directly related to a specific mission under delivery order. Requirements for the service will be described in the mission specific RFO and resulting delivery order.

Non-standard services ordered may be for the following types of efforts:

- a) Special studies,
- b) Analysis,
- c) Delivery In Orbit (DIO) of the spacecraft (requiring contractor provided launch services),
- d) Mission Operations and/or Network Services (including but not limited to control and operation of the spacecraft via control centers, flight software maintenance, networks, and/or data processing and storage facilities).
- e) Services and Facilities in support of a permanent Resident Office of Two people.
- f) Anomaly Support following the on orbit acceptance of the core spacecraft.

4.3 Standard Services

This section describes the effort required of the contractor upon receipt of a delivery order. At a minimum the contractor shall provide all facilities, services, and personnel necessary for the successful and on-time implementation of all of the efforts necessary to meet the mission-specific delivery order requirements.

4.3.1 Program Management

The contractor shall provide a Program Management function that is responsible for the control of the specific mission effort. The contractor's Program Management function shall provide to the Government reporting and real-time insight into program status, as well as, technical and programmatic performance of all of the contractor's responsibilities and activities performed under the delivery order.

The contractor shall perform various design, study, trade-off and analysis tasks relating to the development, implementation, characterization and operation of the specific mission as necessary.

The contractor shall be responsible for the rapid submission/negotiation of all change order proposals as required by this contract. Refer to CDRL 15.

The items and services acquired under this contract are required to include accurate processing of the date and date-related data (including but not limited to calculating, comparing, and sequencing) by all hardware and software products delivered under this contract, individually and in combination, upon installation.

The contractor shall implement appropriate management systems which prevent the improper dissemination of Principal Investigator competition sensitive information.

4.3.1.1 Quality Management System

The contractor shall be ISO Compliant, which is defined as maintaining and adhering to a Quality Management System in accordance with ANSI/ASQC Q9001-1994.

The Government reserves the right to impose other quality standards as mission-specific requirements to meet the needs of a specific mission. These unique requirements shall be documented in the mission-specific delivery order.

ANSI/ASQC Q9001-1994, Paragraph 4.13.2 shall be augmented to include the following subparagraphs.

The contractor shall prepare and provide the following documentation:

1. Failure Mode and Effects Analysis and Critical Items List as described in CDRL 16.
2. The Contamination/Cleanliness Control Plan in accordance with CDRL 17.

4.3.1.1.1 Quality Assurance Management Requirements

Once the mission specific core spacecraft begins integration, demonstration of readiness for mission payload integration, a system of written Non-Conformance Reports (NCR's) will be used through launch. The NCR's will be written for any departure from design, performance, testing, or handling requirements which affect the function of the flight system, or ground support system which interfaces with the flight system, or that could compromise mission objectives.

4.3.1.1.2 Pre-Launch Reports

The contractor shall report failure reports in accordance with company standards. However, these failure reports shall include risk rating of the problem in order to identify significant problems/failures. Contractor format, generation, review, disposition and/or approval of failure reports will be described in applicable procedure(s) included or referenced in the contractor's Systems Assurance Plan.

4.3.1.1.3 Post Launch Reports

Following launch, flight hardware and software anomalies, problems and/or failures will be reported in accordance with company standards. The contractor shall demonstrate proper use of this reporting system prior to the FOR.

4.3.1.2 Documentation

The contractor shall develop, produce, deliver, and maintain all documentation required by the Contract Data Requirements List (CDRL) and necessary to implement the mission-specific delivery order. All efforts including the performance of tests and analyses not otherwise explicitly stated in other parts of this SOW, but determined jointly by the contractor and NASA to be mission critical, shall be performed and documented by the contractor. All documentation, data and analyses generated for, or applicable to, the effort, whether formal or informal, shall be made available to the Government upon request at the contractor’s facility.

The contractor shall prepare and provide the following configuration control documentation:

1. Engineering Change Proposals (ECPs), deviations, and waivers as described in CDRL 15.
2. The As Built Bus Configured Item List in accordance with CDRL 7.

4.3.1.3 Reviews

The contractor shall conduct usual and customary internal reviews and provide for timely reporting of program status to the Government with discussions on problem areas, and a timely transfer of technical information to the Government, of major program milestones. The contractor shall provide technical and management support to certify spacecraft bus or observatory readiness at the following program reviews:

Review	Length (Days)	Location
Program Status Reviews (PSR)	1	Contractors Facility (bimonthly)
Mission Design Review (MDR)	3	Contractors Facility
Integration Readiness Review (IRR)	2	Contractors Facility
Pre-Environmental Review (PER)	2	Contractors Facility
Pre-Ship & Operations Readiness Review (PS&O RR)	3	Contractors Facility

The contractor shall ensure that appropriate personnel attend each review. The contractor shall chair these reviews with co-chair support from the Government representatives. The minutes and action items that result from these reviews shall be documented by the contractor and made available to the Government. If any deficiencies are found at the reviews, the contractor will be required to develop a corrective action plan for the deficiencies prior to proceeding with the affected program development.

In addition to the above reviews, the contractor shall provide support to the below reviews and meetings:

Review	Length (Days)	Location
Flight Operations Review (FOR)	2	GSFC
Launch Readiness Review (LRR)	1	Launch Site

The baseline dates for each review shall be defined in Section I.A.#, Attachment B of the contract and may be modified by the delivery order to meet unique mission requirements.

4.3.1.3.1 Program Status Review Requirements

Program Status Reviews shall be conducted bi-monthly at the contractor’s facility. The contractor shall present the following information at the Program Status Reviews:

1. Status of work being performed including appropriate schedule metrics.
2. Milestone Monitoring - The contractor shall report on the status of progress made toward accomplishing each of his major milestones. Each report shall include a listing of major accomplishments and a discussion of any problems associated with each milestone as well as their resolution.
3. Changes to design parameters such as weight, power profile, communications, system performance, etc.
4. Resource allocations and margins (telemetry, commands, power, weight, data storage, processor capability, etc.)
5. Status of technical issues
6. Descriptions and status of technical problems and the resolutions.
7. Subcontract technical performance
8. Performance assurance status including non-conformance and failure report dispositions.

4.3.1.3.2 Mission Design Review Requirements

The contractor shall host and provide data for the Mission Design Review where mission requirements and subsystem requirements flow-down will be confirmed, based on the mini-proposal design offered. Interface documents will have been prepared and reviewed for understanding and ready for signature. Mission-specific core spacecraft modifications will be confirmed and understood sufficiently to proceed with manufacture.

The contractor shall provide, at a minimum, the following data and information.

System Level:

1. Mission Design overview showing a mature understanding of the mission objectives and the approaches that will be used to carry out the mission together with definition of roles and responsibilities.
2. Mission performance requirements allocation and subsystem flow-down

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3. Resource allocations and margins (telemetry, commands, power, weight, data storage, processor capability, etc.)
4. ICDs (instrument, ground system) ready for signature
5. Performance verification approach and rationale
6. Spacecraft bus integration and test sequence rationale
7. Observatory integration and test sequence and rationale
8. QA program applications, status, issues
9. Orbit, orbit maintenance, and flight dynamics analysis
10. Flight operations overview and status
11. Mission ground support equipment (GSE)
12. Approach for the next milestone review
13. I&T software requirements, description, status, verification
14. Flight software requirements, description, development and verification plan, status

Subsystem level (including flight software)

1. Requirements flow-down specifications to each subsystem
2. Performance verification and validation
3. Design details of mission-specific elements
4. GSE

Specific Analysis and Margins

1. Stress and dynamics
2. Loads determination
3. Communication links
4. Thermal flight predictions
5. Power balance (end-of-life and battery DOD)
6. Worst case
7. Data flow, Storage and loading
8. Pointing budgets including attitude control simulation results
9. Flight dynamics, orbit insertion, maintenance, disposal
10. Radiation, EMC, ESD, magnetics
11. Failure mode and effects update

Documentation Submissions Required

1. CDRL 1
2. CDRL 2
3. CDRL 3
4. CDRL 4
5. CDRL 6
6. CDRL 9
7. CDRL 10
8. CDRL 11
9. CDRL 16
10. CDRL 17
11. CDRL 18

4.3.1.3.3 Instrument Integration Readiness Review Requirements

The contractor shall present at the IIRR:

1. The summary of results of spacecraft bus Integration and Test in preparation for payload.
2. Resource allocations and margins (telemetry, commands, power, weight, data storage, processor capability, etc.)
3. A resolution plan for all failures, anomalies, and malfunctions encountered during system testing
4. Any remaining open integration issues and their proposed resolution
5. The readiness to perform Instrument integration (e.g. staffing, facilities, GSE, procedures, resources, etc.)
6. Plans to proceed to Pre-Environmental Review (tests, activities, facilities, resources, schedule, flow)
7. I&T software readiness and verification status
8. Flight software development and verification status

Documentation Submissions Required

1. CDRL 5

4.3.1.3.4 Pre-Environmental Review Requirements

The contractor shall present at the PER:

1. The results of Instrument Integration and the status of the Observatory
2. A resolution plan for all failures, anomalies, and malfunctions encountered during Instrument integration
3. Review of all environmental test plans and procedures
4. Present detailed thermal vacuum and thermal balance test plans showing the observatory in the chamber, the hot and cold plates and shrouds, optical or thermal targets, RF coupling, star camera and sun sensor stimulators, QCMs, cold finger, planned test profile, cleaning and outgassing plan.
5. The structural qualification/acceptance plan, showing the final modal analyses and analyses of results from the Coupled Loads Analysis (performed by launch service provider).
6. Define the predicted test limits for the components of the core spacecraft and instrument payload for:
 - Vibration
 - Thermal-Vacuum, Balance
7. Justify that the planned test environments adequately demonstrate the Observatory Performance requirements without presenting a hazard, and without degrading Observatory performance and lifetime

8. Present the plans to proceed to PS&O RR (e.g. tests, activities, facilities, staffing, resources, schedule, flow)

Documentation Submissions Required

1. CDRL 7
2. CDRL 8
3. CDRL 9
4. CDRL 14
5. CDRL 19

4.3.1.3.5 Pre-Ship and Operations Readiness Review (PS&O RR) Requirements

The contractor shall conduct a PS&O RR to verify and document that the spacecraft, operations system, and flight and ground software are performing in accordance with the Mission Unique Performance Specification and Integration and Operations Plans. The PS&O RR shall be considered complete upon satisfactory close-out of all PS&O RR action items.

The contractor shall present the following at the PS&O RR:

1. Results of all the environmental tests, end-to-end tests, and the latest observatory comprehensive performance test and comparison against requirements.
2. A resolution plan for all failures, anomalies, and malfunctions remaining open.
3. Flight software verification results.
4. Any remaining open issues under the delivery order and their proposed resolution.
5. Shipping plans and documentation status (e.g. shipping lists, manifests, containers, handling, transport, etc.).
6. Observatory documentation status (e.g. final configuration lists, trend data, test reports, mass properties, system safety plan, life-limited items, equipment logs, cleanliness certification, and any other necessary documents).
7. Receiving point plans - arrival time and place, storage, handling, points-of-contact, mechanical and electrical test plans and procedures.
8. Detailed plans of the launch support (e.g. activities, facilities, staffing, resources, schedule, flow).
9. Readiness of flight operations procedures and personnel.
10. Ground network compatibility RF test results and open issues with plan for closure.
11. Overview of mission & launch simulations plans.

Documentation Submissions Required

1. CDRL 7
2. CDRL 8
3. CDRL 11
4. CDRL 12
5. CDRL 14
6. CDRL 19

4.3.1.4 Government Insight

All contractor and subcontractor internal data, reviews, audits, meetings and other activities pertinent to the execution of a delivery order shall be open to Government attendance. The contractor shall provide the Government with reasonable and timely notification, to facilitate Government attendance. Government support contractors may also attend these reviews, audits, and meetings at the Government's discretion.

(Government insight is defined as gaining understanding necessary to knowledgeably concur with the Contractor's action through watchful observation, inspection, or review of program events, documents, meetings, tests, audits, hardware, etc., without approval/disapproval authority. Where Government insight is required, the Contractor shall notify the Contracting Officer, the Government Resident Office or the appropriate Government operations organization of meetings, reviews or tests in sufficient time to permit meaningful Government participation.)

4.3.2 Systems Engineering

The contractor shall perform the necessary systems engineering required to ensure that the core spacecraft, options, and modifications meet all of the performance, interface, and implementation requirements of the mission-specific delivery order. The systems engineering effort shall comprise the analyses of technical requirements, allocation of derived system, core spacecraft, ground terminal and lower level requirements, definition and maintenance of interfaces, and verification of all defined and derived requirements.

4.3.2.1 Requirements Analyses and Allocations

The contractor shall conduct complete analyses of the mission requirements which fully establish, define, maintain and control allocations. An appropriately updated index of analyses and allocations shall be maintained by the contractor. The results of all analyses shall be made available by the contractor for Government review at each subsequent major program review.

4.3.2.2 Interface Definition, Verification and Control

Using the results of the analyses and allocations of technical parameters performed under the efforts described in Section 4.3.2.1, the contractor shall specify all interfaces not explicitly defined by Government specifications. These interfaces shall then be defined, documented, verified and controlled for the duration of the delivery order, by the contractor.

A mission performance verification plan shall be prepared in accordance with CDRL 1. External interfaces, models, and analysis shall be documented in accordance with CDRL 2. Telemetry and command requirements shall be documented in accordance with CDRL 9.

4.3.2.2.1 Spacecraft/Payload Interface

The contractor shall define and maintain all design interface information between the spacecraft and the Government provided payload. The contractor shall participate in the preparation and maintenance of the Instrument Interface Control Documents (IICD) as defined in CDRL 3. The responsibility for writing, configuration management, and gaining approval of the ICD shall reside with the Contractor.

The contractor shall provide the analytical models and shall perform all analyses and tests required to ensure proper electrical, mechanical, thermal, and operational compatibility between the core spacecraft and the Government provided payload. The contractor shall develop, maintain and provide all technical and programmatic documentation required to ensure successful Observatory integration.

4.3.2.2.2 Observatory/Ground Interface

The contractor shall participate in the preparation and maintenance of the Ground System Interface Control Documents (ICD). The responsibility for writing, configuration management, and gaining approval of the ICD shall reside with the Government. The contractor shall submit Ground System Interface Documentation as defined in CDRL 5.

A flight ready end to end interface verification test of the observatory to the ground segment shall be performed by the contractor prior to the final flight mate to the launch vehicle. The test shall demonstrate commanding and telemetry capability between the observatory and the Mission Operations Control Center.

The contractor shall perform all analyses and tests required to ensure proper operational compatibility between the observatory and the Government provided ground segments. The contractor shall develop, maintain and provide all technical and programmatic documentation required to ensure successful operation of the Observatory, including the requirements outlined in CDRL 8 and CDRL 10.

4.3.2.2.3 Observatory/Launch Vehicle Interface

The contractor shall participate in the preparation and maintenance of the Observatory-to-launch vehicle Interface Control Documents (ICD). The contractor shall submit Launch Vehicle documentation in accordance with CDRL 4. The responsibility for writing, configuration management, and gaining approval of the ICD shall reside with the Government.

A flight ready mechanical fit check and an electrical interface verification test of the spacecraft bus (or observatory) to the launch vehicle interface shall be performed by the contractor prior to the final flight mate to the launch vehicle interfaces. The mechanical fit check and electrical interface verification test shall be performed at the contractor's location prior to shipment to the launch site. The Government (or launch service provider) shall supply a test payload attach fitting which simulates the launch vehicle side of the interface.

The contractor shall provide the analytical models and shall perform all analyses and tests required to ensure proper electrical, mechanical, thermal, and operational compatibility between the observatory and the Government provided launch vehicle and launch vehicle environments. The Government, through the launch service provider, will provide for (TBD – as appropriate for mission) cycles of Coupled Loads Analysis. The contractor shall develop, maintain and provide all technical and programmatic documentation required to ensure a successful launch activity, including documentation in accordance with CDRL 11 and CDRL 12. This includes all observatory level safety-related documentation as required by the launch site and launch range organizations. The contractor shall submit the Missile System Prelaunch Safety Package (MSPSP) in accordance with CDRL 13.

4.3.2.4 Design and Performance Verification Analyses

The contractor shall perform and document all analyses of the data and information from the design, qualification testing, acceptance testing, compatibility testing and on-orbit testing of the contractor's hardware and software which are required to ensure that the program will meet its specifications and objectives. The contractor shall submit the Debris Generation Analysis Report in accordance with CDRL 19.

4.3.3 Core Spacecraft

The contractor shall produce and verify a core spacecraft which meets all of the requirements, specifications, and interfaces in accordance with the mission-specific delivery order and the Core Spacecraft Performance Specification (CDRL 18). The design shall be verified by a combination of analyses and test on engineering models, prototype or proto-flight hardware and software.

Prior to instrument integration the spacecraft bus shall under go a comprehensive performance test to demonstrate readiness for observatory level integration.

The contractor shall provide a core spacecraft interface simulator for use by the mission for interface verification. This item need not be mission-specific but may be adaptable by the contractor to meet the requirements of the mission-specific delivery order.

4.3.4 Implementation

The contractor shall prepare a Core Spacecraft and Observatory Integration and Test plan in accordance with CDRL 6.

The contractor shall perform verification testing with on-orbit methodologies to the maximum extent possible.

4.3.4.1 Core Spacecraft Integration and Test (I&T)

The contractor shall integrate and test all spacecraft bus and payload interface hardware and software. The spacecraft bus shall be tested with calibrated and maintained Ground

Support Equipment and shall be compatibility tested with the ground control system as defined in the delivery order.

4.3.4.2 Observatory Integration and Test (I&T)

To the extent defined in the mission specific delivery order, the contractor shall plan and conduct integration of the spacecraft bus and payload to form an observatory. The contractor shall plan, manage, and execute observatory level interface verification, system test, environmental test, and support mission payload specific tests as defined in the delivery order. The contractors integration and test program shall include at a minimum:

- 1) Electrical interface testing performed prior to integration of any assembly, component or subsystems into the next higher assembly. At a minimum, pin out configuration, impedance, and signal characteristics shall be verified.
- 2) Performance testing shall be performed immediately prior to and immediately after the environmental test program. Performance testing shall verify 100% functionality of all components including redundant systems if applicable.
- 3) Electromagnetic Compatibility Environmental testing, appropriate for the bus offered, shall be performed to demonstrate self compatibility of the bus and payload. Compatibility with the launch vehicle and launch site as defined by the applicable specifications for each shall also be demonstrated.
- 4) Thermal vacuum Environmental testing, appropriate for the bus offered, shall be performed to demonstrate that all bus and payload components function properly in their intended operational environment.
- 5) An appropriate set of Environmental tests to verify spacecraft bus/component performance given the expected structural loads, vibroacoustics limits, sine vibration limits, mechanical shock limits, and pressure profile induced during all phases of the mission.
- 6) At no time shall any test (functional or environmental) expose the payload to environments, signals, or other conditions that exceed the limits specified in the contractors Payload Interface Description.
- 7) An end to end test shall be conducted with the spacecraft operations control center to verify spacecraft compatibility with ground system software and hardware.
- 8) The contractor shall provide complete written justification for each analysis the contractor chooses to perform in lieu of test.
- 9) The contractor shall provide complete written justification for each environmental test the contractor chooses not to perform.

4.3.4.3 Core Spacecraft /Observatory Storage

When required by the delivery order, the contractor shall provide appropriate ground storage for the core spacecraft or observatory prior to launch. This activity shall encompass storage, storage maintenance, and post-storage activities necessary to bring the spacecraft bus to integration readiness or observatory to launch status. This shall include, but not be limited to the storage and maintenance of spare parts as well as ground support equipment. The contractor shall submit storage related documentation in accordance with CDRL 14.

4.3.4.4 Spacecraft Bus, Observatory and Ground Support Equipment Shipment

The contractor shall be responsible for the shipment of the core spacecraft and observatory between the places of manufacture, and integration and test, and storage and launch in appropriate shipment containers. The contractor shall provide for the shipment of necessary ground support equipment required to support the core spacecraft /observatory during each phase of test, integration and launch preparation. Transportation and handling plans shall be documented in accordance with CDRL 14.

4.3.5 Launch Support & Operations

4.3.5.1 Launch Support

The contractor shall provide launch support of the completed observatory. This shall include launch vehicle interface definition, design verification and management, observatory launch preparation and launch support. The Government will make the final go/no-go decision for launch. The launch support activity shall include, but not necessarily be limited to, the following efforts:

1. Launch Operations Planning - This effort requires the development and maintenance of interfaces with all entities that play a role in observatory launch. This involves coordinating, planning and performing all tasks which are necessary to implement a successful launch. The contractor shall provide technical and management support of meetings required to define launch related interfaces.
2. Launch Simulations - This effort encompasses the conduct, analyses and evaluation of pre-launch training and simulations of the launch (through orbit insertion). Two training simulations plus one launch rehearsal are to be conducted.
3. Pre-launch Integration and Test - The contractor shall perform all tasks necessary to integrate, test and prepare the observatory for launch at the launch site.
4. Launch Operations - The contractor shall provide all required integration, safety, and engineering support to process the observatory through the ground processing facilities, launch facility and the launch vehicle. In addition, this effort shall encompass the contractor's efforts necessary to support the actual launch, post-launch orbit insertion, perform observatory initialization, deployments and preparation for

on-orbit performance verification testing. This activity will be under Government direction from launch through separation of the observatory from the launch vehicle.

4.3.5.2 Flight Operations Interfaces and Support

4.3.5.2.1 Ground System Interface Definition

The contractor shall provide observatory compatibility with ground systems as specified in the mission specific delivery order.

The contractor shall work closely with NASA mission engineers to perform communications, command, control and operational requirements trade analyses.

The contractor shall provide all necessary interfaces to the ground command, control and data system defined in the documents describing the observatory requirements contained in the delivery order. This is to include all necessary system documentation, interface control documents, databases and test efforts.

4.3.5.2.2 Ground System Training and Flight Operations Support

The contractor shall provide support to the mission operations team for training and on-orbit initialization, checkout, performance verification and anomaly resolution.

The contractor shall provide descriptions of flight software functionality and spacecraft bus operation adequate to be used by the flight operations team for flight operations.

4.3.5.3 On-Orbit Performance Verification

The contractor shall perform an on-orbit performance verification program which will confirm that the spacecraft bus performance is in accordance with the mission requirements, specifications, interfaces and CDRL 1. As a minimum this shall include:

1. Spacecraft Bus On-Orbit Check-Out - This effort shall be performed by the contractor to verify the post-launch performance and state-of-health of the spacecraft bus. All systems must be verified for proper function and performance.
2. Spacecraft Bus/Ground Control and Data Systems Interface Verification - This effort shall be performed by the contractor after the spacecraft bus on-orbit performance and state-of-health have been confirmed. The purpose of this test is to verify proper operations of the spacecraft bus to ground system interfaces and to provide the necessary calibrations.
3. 30-Day On-Orbit Performance Report - The contractor shall prepare a brief report which summarizes the on-orbit performance of the spacecraft bus compared to its predicted performance for the mission after launch. Each subsystem is to be addressed and the performance of launch and flight operations crews are to be included. All pertinent issues affecting mission success shall be addressed. The extent of performance explanation required depends on the seriousness of the impacts

that any problems identified may have on mission success. This report summarizes the spacecraft bus performance on-orbit after launch and check-out to determine initial mission success and completion payment milestone status.

4.3.5.4 Support to On-Orbit Operations

The Contractor shall provide support to resolve all on-orbit observatory anomalies. This responsibility shall remain in place until the end of the baseline mission life as defined in the delivery order. After on orbit acceptance, in the event of an observatory anomaly, the Government will modify the delivery order to address the specific anomaly.

4.3.6 Flight Software

The contractor shall treat the software component of firmware, which consists of computer programs and data loaded into a class of memory which cannot be dynamically modified by the computer during processing (e.g., programmable read-only memories, programmable logic arrays, digital signal processors, etc.), as software for the purposes of this SOW.

4.3.6.1 Software Requirements, Development, Verification, and Testing

The contractor shall perform all analyses and systems engineering required to allocate (from core spacecraft and subsystem requirements) and identify software requirements, and to develop the necessary design specifications. Software requirements traceability to core spacecraft and subsystem requirements shall be provided. The contractor shall also describe the documentation system, source code generation and use, and the methods of maintaining equipment in accordance with CDRL 10.

Requirements, design, and code walkthroughs or inspections shall be conducted at the spacecraft contractors facility at the appropriate software developmental life-cycle phase to ensure the correctness of the requirements, design, and source code. These walkthroughs/inspections shall be open to Government participation. The coding, debugging, and developer testing efforts, the results of the walkthroughs, and programmer's notes shall be documented and available at the contractors facility for Government review.

The contractor shall provide all the resources necessary to verify and validate all the software developed for the core spacecraft.

4.3.6.2 Software Maintenance

The Contractor shall maintain the flight software (FSW) along with the environments and emulators necessary to develop and verify these systems until on orbit acceptance of the spacecraft. The delivery order may modify this requirement to require contractor maintenance of FSW through completion of the baseline mission.

The Contractor shall retain FSW Documentation for the complete software lifecycle development until the end of the baseline mission life. This documentation will be used

for maintenance of the system and shall be accessible to the government for review until the end of the baseline mission life.

4.3.6.3 Software Development & Maintenance System

The contractor shall provide the necessary ground based hardware, software, procedures, and documentation to allow the Government to maintain the FSW after on-orbit acceptance. This hardware, software, procedures, and documentation shall be referred to as the Software Development and Maintenance System (SDMS). The SDMS shall contain the hardware platform(s) and software used in development of the FSW, including all simulators, emulators, compilers, debuggers, linkers, test software and procedures/scripts used for test. The SDMS shall contain all tools and utilities required to formatting executable code for uplink to the spacecraft. The contractor shall provide a Ground Reference Image (GRI) of the FSW in use on the spacecraft at acceptance.

5. SOW Acronym List

CDRL	Contract Data Requirements List
DID	Data Item Description
DIO	Delivery in Orbit
FSW	Flight Software
GSE	Ground Support Equipment
I&T	Integration and Test
ICD	Interface Control Document
IDIQ	Indefinite Delivery Indefinite Quantity
IIRR	Instrument Integration Readiness Review
IOP	Integration and Operations Plans
ISO	International Standards Organization
MDR	Mission Design Review
MSPSP	Missile System Prelaunch Safety Package
QCM	Quartz Crystal Microbalance
NASA	National Aeronautics and Space Administration
NCR	Non-Conformance Report
PCP	Project Control Plans
PER	Pre Environmental Review
PS&O RR	Pre Ship and Operations Readiness Review
PSR	Pre-Ship Review
RF	Radio Frequency
SOW	Statement of Work
SPS	Systems Performance Specification
TBD	To Be Determined

RAPID II

ATTACHMENT D

CONTRACT DATA REQUIREMENTS LIST

20 August, 1999

SECTION 1 - Introduction

1.1 Scope

- a) The Contract Data Requirements List (CDRL) is the basic contractual document which governs data required by and for the contract.
- b) The contractor shall furnish data described by the Data Item Descriptions (DIDs) included herein and listed on the Data Requirements Lists (DRLs) for each item of data.
- c) All data shall be prepared, maintained, and delivered to NASA in accordance with the requirements of this CDRL.

1.2 Data Requirements List (DRL)

The DRLs provide a complete listing of the data requirements of the contract. Each DRL contains the following:

- a) The data item number, which corresponds to the data item description number.
- b) The data item title.
- c) The data item approval code defined as follows:
 - 1. Code A: The initial submission and all subsequent changes require approval of the NASA contracting officer prior to implementation
 - 2. Code I: Deliverables are sent to NASA for information. NASA will request changes on deliverables where errors or omissions are noted.
- d) The data item submission dates are as follows:
 - 1. Initial – First submission of the DID. (This is a complete submission, although some items may be revised or updated at later date).
 - 2. Subsequent – For information where a logical revision/update is required or for Management information needed on a monthly basis and for items to meet external interface milestones.

1.3 Data Items Description

- a) Each data requirement listed on the DRL is defined by a DID.

- b) The DID describes the purpose and required content of the data item, and provides specific format and preparation instructions as necessary.
- c) Much of the information requested in the DIDs may already exist in your documentation and format. We strongly encourage using your existing documents and formats whenever it will meet the requirements of the DID.

1.4 Distribution and Delivery

The contractor shall distribute and deliver data according to contract requirements and provisions. The data shall be delivered to the following address:

Mission Specific Project Office Library
(addresses to be supplied with delivery order)

In addition to the above, the original transmittal letter for all deliverables shall be addressed to:

Goddard Space Flight Center
Rapid Spacecraft Development Office, Contracting Officer
Code 214.3
Greenbelt, MD 20771

The following shall be provided for each data item submission:

- a) Copy of Record - The Copy of Record is the official file copy submitted in the form in which it is intended to be distributed and marked "Copy of Record" and suitable for reproduction.
- b) Copies - Copies of each document specified in the DRL shall be delivered in a condition suitable for immediate distribution
- c) Electronic Data Delivery - Formats for electronic media delivery are defined in paragraph 1.5 of this CDRL. Delivery of electronic media data items shall occur per the same delivery schedule as printed media.

1.5 Delivery Media

- a) There are two media in which data will be documented and are defined as:
 - 1. Hard Copy - Data typed, drawn or printed on paper by common, conventional practices. By these means, either the original, a reproducible

copy or the record copy shall be reproduced for distribution as printed copies.

2. Electronic - Data which is recorded in word processors, computerized data processing systems, or electronic storage devices such as magnetic tapes, disks and CD ROM.
- b) Documentation delivery (in hardcopy or electronic format) shall be as specified in the CDRL. Additionally, all CDRL data which has been generated electronically shall be delivered via electronic transfer or electronic transfer media such as disks.
- c) The instructions to facilitate the use of electronic media are to be supplied.

1.6 Documentation Change Procedures

- a) The contractor shall issue documentation change notices (DCNs) whenever minor changes or updates occur in data items that have been delivered to NASA.
- b) Change bars shall be used to indicate changes or updates.
- c) When major changes to a document are made a complete revision of the document shall be issued and delivered to NASA in accordance with the original instructions for the data item.
- d) No change bars are used when a document is updated by revision and the DCN numbers for that document shall be automatically recycled to 001.

END

CONTRACT DATA REQUIREMENTS LIST

DID #	Title	Submission			Media			Copies
		A/I	Initial	Subsequent				
1	Mission Performance Verification Plan	I	Mini-Prop	MDR	Electronic			
2	External Interfaces Models and Analysis	I	MDR –2mth	As required				
3	Instrument Interface Control Document (IICD)	A	Mini-Prop	MDR				
4	Launch Vehicle Documentation (LVD)	I	MDR	As required				
5	Ground System Interface Documentation.	I	MDR	As Required				
6	Spacecraft and Observatory Integration and Test (I&T) Plan	A	Mini-Prop	MDR	Electronic			
7	As-Built Bus Configured Item List	I	PER	PS&O RR	Electronic			
8	Spacecraft Operations Description Manual	I	PER	PS&O RR				
9	Telemetry and Command Requirements Doc.	I	MDR –2mth	PER				
10	Flight Operations Support Plan	I	MDR		Electronic			
11	Observatory Launch Site Ops and Test Plan	I	MDR	PS&O RR	Electronic			
12	Observatory Launch Site Operations and Test Procedures	A	PS&O RR	As Required				
13	Missile System Prelaunch Data Pkg (MSPSP)	A	As required					
14	Transportation and Handling Plan	I	PER	PS&O RR	Electronic			
15	Engineering Change Proposals (ECPs), Deviations and Waivers	A	As required					
16	Failure Mode and Effects Analysis (FMEA) and Critical Items List (CIL)	I	MDR	As Required	Electronic			
17	Contamination/Cleanliness Control Plan	I	MDR		Electronic			
18	Core Spacecraft Performance Spec	A	Mini-Prop	MDR				
19	Debris Generation Analysis Report	I	PER	PS&O RR				

*note: “Mini-Prop” refers to Mini Proposal response to mission specific Delivery Order.

Title: Mission Performance Verification Plan	CDRL No.: 1
Reference: Spacecraft and Observatory Integration and Test (I&T) Plan	
Purpose: To identify clearly where, how, and when each spacecraft bus performance requirement is verified in the I&T program before launch and how these requirements are again going to be verified on-orbit.	
Related Documents:	
Preparation Information Each bus performance requirement is to be verified either by analysis or by test before and after launch. A. (I&T) Provide a matrix or outline narrative of where each performance requirement of the bus will be verified in the I&T flow. Identify the test procedure or analysis that accomplishes that item's requirement verification. B. (on-orbit) Provide a matrix or outline narrative of where/how each performance requirement of the bus is going to be verified after launch. Identify the test procedure or analysis that accomplishes that items requirement verification.	

Title: External Interfaces, Models and Analysis	CDRL No.: 2
Reference:	
Purpose: To provide the instrument and ground system teams with spacecraft interface data, models, and analysis needed to assist them in their designs and preparations to support the observatory for launch and mission operations.	
Related Documents:	
Preparation Information The offeror shall provide to the instrument developer and ground system team the required external interface information (data, models, and analysis) for the development of the instrument or ground system. This shall include as a minimum: A. Bus and observatory reduced finite element models B. Structural interface analysis C. Pointing and alignment budgets D. Bus and observatory thermal models analysis E. Ground system protocols and data rates compatibility analysis F. Data contact scenarios and optimization (contacts versus data recorder size trade study) G. Flight dynamics and orbital maintenance analysis.	

<p>Title: Instrument Interface Control Document (IICD)</p>	<p>CDRL No.: 3</p>
<p>Reference:</p>	
<p>Purpose: To coordinate and control all interface items between the spacecraft bus and the instrument payload to provide efficient electrical and mechanical integration.</p>	
<p>Related Documents:</p>	
<p>Preparation Information</p> <p>The offeror shall provide detailed information regarding the spacecraft bus interface to the instrument payload. The data provided by the instrument payload, in the form of written words, drawings, and schematics, will be incorporated into this combined instrument and spacecraft bus ICD for applicable signatures.</p> <p>The spacecraft bus to instrument interface is defined per the following topics as a minimum:</p> <ul style="list-style-type: none"> A. <u>Physical Requirements</u> - such as mass properties, footprint, clearance envelope, drill template, alignment, orientation, fields-of-view (optical, thermal, glint, RF), including tolerances. Electrical Connectors - regarding sex, type, orientation, pin assignments. Thermal control coatings, blankets, heat flow and operating limits. Red and green tag items for test and flight. B. <u>Electrical Power and Signals</u> - such as timing clock pulses, data busses, signal (name, type, function), voltage and current limits, frequencies, waveforms, rise and fall time, duration, periodicity, shielding, grounding, formats, line driver/receiver characteristics. Power fusing, voltage, currents, ripple, regulation. C. <u>Software</u> - such as codes, processors, memory storage, application description, uses. D. <u>Payload Environmental</u> - such as vibration, shock, acoustic, EMI/EMC, ESD, thermal, contamination, purges. E. <u>Safety</u> - such as pyrotechnics, energy storage, trip-over, hazardous materials. F. <u>Ground Support Equipment</u> - such as mechanical, electrical, test specific, targets, stimulators. G. <u>Operational Factors</u> - such as ground contracts needed per day, data storage capacity and compression, general flight rules and limitations. <p>Show sufficient detail on both sides of each interface to provide a clear picture of the resultant mated interface. For example, electrical interfaces should be presented to schematic detail (logic elements and piece parts) to the point where impedance and transfer characteristics no longer affect the interface.</p>	

<p>Title: Launch Vehicle Documentation (LVD)</p>	<p>CDRL No.: 4</p>
<p>Reference:</p>	
<p>Purpose: To document and define requirements and control all aspects of the interface between the observatory and the launch vehicle to insure efficient integration and promote a successful launch to the mission orbit</p>	
<p>Related Documents: Launch vehicle User Planners Guide External Interfaces, Models and Analysis, CDRL #2</p>	
<p>Preparation Information</p> <p>This deliverable set of data defines the requirements of the observatory for the launch vehicle provider and is to include the following as a minimum:</p> <ul style="list-style-type: none"> A. Spacecraft Questionnaire B. Spacecraft Mathematical Model for Dynamic Analysis C. Spacecraft Environmental Test documents D. Missile System Pre-Launch Safety Package (MSPSP) inputs E. Payload/Launch System Interface Specification (electrical, mechanical, data) F. Mission Operations and Support Requirements G. Payload Requirements Documents (PRD) H. Payload Compatibility Drawings I. Electrical Wiring Requirements J. Fairing Requirements K. Launch Site Test Plan L. Launch Site Test Procedures M. Spacecraft Integrated Test Procedure Inputs N. Mission Analysis Requirements O. Launch Intervals (window) P. Radio Frequency Applications Q. Post-Launch Orbit Confirmation Data 	

Title: Ground System Interface Documentation	CDRL No.: 5
Reference:	
Purpose: To document and define requirements and control all aspects of the interface between the observatory and the Ground system to insure efficient integration and promote successful mission operations	
Related Documents:	
Preparation Information A. Data formats, communications protocols, data rates B. Compression algorithms, Error Detection and Correction schemes C. Antenna patterns, EIRP, G/T, Beam width, Frequency, Polarization D. Command and Telemetry formats (see T&C Requirements DID #9) E. Spacecraft contact scenarios for data transmission, operations, maintenance	

<p>Title: Spacecraft and Observatory Integration and Test (I&T) Plan</p>	<p>CDRL No.: 6</p>
<p>Reference:</p>	
<p>Purpose: To show the offeror's plans and approach to I&T for the observatory (integrated bus and instrument(s) and is to include final bus comprehensive performance testing.</p>	
<p>Related Documents:</p>	
<p>Preparation Information The contractor shall provide definitive test plans for the spacecraft bus and observatory integration and test which identify the scope, purpose, sequence (test flow), and success criteria for the activities below. The contractor shall identify where in the test flow repeat activities (e.g. Observatory Full Functional Test) occur to re-baseline system performance. The minimum integration and test activities the contractor shall address in the plan at the spacecraft bus and observatory levels are:</p> <p>Core Spacecraft Level: Integration and Test Comprehensive Performance Tests</p> <p>Observatory Level: Instrument Integration(*): Mechanical Integration Electrical Integration Instrument Comprehensive Performance Test EMI/EMC/ESD Test Optical and Mechanical Alignments Magnetic Survey Attitude Control Subsystem Phasing Solar Array Integration (required only if integrated at the Observatory level) Flight Payload Attach Fitting Integration Mass Properties Measurements Vibration Test Acoustics Test Shock Test Solar Array Deployment Thermal Vacuum Test Thermal Balance Test Cleanliness, Control and Monitoring End-to-End Functional Test</p> <p>(*) The contractor shall coordinate plans and procedures for Instrument Integration with the Instrument representative</p>	

Title: As Built Bus Configured Item List	CDRL No.: 7
Reference:	
Purpose: To document the “box level” component items that make up the delivered spacecraft bus. To be used to (1) determine if a latent problem is in the bus as discovered from elsewhere in the industry and (2) to help evaluate on-orbit performance problems issues should any arise.	
Related Documents:	
Preparation Information The subject list should include all of the box level components contained in the bus and provide the following information for each item as a minimum: <ul style="list-style-type: none">A. Name/NomenclatureB. Item numberC. Serial numberD. As built drawing number, including latest revision letter and change noticeE. Location in the busF. Note any approved deviations or waivers affecting the installed configuration itemG. Applicable supporting remarks The As-Built Bus Configured Item List is not to be confused with a detailed Parts Accumulation List (PAL). A detailed PAL may or may not be available in all cases. Those which are available would be archived by the bus developer to the end-of-the-bus mission.	

<p><u>Title:</u> Spacecraft Operations Description Manual</p>	<p><u>CDRL No.:</u> 8</p>
<p><u>Reference:</u></p>	
<p><u>Purpose:</u> To be used by the operations organization to develop detailed operations procedures and the Observatory Operations Manual. Provides a description of the operation of the observatory.</p>	
<p><u>Related Documents:</u> Flight Operations Support Plan DID #10, Ground System ICD DID #5, Command and Telemetry Requirements Document DID #9</p>	
<p><u>Preparation Information</u></p> <p>Operations Description Manual contents:</p> <ul style="list-style-type: none"> A. Overview and discussion of operations concept B. Description of unique factors associated with the operation of the observatory C. Overview of Internal and External Observatory interfaces D. Unique ground system logistics, software, software maintenance, and sustaining engineering required for sustained observatory operations E. Sample operational scenarios F. Operation of the observatory and all spacecraft subsystems G. Contingency scenarios and procedures H. Redundancy management I. State of health maintenance J. Listing of operations limits, cautions, and constraints. 	

<p><u>Title:</u> Telemetry and Command Requirements Document</p>	<p><u>CDRL No.:</u> 9</p>
<p><u>Reference:</u></p>	
<p><u>Purpose:</u> To describe (in detail) the spacecraft bus and its payload and launch vehicle interfaces telemetry and command features for launch and flight operations application.</p>	
<p><u>Related Documents:</u></p>	
<p><u>Preparation Information</u></p> <p>Telemetry Requirements Document contents:</p> <ul style="list-style-type: none"> Detailed listing of all telemetry assignments. Key parameters and information necessary for the description and interpretation of the telemetry requirements Summary of number and type of telemetry assignments, including spares. Description of telemetry interfaces, format, and requirements data. Listing of telemetry assignments that confirm commands. Schematic reference for each telemetry assignment. Transmission or sampling rates. Methods of in-flight or ground-test verification. Engineering units and calibration data, A to D for readout and calibration. <p>Command Requirements Document contents:</p> <ul style="list-style-type: none"> Detailed listings of all commands that can be applied to the observatory that can effect a response or change in its configuration in anyway, either in test or in flight. Key parameters necessary for description of commands. Summary of number and type of commands used by each subsystem and the number of spares Description of command input, verification, rates, and filler commands. Description of command requirements data and information necessary for interpretation. Listing of commands verified by telemetry and telemetry verifies. Schematic reference for each command 	

Title: Flight Operations Support Plan	CDRL No.: 10
Reference:	
Purpose: To describe the offeror's plan for supporting the flight operations of the observatory starting at integration and test, through launch, and throughout the life of the mission. Included is how the offeror intends to provide <u>anomaly resolution</u> support to the end of the mission, and how Flight Software will be supported through the mission life cycle.	
Related Documents:	
Preparation Information A. Description of roles and responsibilities and plans of how the offeror will support the operations of the spacecraft during test, launch, and on-orbit operations for the life of the mission. B. Description and designation of ground systems and responsibilities needed for spacecraft operations C. Plan for anomaly identification, investigation, and resolution process D. Plan for periodic performance assessments to determine spacecraft viability E. Description of complement of skills needed to provide this support and how the offeror will provide these resources. F. Description of the Flight Software standards and practices through development, integration and Test, and in-orbit checkout. Describe the documentation system, how source and executable code is generated and used, and the method(s) of maintaining equipment. G. Description of the government's right to Flight Software source and executable code, and discuss how software maintenance and future mission modifications can be performed. Describe configuration control methods and safeguards, how emulators are accessed or dedicated, and how software corrections or changes are verified before uploading to the bus on-orbit.	

<p>Title: Observatory Launch Site Operations and Test Plans</p>	<p>CDRL No.: 11</p>
<p>Reference: EWR 127-1 Launch Vehicle Payload Planner’s Guides as applicable</p>	
<p>Purpose: (1) To provide a detailed understanding of the launch site activities, operations and testing planned for a particular mission, (2) to support requirements of the Missile System Prelaunch Data Package (MSPSP) and (3) to obtain launch site procedure approvals.</p>	
<p>Related Documents:</p>	
<p>Preparation Information Describe all aspects of the activities at the launch site beginning with arrival of the observatory, including final testing and preparations, fueling, transportation between buildings and the launch vehicle, launch vehicle integration and testing, and removal of systems after launch. The data shall be originated to support launch site “test and inspection plans” requirements and the “ground operations plan” requirements as referenced in EWR 127-1.</p> <ul style="list-style-type: none"> A. Layout a schedule and timeline of proposed activities B. Specify what facilities and facility resources are needed C. Show equipment placement and personnel area requirements D. Fully explain staffing plan E. Explain schedule and personnel contingency methods F. Describe roles and responsibilities and the other equipment needed at each step of the plan G. Describe fueling methods, crew training, SCAPE (Self Contained Airbreathing Protective Equipment) operations, fuel storage locations H. Address cleanness methods, purge gasses and lines, garments I. Identify special test equipment needed on the launch tower or in the blockhouse <p>Identify specific communication links needed between locations at the launch site to perform observatory end-to-end testing and to support the observatory on the launch vehicle up to the point of launch.</p>	

<p><u>Title:</u> Observatory Launch Site Operations and Test Procedures</p>	<p><u>CDRL No.:</u> 12</p>
<p><u>Reference:</u> EWR 127-1 Missile System Prelaunch Data Package (MSPSP), DID # 13 Launch Vehicle Payload Planner's Guides as applicable Observatory Launch Site Operations and Test Plan DID# 11</p>	
<p><u>Purpose:</u> To document the complete understanding of how the planned activities are to be carried out at the launch site to meet requirements of (1) MSPSP, (2) the ground operations plan, (3) test and inspection plans and (4) procedure approval specified in EWR 127-1.</p>	
<p><u>Related Documents:</u></p>	
<p><u>Preparation Information</u></p> <p>For all of the activities at the launch site, most of which are identified in the referenced Observatory Launch Site Operations and Test Plan, DID# 11, detailed procedures are to be prepared, reviewed, and approved before use. Hazardous activities shall be identified and included in the referenced MSPSP, DID # 13. Specify in the procedures, the test objectives, personnel, and equipment requirements, environmental handling needs, instrument and spacecraft bus electrical tests to be performed, battery conditioning, special calibrations, end-to-end type testing, red tags, green tags, load cells, optical alignment equipment, etc.</p> <p>Particular interest will be paid to the period of time that the observatory is mated to the launch vehicle to assure safety, smooth interaction between observatory and launch vehicle activities and a successful launch.</p>	

<p>Title: Missile System Prelaunch Data Package (MSPSP)</p>	<p>CDRL No.: 13</p>
<p>Reference: EWR 127-1, Appendix 3A Observatory Launch Site Operations and Test Plan DID #11 Launch Vehicle User Planners Guide</p>	
<p>Purpose: Documents launch vehicle, payload, and ground support equipment (GSE) design and test information to evaluate safety measures to be employed during spacecraft operations at the launch complex and to obtain approval to use the launch site facilities and resources when coupled with the Ground Operations Plan. Sections of this document will provide the information for approval for each safety issue identified in the launch site process.</p>	
<p>Related Documents:</p>	
<p>Preparation Information Describes all spacecraft systems, support hardware, and operations for each mission beginning with the arrival of the spacecraft and GSE through lift-off. A flow plan and a time line should be provided for each mission. The package should identify all hazards associated with the process at the launch site and show operations that require coordination either with the launch vehicle operations or other range activities.</p> <ul style="list-style-type: none"> A. Observatory test and build-up facility requirements, including floor space, electrical power, and cleanliness B. Use of large scale GSE; e.g., test consoles and handling fixtures at each facility that is planned to be used C. Instrument or spacecraft unique testing of high power RF lasers D. Integrated vehicle or range activities for coordination and reviews E. Personnel facilities F. Staffing and training plans G. Spacecraft transportation and servicing H. Fueling process, location, safeguards, GSE, tankage, storage <p>For each safety issue identified by the MSPSP, a Payload Hazard Report (or equivalent) shall be generated. Each Payload Hazard Report shall document the causes, controls, and precaution verification methods for each hazard.</p> <p>Payload Hazard Reports and the MSPSP shall be updated as the hardware progresses through the stages of design, fabrication, test, and flight readiness to support each safety milestone review. The updates shall reflect current status of measures to eliminate or to minimize the effects of each hazard identified. Each iteration shall be accompanied by copies of any waiver requests written for safety requirements that cannot be met.</p>	

Title: Transportation and Handling Plan	CDRL No.: 14
Reference:	
Purpose: To understand the offeror's role, responsibility, and plans to store and ship the integrated spacecraft bus and instrument along with the supporting equipment, from the integration and test facility to the launch site.	
Related Documents:	
Preparation Information The data provided in the plan should address the following as a minimum: A. Definition of storage related activities including: locations; methods; GSE; environmental controls and monitoring; and pre-, post-, or intermittent storage testing required. B. Description of shipping container C. Methods of transporting observatory and ground support equipment D. Bagging and purging requirements E. Environmental controls and monitoring equipment F. Expected roles and responsibilities of offeror and NASA G. Who provides ground transportation at launch site H. Shipping crew support, convoy support I. Off-loading of observatory at the launch site J. Movement between facilities at the launch site K. Fueling GSE L. Lifting slings M. Electrical and mechanical support equipment general description Identify specific procedures available or needed	

Title: Engineering Change Proposals (ECPs), Deviations and Waivers	CDRL No.: 15
Reference:	
Purpose:	
Related Documents:	
Preparation Information <p>The contractor shall prepare and submit Class I Engineering Change Proposals (ECPs) using MIL-STD-973, ECP forms DG 1692 and DD1692-1 as guidelines. In addition to the change description, the ECP shall contain sufficient information in the form of attachments, drawings, test results, etc., to allow NASA's GSFC to evaluate the total impact of the proposed change. NASA's GSFC may direct the contractor to prepare ECPs under the "Changes" clause of the contract. The contractor shall allow access to Class II changes for NASA's GSFC review.</p> <p>For the purposes of this DID, a Class I ECP is a change that:</p> <ul style="list-style-type: none">A. Affects any NASA Contract specification or interface requirementB. affects schedules of end item deliverables to the ProjectC. impacts Government Furnished Equipment <p>Waivers and deviations shall be handled using MIL-STD-973 as a guide.</p>	

Title: Failure Mode and Effects Analysis (FMEA) and Critical Items List (CIL)	CDRL No.: 16
Reference:	
Purpose: Reliability analysis to evaluate design relative to requirements, identify single point failures, and identify hazards.	
Related Documents: <ul style="list-style-type: none">• Procedures for Performing an FMEA, GSFC Document S-302-89-01, February 1990.• CR 5320.9, Payload and Experiment Failure Mode Effects Analysis and Critical Items List Ground Rules, MSFC.• MIL-STD 1629A, Procedures for Performing an FMECA, DoD.	
Preparation Information <p>The FMEA report will document the approach, methodologies, results, conclusion, and recommendations. The report will include objectives, level of the analysis, ground rules, functional description, functional block diagrams, reliability block diagrams, bounds of equipment analyzed, reference to data sources used, identification of problem areas, single-point failures, recommended corrective action, and worksheets as appropriate for the specific analysis being performed.</p> <p>The Critical Items List will include item identification, cross-reference to FMEA line items, and retention rationale. Appropriate retention rationale may include design failures, historical performance, acceptance testing, manufacturing product assurance, elimination of undesirable failure modes, and failure detection methods.</p> <p>FMEA reports already completed by the bus developers are acceptable in their format and will be reviewed for content.</p>	

Title: Contamination/Cleanliness Control Plan	CDRL No.: 17
Reference:	
Purpose: To evaluate contamination potential to mission and determine methods for controlling contamination	
Related Documents: None	
Preparation Information Data on material properties, on design features, on test data, on system tolerance of degraded performance, on methods to prevent degradation will be provided to permit independent evaluation of contamination hazards. The following items should be included in the plan for delivery: <ol style="list-style-type: none">1. Materials, Information used for bus construction:<ol style="list-style-type: none">a) Outgassing as a function of temperature and timeb) Nature of outgassing chemistry.c) Areas, weight, location, view factors of critical surfaces.2. Venting: size, location and relation to external surfaces.3. Thermal vacuum test contamination monitoring plan including vacuum test data, QCM and cold-finger location and temperature, pressure data, system temperature profile and shroud temperature.4. Description of what cleanliness control measures will be used.5. What outgassing, cleaning and washing does the bus product receive before and after instrument integration.	

<p>Title: Core Spacecraft Performance Specification</p>	<p>CDRL No.:18 Page 1 of 2</p>
<p>Reference: EXCEL file “DID 18 enclosure.xls”</p>	
<p>Purpose: To specify the performance and characteristics of the Core Spacecraft. The intent of this document is to present the top-level system performance separately from the detailed component and subsystem descriptions. In other words, <i>what</i> the spacecraft bus does is captured in the first section, <i>how</i> it gets it done is in the second section.</p>	
<p>Related Documents: None</p>	
<p>Preparation Information The Core System Performance Specification consists of two main sections, a performance section and a description section.</p> <p>1. CORE SYSTEM PERFORMANCE CHARACTERISTICS The offeror shall detail the top-level performance characteristics of the proposed Core System (global performance characteristics only, component descriptions are in Section 2). The offeror is strongly encouraged to provide any additional performance characteristics which will help the Government understand the Core System and option(s) offered, beyond those characteristics outlined here. Explanatory text, in addition to the completed enclosure, is allowable.</p> <p>1.1 Observatory (or Mission) Level Performance (Complete EXCEL Spreadsheet “DID 18 enclosure.xls” provided as enclosure 1 to this DID)</p> <p>1.2 Core System Performance (Complete EXCEL Spreadsheet “DID 18 enclosure.xls” provided as enclosure 1 to this DID)</p>	

<p><u>Title:</u> Core Spacecraft Performance Specification (cont)</p>	<p><u>CDRL No.:</u>18 Page 2 of 2</p>
<p><u>Reference:</u></p>	
<p><u>Purpose:</u></p>	
<p><u>Related Documents:</u></p>	
<p>2. CORE SYSTEM AND SUBSYSTEM DESCRIPTIONS</p> <p>The offeror shall describe the make-up of the Core System and major subsystems (component descriptions and block diagrams only, no subsystem performance characteristics). The description shall provide the basis for performance claims made in Section 1 and confirm the design margins.</p> <p><i>2.1 Structural/Mechanical Subsystem</i></p> <p><i>2.2 Power Subsystem</i></p> <p><i>2.3 Propulsion Subsystem</i></p> <p><i>2.4 Attitude Control Subsystem</i></p> <p><i>2.5 C&DH Subsystem</i></p> <p><i>2.6 Communications Subsystem</i></p> <p><i>2.7 Thermal Control Subsystem</i></p> <p><i>2.8 Core System Flight Software/Firmware</i></p> <p><i>2.9 Core System Ground Support Equipment</i></p> <p>This section shall contain an equipment list or table itemizing all core system components down to the subsystem “component level” (that is, core system structure, solar array, battery vessel and cell type and number, wire harness, star tracker etc., high-density boards and electronics should be itemized at the box level). For each component show the manufacturer, model, mass, power, and heritage. (A optional suggested format for this information is included in the enclosure “DID 18 enclosure.xls”.)</p> <p>The offeror is strongly encouraged to provide any additional component descriptions which will help the Government understand the Core System offered, beyond those components outlined here.</p>	

Title: Debris Generation Analysis Report	CDRL No.: 19
Reference: NASA Directive NPD 8710.3 NSS 1740.14	
Purpose: To assess the generation of Orbital Debris. This analysis is required to demonstrate compliance with the requirements of NPD 8710.3 and NSS 1740.14	
Related Documents: Debris Assessment Software (http://sn-callisto.jsc.nasa.gov/mitigate/das/das.html)	
Preparation Information An Analysis shall be conducted and documented to assess orbital debris generation potential and debris mitigation options. The analysis shall include the following: A. The potential for orbital debris generation in both nominal operation and malfunction conditions, including malfunctions during launch phase. B. The potential for orbital debris generation due to on-orbit impact with existing space debris (natural or human generated) or other orbiting space systems.	

III. INSTRUCTIONS TO OFFERORS--COMMERCIAL ITEMS (52.212-1) (AUG 1998)

(a) Standard industrial classification (SIC) code and small business size standard. The SIC code and small business size standard for this acquisition appear in Block 10 of the solicitation cover sheet (SF 1449). However, the small business size standard for a concern which submits an offer in its own name, but which proposes to furnish an item which it did not itself manufacture, is 500 employees.

(b) Submission of offers. Submit signed and dated offers to the office specified in this solicitation at or before the exact time specified in this solicitation. Offers may be submitted on the SF 1449, letterhead stationery, or as otherwise specified in the solicitation. As a minimum, offers must show----

(1) The solicitation number;

(2) The time specified in the solicitation for receipt of offers;

(3) The name, address, and telephone number of the offeror;

(4) A technical description of the items being offered in sufficient detail to evaluate compliance with the requirements in the solicitation. This may include product literature, or other documents, if necessary;

(5) Terms of any express warranty;

(6) Price and any discount terms;

(7) "Remit to" address, if different than mailing address;

(8) A completed copy of the representations and certifications at FAR 52.212-3;

(9) Acknowledgment of Solicitation Amendments;

(10) Past performance information, when included as an evaluation factor, to include recent and relevant contracts for the same or similar items and other references (including contract numbers, points of contact with telephone numbers and other relevant information); and

(11) If the offer is not submitted on the SF 1449, include a statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation. Offers that fail to furnish required representations or information, or reject the terms and conditions of the solicitation may be excluded from consideration.

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(c) Period for acceptance of offers. The offeror agrees to hold the prices in its offer firm for 30 calendar days from the date specified for receipt of offers, unless another time period is specified in an addendum to the solicitation.

(d) Product samples. When required by the solicitation, product samples shall be submitted at or prior to the time specified for receipt of offers. Unless otherwise specified in this solicitation, these samples shall be submitted at no expense to the Government, and returned at the sender's request and expense, unless they are destroyed during preaward testing.

(e) Multiple offers. Offerors are encouraged to submit multiple offers presenting alternative terms and conditions or commercial items for satisfying the requirements of this solicitation. Each offer submitted will be evaluated separately.

(f) Late offers. Offers or modifications of offers received at the address specified for the receipt of offers after the exact time specified for receipt of offers will not be considered.

(g) Contract award (not applicable to Invitation for Bids). The Government intends to evaluate offers and award a contract without discussions with offerors. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary. The Government may reject any or all offers if such action is in the public interest; accept other than the lowest offer; and waive informalities and minor irregularities in offers received.

(h) Multiple awards. The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may not be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

(i) Availability of requirements documents cited in the solicitation. (1)(i) The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29, and copies of specifications, standards and commercial item descriptions cited in this solicitation may be obtained for a fee by submitting a request to--

GSA Federal Supply Service Specifications Section
Suite 8100
470 East L'Enfant Plaza, SW
Washington D.C 20407

Telephone (202)619-8925
Facsimile (202) 619-8978

(ii) If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by

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submitting a request to the addressee in paragraph (i)(1)(i) of this provision. Additional copies will be issued for a fee.

(2) The DOD Index of Specifications and Standards (DODISS) and documents listed in it may be obtained from the--

Department of Defense Single Stock Point (DoDSSP)
Building 4, Section D
700 Robbins Avenue
Philadelphia, PA 19111-5094

Telephone (215) 697-2667/2179
Facsimile (215) 697-1462

(i) Automatic distribution may be obtained on a subscription basis.

(ii) Order forms, pricing information, and customer support information may be obtained--

(A) By telephone at (215) 697-2667/2179; or

(B) Through the DoDSSP Internet site at <http://www.dodssp.daps.mil>

(3) Nongovernment (voluntary) standards must be obtained from the organization responsible for their preparation, publication, or maintenance..

(j) Data Universal Numbering System (DUNS) Number. (Applies to offers exceeding \$25,000.) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address. If the offeror does not have a DUNS number, it should contact Dun and Bradstreet to obtain one at no charge. An offeror within the United States may call 1-800-333-0505. The offeror may obtain more information regarding the DUNS number, including locations of local Dun and Bradstreet Information Services offices for offerors located outside the United States, from the Internet home page at <http://www.dnb.com/>. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(End of provision)

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III.A.1 COMMUNICATIONS REGARDING THIS SOLICITATION (GSFC 52.215-96)
(APR 97)

Any questions or comments regarding this solicitation shall cite the solicitation number and be directed to the following Government representative:

Name: Sharon Collignon
Phone: 301-286-9874
(collect calls not accepted)
FAX: 301-286-0530
E-Mail: Sharon.M.Collignon.1@gsfc.nasa.gov

*Address: Goddard Space Flight Center
Greenbelt, MD 20771
Attention: Sharon Collignon, *Mail Code 214.3

*(Note: Must be complete, including Mail Code, on all transmittals.)

The Government will answer relevant and appropriate questions regarding this solicitation. Any offeror questions should be submitted as soon as possible. Questions the Government may have otherwise answered, may not be answered if submitted too late to permit transmittal to all potential offerors reasonably in advance of the due date.

(End of provision)

III.A.2 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (52.214-34)(APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

III.A.3 SUBMISSION OF OFFERS IN U.S. CURRENCY (52.214-35)(APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

(End of provision)

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III.A.4 TYPE OF CONTRACT (52.216-1)(APR 1984)

The Government contemplates award of multiple fixed-price, indefinite delivery indefinite quantity contracts resulting from this solicitation.

(End of Provision)

III.A.5 SERVICE OF PROTEST (52.233-2) (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 acknowledgement of receipt from:

Bid Office
Building 17, Room S142
Attn: Sharon Collignon, Code 214.3
Goddard Space Flight Center
Greenbelt, MD 20771

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

III.A.6 PROPOSAL PAGE LIMITATION (1852.215-81) (FEB 98)

(a) Proposals submitted in response to this solicitation are page limited as follows:

<u>Proposal Section</u>	<u>Page Limit</u>
Technical/Price Volume (Per Proposed Core System)	
• Technical Section (Excluding Matrix)	15 Pages
• Appendix A, System Performance Specification	Unlimited
• Appendix B, Integration and Operation Plans	Unlimited
• Appendix C, Options Descriptions	4 Pages per option
• Price Section	Unlimited

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Business Volume

- Relevant Experience and Past Performance 15 Pages
- Past Performance Questionnaires unlimited
- SF1449, Offeror Representations and Certifications and Model Contract unlimited

Other Required Information

- Project Control Plans Unlimited
- Small Business Subcontracting Plan Unlimited

(b) A page is defined as one side of a sheet, 8-1/2" x 11", with at least one inch margins on all sides, using not smaller than 12 point type. Font size for text in figures and tables shall be 8 point or larger. Foldouts count as an equivalent number of 8-1/2" x 11" pages. The metric standard format most closely approximating the described standard 8-1/2" x 11" size may also be used.

(c) Title pages tables of contents and acronym lists are excluded from the page counts specified in paragraph (a) of this provision.

(d) If final proposal revisions are requested, separate page limitations will be specified in the Government's request for that submission.

(e) Pages submitted in excess of the limitations specified in this provision will not be evaluated by the Government and will be returned to the offeror.

(End of provision)

III.A.7 PROPOSAL INSTRUCTIONS (COMPETITIVE)

Offers should be organized in three volumes: technical/price, business and other required information. The technical/price volume should describe your technical capabilities in a format consistent with the I.A.31 List of Attachments, Attachment A, Statement of Work. The technical volume should be specific, detailed, and complete enough to clearly and fully demonstrate that you understand the requirements and the inherent problems associated with the objectives of this procurement. Stating that you understand and will comply with the specifications, or paraphrasing the specifications is inadequate as are phrases such as: "Standard procedures will be employed" and "Well-known techniques will used." Information previously submitted, if any, will be considered only to the extent it is resubmitted. It should not be incorporated by reference. The proposal volumes shall address the following:

Technical/Price Volume

The offeror shall provide a separate Technical/Price Volume for each individual proposed core system.

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Technical Section

In no more than 15 pages, the offeror shall describe their Core Spacecraft offer and how the Technical Acceptability Standards will be met. At a minimum, the following key areas shall be addressed:

- The offeror's proposal shall include a matrix of the proposal's compliance with the SOW and the minimum acceptable standards in Section IV of this solicitation. (This matrix is not subject to the page count limitation.)
- The offeror shall provide an overview of the capabilities and performance of the proposed core spacecraft as detailed in the System Performance Specification (as defined below).
- The offeror shall demonstrate that the proposed Core Spacecraft design has successfully completed Mate and Interface testing with a launch vehicle. At a minimum, the launch date, mission name, launch vehicle type, launch site, and current mission status shall be provided. In addition, the offeror shall provide a description and rationale for any “box-level” variances between the proposed spacecraft design and the heritage spacecraft design. (Note: Box-level is defined as a functional subdivision of a subsystem and generally a self-contained combination of items performing a function necessary for the subsystem's operation. Examples include, but are not limited to, power supplies, central processing unit, sun sensor and star trackers.
- The offeror shall identify facilities proposed for use for each phase of Core Spacecraft and Observatory integration and test. The offeror shall describe the facilities in sufficient detail to substantiate the appropriateness of the facilities for the proposed core spacecraft. If the offeror does not own the proposed facilities, the offeror shall demonstrate their ability to obtain the facilities proposed.
- The offeror shall provide a top-level implementation schedule which shall include as a minimum, Mission Design Review, Instrument Integration Readiness Review, Pre-Ship & Operations Readiness Review, and On-Orbit check-out and Final Acceptance; as well as the principle activities of System Engineering and Design, Fabrication, Assembly and Test; Spacecraft Bus Integration and Test; Spacecraft Comprehensive Testing; Observatory Integration and Test, and Launch Site Activities.

Explain any deviations/exceptions taken with respect to the technical section. Any deviations, exceptions, etc., must be supported by sufficient amplification and justification to permit evaluation.

The offeror shall provide the items below as appendices to the Technical Section. The documents shall be in accordance with the outlines specified below.

<u>Description</u>	<u>Appendix</u>
System Performance Specification	A
Integration and Operation Plans	B
Options Descriptions	C

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Appendix A: System Performance Specification (SPS) -- The offeror's SPS shall consist of the following completed baseline documents :

- CORE SPACECRAFT PERFORMANCE SPECIFICATION (CDRL 18)
- INSTRUMENT INTERFACE CONTROL DOCUMENT (CDRL 3)

Appendix B: Integration and Operations Plans (IOP) -- The offeror's IOP shall consist of the following completed baseline documents :

- MISSION PERFORMANCE VERIFICATION PLAN(CDRL 1)
- SPACECRAFT/OBSERVATORY INTEGRATION AND TEST PLAN (CDRL 6)
- TRANSPORTATION AND HANDLING PLAN (CDRL 14)
- OBSERVATORY LAUNCH SITE AND OPERATIONS PLAN (CDRL 11)
- FLIGHT OPERATIONS SUPPORT (CDRL 10)

Appendix C: Option Description -- In no more than 4 pages per option, the offeror shall describe in detail the following:

- Description of the Option including the basis for performance claims,
- Hardware changes from the core spacecraft, and
- Changes to the System Performance Specification and the Integration and Operations Plan (Do not repeat core system performance, only changes).

Explain any deviations/exceptions taken with respect to the technical section. Any deviations, exceptions, etc., must be supported by sufficient amplification and justification to permit evaluation.

Price Section

The offeror shall provide a not to exceed (NTE) price for each proposed core system based on the offeror's proposed core spacecraft's System Performance Specification and Integration and Operation Plans. Additionally the offeror shall propose a NTE price for any proposed options based on the offeror's Option Description. The offeror shall provide a price list in accordance with the format of I.A.1, Deliverable Requirements and Prices. The offeror shall provide the rationale for all proposed NTE prices and for any variances between proposed NTE prices and the price of previous similar items or efforts.

The offeror shall provide a finance payment schedule which, at a minimum, includes the major payment milestones listed in I.A.11 and shall include information in Enclosure 1 of this Section III. The offeror shall also submit a funding and expenditure profile showing the cash flow and contractor investment for each proposed core system, including all associated effort included in the core system price.

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The offeror shall provide evidence of their ability to secure collateral for Government financing of future delivery orders against the contract. Acceptable forms of security used individually or in combination, include but are not limited to:

- Irrevocable letter of credit from a federally insured financial institution;
- Bond from a surety, acceptable in accordance with FAR Part 28; or
- Guarantee of repayment from a person or corporation of demonstrated liquid net worth, connected by significant ownership to the contractor.

The final form of security for each delivery order shall be proposed by the contractor in a form acceptable to the Contracting Officer at the time the delivery order is competed and will be specified in the resulting delivery order under the contract.

Explain any deviations/exceptions taken with respect to the price section. Any deviations, exceptions, etc., must be supported by sufficient amplification and justification to permit evaluation.

(End of Text)

Business Volume

The offeror shall provide a Business Volume separate from the Technical/Price Volume. The offeror shall not provide a separate Business Volume for each individual core offering.

The term "Business Management Proposal" is not limiting. While these instructions require the submittal of information that is primarily of a "business" nature, some "technical" information is also required.

Relevant Experience and Past Performance

Relevant Experience--The offeror shall provide a narrative of relevant past experience in the field(s) of technical endeavor similar to that required by the Statement of Work which especially qualify your company to perform this work. The offeror shall demonstrate and describe relevant experience on past or current efforts of similar magnitude and complexity. The offeror shall also discuss the relevance of previous experiences in relation to the requirements of this effort.

Past Performance--The offeror shall provide the past performance information requested by this section for the contractual efforts identified under the relevant experience section above and any other past or current efforts of similar magnitude and complexity. The offeror shall include a description of the level of performance targeted and attained on these efforts. The offeror shall discuss the level of responsibility required of the offeror for these efforts. The offeror shall include references that substantiate claims of past performance, including product quality, mission support provided, the technical and business management support provided, and technical performance of delivered products as provided on past or current projects. The information shall be sufficient to allow the Government to predict likely performance of future

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work. If an existing or previously flown core system is proposed the offeror shall include such efforts under this proposal volume and provide customer references for those efforts.

The offeror shall furnish the information listed below for your five most recent contracts or subcontracts for similar efforts in excess of \$5,000,000 and awarded within the last 5 years:

- a. Customer's name, address, and telephone number of both the lead contractual and technical personnel. (Verify that all provided telephone numbers are valid and working for the individual listed.)
- b. Contract number, type, and total original and present or final contract value.
- c. Date of contract, place(s) of performance, and delivery dates or period of performance.
- d. Brief description of contract work and comparability to the proposed effort. It is not sufficient to state that it is comparable in magnitude and scope. Rationale must be provided to demonstrate that it is comparable.
- e. Method of acquisition: competitive or noncompetitive.
- f. Nature of award: initial or follow-on. If initial, indicate whether award was preceded by a Government, customer, or offeror financed study.
- g. Discuss any major technical problems and how they were overcome. List any major deviations or waivers to technical requirements that were granted by the customer.
- h. Whether delivery was on time and, if not, why; adherence to program schedules; incentive performance (e.g., schedule and technical) history, if applicable.
- i. Cost/price management history; cost overruns and underruns, and cost incentive history, if applicable.
- j. List any contracts terminated (partial or complete) within the past 5 years and basis for termination (convenience or default). Include the contract number, name, address, and telephone number of the terminating officer. Include contracts that were "descoped" by the customer because of performance or cost problems.

Past Performance Questionnaire

The offeror shall provide the enclosed Relevant Experience and Past Performance Questionnaire to each of its references for completion and return to the Government (Section III, Enclosure 2). The questionnaire respondent can be anyone with knowledge of your firm's performance. The questionnaire must be returned by your reference directly to the Government. **The offeror is responsible for ensuring that the questionnaire is completed and returned no later than the closing date of this solicitation to:**

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NASA Goddard Space Flight Center
Attn: Leif Grotos, Code 214.3
Greenbelt, MD 20771
FAX: 301-286-0530

Standard Form 1449, Offeror Representations and Certifications, and Model Contract

SF 1449 -- The offeror shall appropriately complete and return Blocks 12, 17 & 30 and return the completed SF 1449.

Offeror Representations and Certifications -- The offeror shall appropriately complete and return Section V, Offeror Representations and Certifications Commercial Items (52.212-3).

State any deviations/exceptions taken to the required Offeror Representations and Certifications (Section V) and include the reason for the deviation/exception.

Model Contract -- The offeror shall provide the proposed fill-ins for I.A.1 Services to be Furnished and I.A.11 Finance Payment Events and Completion Criteria; sign four original SF 1449s; and return with your offer the model contract (SF 1449) through Section II, Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items (52.212-5).

The Government does not intend to accept proposals with alternate terms and conditions.

Other Required Information

The offeror shall provide the below plans separate from the Technical/Price and Business Volumes. The offeror shall not provide a separate plan for each individual core offering unless the plans differ for individual core offerings.

Project Control Plan

The offeror shall provide a Project Control Plan (PCP), that is consistent with the outline at Enclosure 3 of this Section III.

Small Business Subcontracting Plan

This applies ONLY to large businesses.

This solicitation contains FAR clause 52.219-9, "Small Business Subcontracting Plan-Alternate II". The Subcontracting Plan described and required by the clause, including the associated subcontracting goals, must be submitted with your proposal.

The Contracting Officer's assessment of appropriate subcontracting goals for this acquisition, expressed as a percent of contract value, are as follows:

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Small Disadvantaged Business Concerns	4%
Women Owned Small Business Concerns	1%
Historically Black Colleges and Universities	½%
HUBZone Small Business Concerns	½%
*Other Small Business Concerns	2%
Total Small Business Subcontracting	8%

*Those Small Business Concerns that are not Small Disadvantaged, Women Owned, Historically Black Colleges and Universities, or HUBZone Small Business Concerns.

(NOTE: FOR PURPOSES OF THE SUBCONTRACTING PLAN, THE PROPOSED GOALS MUST BE STATED AS A PERCENT OF TOTAL SUBCONTRACTS, NOT AS A PERCENT OF CONTRACT VALUE)

You are encouraged to propose goals that are equivalent or greater than those recommended by the Contracting Officer. However, offerors should perform an independent assessment. The goals included in the submitted Subcontracting Plan may be higher, lower, or the same as the goals stated above, depending upon the offeror’s independent assessment.

With regard to any goals stated above, offerors are advised that a proposal will not be rejected solely because the submitted Plan does not meet the NASA recommended goals.

(End of Text)

III.A.8 RESERVED

III.A.9 PROPOSAL COPIES, MARKING AND DELIVERY

The following matrix specifies the required number of copies of each proposal volume and the grouping of the volumes.

Proposal Volume	Total Copies Required	Group 1	Group 2
Technical/Piece Volume	8	1	7
Business Volume	6	1	5
Project Control Plan	4	1	3
Subcontracting Plan	3	1	2

PACKING: Each group, designated above, is to be packaged individually. This does not preclude packaging more than one, or all, groups in a single overall package. Mark the group number on the outside of the individual packages. Group 1 shall consist of all the originals.

In addition, the offeror shall submit an electronic proposal on a PC-formatted compact disk (CD) properly formatted for use by Microsoft Windows 95 and in a format compatible with

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Adobe Acrobat or Microsoft Office software. The offeror must certify that all disks provided are free from any computer virus and free from any defects which preclude their use.

RECEIVING OFFICE: The designated receiving office for proposals is the Bid Room located on the premises of the Goddard Space Flight Center, Greenbelt, Maryland, in Building 17, Room S-142. The Bid Room hours are 8:00 AM to 4:30 PM, Monday through Friday, except Government Holidays. Proposals must be received by the date and time stated on the solicitation face page.

Offerors must either deliver their proposal, modifications or withdrawals by U. S. Postal Service Mail or *hand deliver (includes the use of a commercial delivery service). Regardless of the delivery method chosen, the proposal must be closed and sealed as if for mailing.

*Note: Non-U.S. citizens that do not have a "green card" will not be given access to the Goddard Space Flight Center for the purpose of proposal delivery.

EXTERNAL MARKING: [PLEASE NOTE THE ADDITIONAL MARKING REQUIREMENTS IN (b) IF A COMMERCIAL DELIVERY SERVICE IS USED]

(a) The required mailing address/external marking for proposals is as follows:

"NASA
Goddard Space Flight Center
Greenbelt, MD 20771
Attention: Bid Room, Code 213.2
Building 17, Room S142
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PROPOSAL--DELIVER UNOPENED"

(b) If the proposal is to be delivered by a commercial delivery service such as United Parcel Service, Federal Express, DHL, Purolator, etc., place the following on the outside of the carrier's envelope or package cover: (offeror must complete fill-in's appropriately)

"RFO5- 00651-311
COMMERCIAL DELIVERY PERSONNEL: THIS PROPOSAL MUST BE HAND CARRIED DIRECTLY TO THE BID ROOM, BUILDING 17, ROOM S142 AND RECEIVED NO LATER THAN ____ (time) ____ (month/day/year). THE BID ROOM IS OPEN FROM 8:00 AM TO 4:30 PM, MONDAY THROUGH FRIDAY, EXCEPT GOVERNMENT HOLIDAYS."

III.A.10 OFFER ACCEPTANCE PERIOD

The offeror's proposal shall remain valid for a period of not less than 120 calendar days.

(End of Text)

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III.A.11 ADDITIONAL SATELLITE OFFERINGS AND CONTRACT AWARDS

Semi-Annually, over the life of the contract, the Contracting Officer will accept and evaluate proposals with the intention of adding additional contracts and/or modifying existing contracts to add additional core busses and options. Unsolicited proposals will be accepted by the RSDO Contracting Officer during the months of February and August. In addition, the Contracting Officer may periodically solicit proposals.

Proposals shall be subject to the same proposal instructions and evaluation procedures as the Rapid II Request for Offers dated August 19, 1999 . Proposal instructions and evaluation procedures may be obtained from the RSDO website (<http://rsdo.gsfc.nasa.gov>).

(End of clause)

III.A.12 NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE
(52.211-14) (SEP 1990)

Any contract awarded as a result of this solicitation will be a DO rated order certified for national defense 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.

(End of provision)

Interim Proposed Payment Events and Completion Criteria

Instructions for format and content:

This enclosure to the solicitation provides the format and content for the offeror's proposed interim payment events and completion criteria. The Interim Proposed Payment Events and Completion Criteria is the full description of all payment events proposed by the offeror for the referenced core system.

1.0 Rationale

The offeror shall describe the technical rationale used for the proposed interim payment events.

2.0 Interim Payment Events

The offeror shall propose interim payment events that flow into the Government provided major payment events in I.A.11. These interim events must be based on the completion of specific tasks. Along with the proposed events the offeror shall provide the payment percentage for the interim event as it relates to the core system (and options as appropriate) NTE price as well as the proposed month after start of work in which the interim and major payments are anticipated. The offeror shall also provide a summary level table depicting all events and associated time phased payment percentage as well as a cumulative time phased profile. The time phased profiles shall include all interim payment events and the major payment events detailed in I.A.11.

3.0 Interim payment event completion criteria

The offeror shall propose specific and discrete task oriented completion criteria for determination of interim payment event completion. The completion criteria must be related to the interim events as proposed under 2.0 above and should include items and efforts that are objectively measurable; such as, placement of all subcontracts for a specific mission, completion of drawings, submission of data items, completion of specific tests, delivery of end items, etc.

4.0 Finance Payment Profile

The offeror shall submit a Finance Payment Profile in accordance with outline on Page 2 of this Enclosure.

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Section III, Enclosure 1

Months ARO	Finance Payment Number	Finance Payment Percent	Finance Payment Amount	Cumulative Finance Payment	Cumulative Funding	Cumulative Expenditure

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Section III, Enclosure 2

RELEVANT EXPERIENCE AND PAST PERFORMANCE
QUESTIONNAIRE FOR
NASA RAPID II PROCUREMENT

Introduction

The National Aeronautics and Space Administration is currently conducting a competitive procurement for indefinite delivery, indefinite quantity, delivery order contracts for spacecraft to support future science and technology demonstration missions. For this effort, the selected contractors shall furnish the personnel, materials, and facilities to design, build, integrate, test, provide launch support, and operate mission spacecraft.

The anticipated contracts will be firm fixed price with a five year basic ordering period.

Questionnaire Instructions

Please provide your assessment of the scope and complexity of the contract for which you are a reference. Mark the appropriate block, indicating if the complexity of your contract in the specified area was HIGH, MODERATE, or LOW. If your contract didn't require performance in a work area, please mark N/A.

Please also provide your assessment of the level of performance associated with the contract for which you are a reference. Mark the appropriate block, indicating if the contractor's past performance was EXCELLENT, VERY GOOD, GOOD, FAIR, or POOR in each area identified. If your contract didn't require performance in a work area, please mark N/A.

Narrative comments would be particularly useful and greatly appreciated. Space is provided for comments, and additional pages may be used if desired.

Please return your questionnaire directly to:

NASA Goddard Space Flight Center
Attn: Leif Grotos, Code 214.3
Greenbelt, MD 20771

Fax: 301-286-0530
Phone: 301-286-7586

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Questionnaire Subject

To assist in evaluating proposals under this procurement, you have been requested to provide contractually-related descriptive information for the following contract:

Contractor: _____

Contract: _____

Contract Type: _____ Period of Performance: _____

Original Contract Value: _____ Final Contract Value: _____

Description of Contract: _____

1. Your Organization Name and Address

Name: _____

Title: _____

Phone: _____ FAX: _____ E-Mail _____

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2. Does a corporate or ownership relationship exist between the contractor being evaluated and your organization? YES _____ NO _____

If YES, please describe the relationship: _____

3. Please characterize the scope and complexity of the work the contractor did for you in the following areas:

Work Area	High	Moderate	Low	N/A
(a) Management of a Spacecraft development project				
(b) Development of a spacecraft system				
(c) Implementation approach				
(d) Accommodating user-unique payload				
(e) Launch and Mission Operations approach				

Comments: _____

4. Past Performance: Please characterize the level of the contractor's overall performance in the following areas:

Work Area	Excellent	Very Good	Good	Fair	Poor	N/A
(a) Management effectiveness (the degree of customer monitoring and guidance required)						
(b) Identification of significant problems and initiative towards corrective action						
(c) Effectiveness of systems engineering						
(d) Effectiveness of instrument/payload accommodation						
(e) Compliance with contractual terms and conditions						
(f) Effectiveness of controlling contract costs						
(g) Effectiveness in meeting contract technical requirements						
(h) Effectiveness in meeting contract schedules						
(i) Quality and timeliness of reports and documentation						
(j) Degree of cooperation and effectiveness of working relationships with users and customers						

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5. Has this contract been partially or completely terminated for default or convenience?
YES _____ NO _____

If YES, please explain the reasons for termination (i.e. inability to meet cost or delivery schedules, performance, etc.)

6. How would you rate the contractor's overall performance?

7. Would you award to this contractor again?

8. Any additional comments:

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Section III, Enclosure 3

PROJECT CONTROL PLAN OUTLINE

The offer shall provide a PROJECT CONTROL PLAN (PCP), which consists of the Project Management Plan, the Systems Engineering Plan, and the Systems Assurance Plan.

Project Management plan

Describe the following program management activities in enough detail to provide an understanding of how the implementation effort specific to the core system proposed will be monitored, resources assigned and managed, and progress determined and reported. The program management activities are given in the following paragraphs.

- *Non-Mission Specific Delivery Order Management (Special Studies)*
- *Scheduling and Program Control*
- *Quality Management*
- *Documentation Systems*
- *Reviews and Audits*
- *Government Insight*
- *Contract Management*
- *Risk Management*
- *Resource Management (Staffing, Facilities, etc.)*
- *Implementation Schedule*

Show the contractually required and additional proposed payment milestones. Denote the following program phases: System Engineering & Design, Fabrication, Assembly & Test, Spacecraft Bus I&T, Observatory I&T, Launch Support, Operations Support.

Systems Engineering Plan

Define how you will accomplish the following systems engineering activities with enough detail to provide an understanding of how the requirements will be defined and allocated, and the interfaces defined and maintained, as well as your approach toward specialty areas such as reliability, safety, and configuration management. The systems engineering activities are given in the following paragraphs.

- *Requirements Analysis*
- *Interface Definition and Maintenance*
- *Configuration Management*
- *Instrument and Mission Accommodations*
- *Mission Design and Analysis*

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Section III, Enclosure 3

SYSTEMS ASSURANCE PLAN

Describe how you will implement a Quality Program to meet the 20 Quality System requirements of ANSI/ASQC Q9001-1994. Describe how you will control and maintain your processes to provide repeatable quality products. Systems assurance topics to be covered include:

- *Management Responsibility*
- *Quality System*
- *Contract Review*
- *Design Control*
- *Document and Data Control*
- *Purchasing*
- *Control of Customer Supplied Product*
- *Product Identification and Traceability*
- *Process Control*
- *Inspection and Testing*
- *Control of Inspection, Measuring, and Test Equipment*
- *Inspection and Test Status*
- *Control of Nonconforming Product*
- *Preventive and Corrective Action Process*
- *Handling, Storage, Packaging, Preservation, and Delivery*
- *Control of Quality Records*
- *Internal Quality Audits*
- *Training*
- *Servicing*
- *Statistical Techniques*

IV. EVALUATION—COMMERCIAL ITEMS

(a) The Government will award contract(s) resulting from this solicitation to the responsible offeror(s) whose offer(s) are most advantageous to the Government in accordance with this provision. The evaluation for award will be conducted utilizing source selection procedures 1871.401-3 Competitive Negotiated Procurement Not Using Qualitative Criteria. This provision applies to both the initial awards that result from this solicitation and to any subsequent awards made during the life of the contract in accordance with paragraph (h) of this provision.

(b) The Government intends to award multiple ID/IQ contracts to the offeror(s) whose offer(s) is (are) the lowest price technically acceptable offer(s). In the context of multiple awards, the lowest prices are those which are evaluated to be fair and reasonable. In determining whether a price is fair and reasonable, the Government will consider the extent to which the offerors' core bus meets or exceeds the technical acceptability standards and areas such as test procedures, quality standards, demonstrated launch vehicle compatibility, successful flight history, flexibility and program management.

(c) A price analysis of the proposed core system and any options will be conducted in accordance with FAR 15.305(a)(1). This analysis is done to ensure that "a fair and reasonable" price is paid by the Government.

The techniques for price analysis are described at FAR 15.404-1(b)(2). For the initial and any subsequent awards, the full range of specified techniques may be used except there will not be a comparison between offeror prices.

In accordance with FAR 52.219-23 Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns, offers will be evaluated by adding a factor of 10% to the price of all offers that are not exempt.

(d) The offeror's proposed milestone and payment profile will be evaluated to determine reasonableness and consistency with the offeror's anticipated funding requirements for the build and delivery cycle. In addition, the Government will evaluate the offeror's ability to secure collateral for Government financing of future delivery orders against the contract. The Government will not entertain any exceptions to the Terms for Financing of Purchases of Commercial Items provisions of this contract.

(e) Offer responsibility--General. The standards and procedures for determining whether prospective contractors and subcontractors are responsible are set forth in FAR Subpart 9.1. The general standards of prospective contractor responsibility are at FAR 9.104-1. The Goddard Space Flight Center places particular emphasis on prospective contractor responsibility with regard to past performance. As with all aspects of prospective contractor responsibility, a finding of non-responsibility can be made at any time prior to contract award.

(f) Technical Acceptability Standards. Offers must conform to the solicitation and also demonstrate that all the minimum standards specified below are met.

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- Ability to Comply with the Statement of Work
- Core Spacecraft Design Has Successfully Completed launch processing through Mate and Interface Testing with a Launch Vehicle
- Offeror is ISO Compliant (Meets the 20 Quality System requirements of ANSI/ASQC Q9001-1994)
- Offeror Must Possess or Demonstrate the Ability to Obtain the Necessary and Appropriate Facilities to Build and Test the Core Bus
- The proposed performance claims are substantiated by the proposed spacecraft system and subsystems.

(g) 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, whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award.

(h) Additional Satellite Offerings and Contract Awards-- Offerors are notified that, semi-annually, over the life of the contract, the Contracting Officer will accept and evaluate proposals with the intention of adding additional contracts and/or modifying existing contracts to add additional core busses and options. Unsolicited proposals will be accepted by the RSDO Contracting Officer during the months of February and August. In addition, the Contracting Officer may periodically solicit proposals.

Proposals shall be subject to the same proposal instructions and evaluation procedures as the Rapid II Request for Offers dated August 19, 1999 . Proposal instructions and evaluation procedures may be obtained from the RSDO website (<http://rsdo.gsfc.nasa.gov>).

(End of provision)

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ADDENDUM TO EVALUATION--COMMERCIAL TERMS

IV.A.1 OFFER/NO OFFER RESPONSE SHEET

Compliance is requested, but not required.

This page may be used to indicate whether your company intends to submit an offer in response to this solicitation. You may also indicate your intent by E-Mail or FAX. The E-Mail address is Sharon.M.Collignon.1@gsc.nasa.gov. The FAX number is 301-286-0530. If mailed, return the completed page to the individual and address on the face page of this solicitation.

The _____(name of firm)

(/ / intends) (/ / does not intend) to submit an offer in response to RF05- 00651-311.

(End of text)

**V. OFFEROR REPRESENTATIONS AND CERTIFICATIONS
COMMERCIAL ITEMS (52.212-3) (MAY 1999)**

(a) Definitions. As used in this provision:

“Emerging small business” means a small business concern whose size is no greater than 50 percent of the numerical size standard for the standard industrial classification code designated.

“Small business concern” 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 size standards in this solicitation.

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

(1) Which 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.

“Women-owned business concern” means a concern which 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 its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Taxpayer identification number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701). (Not applicable if the offeror is required to provide this information to a central contractor registration database to be eligible for award.)

(1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701© and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).

(2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror’s relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror’s TIN.

(3) Taxpayer Identification Number (TIN).

TIN: _____.

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States.;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of the Federal government;

(4) Type of organization.

- Sole proprietorship;
- Partnership;
- Corporate entity (not tax exempt);
- Corporate entity (tax-exempt);
- Government entity (Federal, State, or local);
- Foreign government;
- International organization per 26 CFR 1.6049-4;
- Other _____

(5) Common Parent.

- Offeror is not owned or controlled by a common parent;
- Name and TIN of common parent:
Name _____
TIN _____

(c) Offerors must complete the following representations when the resulting contract is to be performed inside the United States, its territories or possessions, Puerto Rico, the Trust Territory of the Pacific Islands, or the District of Columbia. Check all that apply.

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

Note: Complete paragraphs (c)(4) and (c)(5) only if this solicitation is expected to exceed the simplified acquisition threshold.

- (4) Women-owned business concern (other than small business concern). [Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it is, is not, a women-owned business concern.
 - (5) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price:
-

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(6) Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program. [Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.]

(i) (Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).) The offeror represents as part of its offer that it is, is not an emerging small business.

(ii) (Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DIGs).) Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts)

(Check one of the following):

Number of Employees	Average Annual Gross Revenues
<input type="checkbox"/> 50 or fewer	<input type="checkbox"/> \$1 million or less
<input type="checkbox"/> 51-100	<input type="checkbox"/> \$1,000,001-\$2 million
<input type="checkbox"/> 101-250	<input type="checkbox"/> \$2,000,001-\$3.5 million
<input type="checkbox"/> 251-500	<input type="checkbox"/> \$3,500,001-\$5 million
<input type="checkbox"/> 501-750	<input type="checkbox"/> \$5,000,001-\$10 million
<input type="checkbox"/> 751-1000	<input type="checkbox"/> \$10,000,001-\$17 million
<input type="checkbox"/> Over 1000	<input type="checkbox"/> Over \$17 million

(7) (Complete only if the solicitation contains the clause at FAR 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns, or FAR 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting, and the offeror desires a benefit based on its disadvantaged status.)

(i) General. The offeror represents that either--

(A) It is, is not certified by the Small Business Administration as a small disadvantaged business concern and is listed, on the date of this representation, on the register of small disadvantaged business concerns maintained by the Small Business Administration, and that no material change in disadvantaged ownership and control has occurred since its certification, and, where the concern is owned by one or more individuals claiming disadvantaged status, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It has, has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application

is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(ii) [] Joint Ventures under the Price Evaluation Adjustment for Small Disadvantaged Business Concerns. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(7)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture:_____.

(d) Representations required to implement provisions of Executive Order 11246--

(1) Previous Contracts and Compliance. The offeror represents that--

(i) It [] has, [] has not participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation; and

(ii) It [] has, [] has not filed all required compliance reports.

(2) Affirmative Action Compliance. The offeror represents that--

(i) It [] has developed and has on file, [] has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR parts 60-1 and 60-2), or

(ii) It [] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352).

(Applies only if the contract is expected to exceed \$100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) Buy American Act--Trade Agreements--Balance of Payments Program Certificate. (Applies only if FAR clause 52.225-9, Buy American Act--Trade Agreement--Balance of Payments Program, is included in this solicitation.)

(1) The offeror hereby certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product (as defined in the clause entitled "Buy American Act--Trade Agreements Balance of Payments Program") and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States, a designated country, a North American Free Trade Agreement (NAFTA) country, or a Caribbean Basin country, as defined in section 25.401 of the Federal Acquisition Regulation.

(2) Excluded End Products:

Line item No.	Country of origin
_____	_____
_____	_____

(list as necessary)

(3) Offers will be evaluated by giving certain preferences to domestic end products, designated country end products, NAFTA country end products, and Caribbean Basin country end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (f)(2) of this provision, offerors must identify and certify below those excluded end products that are designated or NAFTA country end products, or Caribbean Basin country end products. Products that are not identified and certified below will not be deemed designated country end products, NAFTA country end products, or Caribbean Basin country end products. Offerors must certify by inserting the applicable line item numbers in the following:

(i) The offeror certifies that the following supplies qualify as "designated or NAFTA country end products" as those terms are defined in the clause entitled "Buy American Act--Trade Agreements--Balance of Payments Program:"

(Insert line item numbers)

(ii) The offeror certifies that the following supplies qualify as "Caribbean Basin country end products" as that term is defined in the clause entitled "Buy American Act--Trade Agreements--Balance of Payments Program":

(Insert line item numbers)

(4) Offers will be evaluated in accordance with FAR Part 25.

(g)(1) Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program (Applies only if FAR clause 52.225-21, Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program, is included in this solicitation.)

(i) The offeror certifies that each end product being offered, except those listed in paragraph (g)(1)(ii) of this provision, is a domestic end product (as defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program" and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States.

(ii) Excluded End Products:

Line item No.

Country of origin

(List as necessary)

(iii) Offers will be evaluated by giving certain preferences to domestic end products or NAFTA country end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (g)(1)(ii) of this provision, offerors must identify and certify below those excluded end products that are NAFTA country end products. Products that are not identified and certified below will not be deemed NAFTA country end products. The offeror certifies that the following supplies qualify as "NAFTA country end products" as that term is defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program:"

(Insert line item numbers)

(iv) Offers will be evaluated in accordance with Part 25 of the Federal Acquisition Regulation. In addition, if this solicitation is for supplies for use outside the United States, an evaluation factor of 50 percent will be applied to offers of end products that are that are not domestic or NAFTA end products.

(2) Alternate I. If Alternate I to the clause at 52.225-21 is included in this solicitation, substitute the following paragraph (g)(1)(iii) for paragraph (g)(1)(iii) of this provision:

(g)(1)(iii) Offers will be evaluated by giving certain preferences to domestic end products or Canadian end products over other end products. In order to obtain these preferences in the evaluation of each excluded end product listed in paragraph (b) of this provision, offerors must identify below those excluded end products that are Canadian end products. Products that are not identified below will not be deemed Canadian end products.

The following supplies qualify as "Canadian end products" as that term is defined in the clause entitled "Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program":

(Insert line item numbers)

(h) Certification Regarding Debarment, Suspension or Ineligibility for Award (Executive Order 12549). The offeror certifies, to the best of its knowledge and belief, that--

(1) The offeror and/or any of its principals [] are, [] are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency, and

(2) [] Have, [] have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal,

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state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion or receiving stolen property; and [] are, [] are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses.

(End of provision)

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ADDENDUM TO FAR CLAUSE 52.212-3

V.A.1 COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE REPORTING
(GSFC 52.204-90) (MAR 1999)

(a) Commercial and Government Entity (CAGE) codes are used to support a variety of procurement data systems throughout the Government. CAGE codes provide a standardized method of identifying a given facility at a specific location. CAGE codes will be used as a key data element in NASA's pending Integrated Financial Management Program (IFMP). In order to transition to IFMP, CAGE codes are now being collected. If an offeror does not have a CAGE code, the offeror is encouraged, but not presently required, to obtain one.

(b) Commercial and Government Entity (CAGE) codes are assigned by the Defense Logistics Services Center (DLSC) to identify a commercial or Government entity. These codes are unique for each commercial or government facility or location. The CAGE code must be for a contractor's particular name and address, not for a parent or other corporate affiliation.

(c.) An offeror who does not have a CAGE code should complete a "Goddard Space Flight Center Vendor Commercial and Government Entity (CAGE) Code Request Form," available at:
(Note: The request can be submitted electronically to the Goddard Space Flight Center directly from this Web site)

(d) The offeror is requested to complete one of the following:

/ / Offeror has a CAGE code. The CAGE code for the offeror location is _____.

/ / CAGE code request has been electronically submitted per paragraph (c).

/ / CAGE code has been requested by other means. The DD Form 2051 was submitted to _____ on the following date:

NOTE: Do NOT delay submission of the offer pending receipt of a CAGE code.

(End of provision)

V.A.II COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING
REQUIREMENTS (FEB 1999)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 37 U.S.C.4212(d) (i.e., the VETS-100 report required by Federal Acquisition Regulation clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era), it has submitted the most recent report required by 37 U.S.C. 4212(d).

(End of Provision)