

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 7900)		RATING N/A	PAGE 1 OF 82 PAGES
2. CONTRACT NUMBER NNG15CR65C	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)		5. DATE ISSUED	8. REQUISITION/PURCHASE NUMBER 4200564341
7. ISSUED BY NASA/GSFC Procurement Operations Division 8000 Greenbelt Rd., Greenbelt, MD 20771		CODE 210.M	8. ADDRESS OFFER TO (If other than item 7)		

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and _____ copies for furnishings the supplies or services in the Schedule will be received at the place specified in item 8, or if hand carried, in the depository located in _____ until _____ local time _____ (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME MONICA ALLEN	B. TELEPHONE (NO COLLECT CALLS)		C. E-MAIL ADDRESS monica.c.allen@nasa.gov
		AREA CODE 301	NUMBER 2869485	EXT.

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-18, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	<input type="checkbox"/> 10 CALENDAR DAYS (%)	<input type="checkbox"/> 20 CALENDAR DAYS (%)	<input type="checkbox"/> 30 CALENDAR DAYS (%)	CALENDAR DAYS(%)
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14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND THE TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
Trident Vantage Systems, LLC. 1220 North Fillmore St Ste 320 Arlington, VA 22201			Said Khosrowshahi - President

15B. TELEPHONE NUMBER AREA CODE NUMBER EXT. 571 4827131 115	<input type="checkbox"/> 15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	17. SIGNATURE 	18. OFFER DATE 9/15/2015
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AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS All	20. AMOUNT 4200564341	21. ACCOUNTING AND APPROPRIATION G.4
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22. AUTHORITY FOR USING OTHER THAN FULL OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) <input type="checkbox"/> 41 U.S.C. 253 (c)	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM G.4
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24. ADMINISTERED BY (If other than item 7)	25. PAYMENT WILL BE MADE BY See Clause G.4	CODE
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26. NAME OF CONTRACTING OFFICER (Type or print) KAREN M. PLACE CONTRACTING OFFICER	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE 9-23-15
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**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

B.1 SUPPLIES AND/OR SERVICES TO BE PROVIDED (GSFC 52.211-90) (JUL 2014)

The Contractor shall provide all resources (except as may be expressly stated in the contract as furnished by the Government) necessary to deliver and/or perform the items below in accordance with the Clause J.1, **Attachment A** - “Statement of Work”, **Attachment E** - “Quality Assurance Plan” and Task Orders issued hereunder.

Item	Description	Reference	Schedule	Delivery Method/Addressee(s)
1	Services and Deliverables in accordance with Task Orders Issued and the SOW	As Defined in Individual Task Orders Issued	As Specified in Individual Task Orders Issued	As Specified in Individual Task Orders Issued
2	Task Plans	Section B GSFC 52.216-91 Section H NFS 1852.216-80	As Required in Clause	NASA Task Order Management System (TOMS)
3	Reports of Work	Section C GSFC 52.235-90 Section I NFS 1852.235-73	As Required in Clause	As specified in Clause
4	Material Inspection and Receiving Reports (MIRR) (DD Form 250)	Section E NFS 1852.246-72 Section E GSFC 52.246-94	At Time of Delivery	Hard Copy/Contracting Officer (CO), Contracting Officer's Representative (COR), and Receiving & Inspection
5	NASA Financial Management Reports	Section G GSFC 52.242-90 Section G NFS 1852.242-73 Attachment C	Monthly and Quarterly in accordance with Attachment C	Electronic Format/ Contracting Officer (CO), Contracting Officer's Representative (COR), Resource Analyst (RA) & Regional Finance Office
6	Foreign Travel Requests and Foreign Travel Reports	Section G NFS 1852.242-71	Requests—30 days in Advance of Travel Reports— Upon Conclusion of Travel	As specified in Contracting Officer's (CO) travel approval

**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

Item	Description	Reference	Schedule	Delivery Method/Addressee(s)
7	Requests for Government Property	Section G NFS 1852.245-70	30 Days Prior to Acquire Date	Electronic Format/CO
8	Financial Report of NASA Property in the Custody of Contractors (NF 1018)	Section G NFS 1852.245-73	Annual Report by October 15 th and Final Report	NF 1018 Electronic Submission System (NESS)
9	Physical Inventory of Capital Personal Property Reporting	Section G NFS 1852.245-78	Within 10 Calendar Days of Annual Physical Inventory	Property Administrator
10	Contract Historical Data	Section H GSFC 52.242-91 Attachment J	30 Days after Contracting Officer Request	Electronic Format/CO
11	Safety & Health Reporting	Section H NFS 1852.223-70 Section H NFS 1852.223-75 Section H GSFC 52.223-91	Monthly/Quarterly Reports and As Required	NASA Mishap Information System (NMIS)
12	Reporting of Inventions	Section G NFS 1852.227-72 Section I FAR 52.227-11	Interim Reports Every 12 Months (or sooner to preserve Patent Rights) and Final Report within 3 Months after Contract Completion	Electronic or Hard Copy Format/New Technology Representative or Patent Representative
13	Personal Identity Verification (PIV) Documentation and Reporting	Section H GSFC 52.204-99 Attachment I	10th Calendar Day of the Month and As Required	Electronic Format and Hard Copy/COR & Code 240
14	Equal Opportunity Reports	Section I FAR 52.222-26	As Specified by FAR 52.222-26	Electronic Format/CO & Code 120
15	Insurance Notifications	Section I FAR 52.228-7 Section I NFS 1852.228-75	As Specified by NFS 1852.228-75	Electronic Format/CO

**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

Item	Description	Reference	Schedule	Delivery Method/Addressee(s)
16	Subcontract Notification	Section I FAR 52.244-2	30 Days Prior to Subcontract Award Date	Electronic or Hard Copy Format/CO
17	IT Security Management Plan	Section I NFS 1852.204-76	30 Days after Contract Effective Date & Annual Updates As Required	Electronic Format/CO
18	Organizational Conflicts of Interest (OCI) Avoidance Plan	Section I NFS 1852.237-72	30 Days after Contract Effective Date	Electronic Format/CO
19	Service Contract Reporting	Section I FAR 52.204-15	Annually by October 31 and Revisions, if needed, by November 30	www.sam.gov

NOTE: Transportation Classification: Transportation Classifications designations, in accordance with Clause D.1, for deliverables under Item 1 will be specified in each individual task order at the time of task order issuance. Deliverables under Items 2-19, unless specified (electronic format, etc.), are considered Class IV and shall be shipped via the most advantageous commercial transportation means considered to be in the best interest of the Government.

(End of clause)

B.2 MINIMUM/MAXIMUM AMOUNT OF SUPPLIES OR SERVICES (COST REIMBURSEMENT) (GSFC 52.216-90) (APR 2008)

(a) The minimum amount of supplies or services that shall be ordered during the effective period of this contract is \$3,000,000. The maximum amount of supplies or services that may be ordered during the effective period of this contract is \$114,000,000. All orders placed under this contract will be applied to the minimum and maximum specified in this paragraph.

(b) The minimum amount is reached when the sum of the dollar amounts of all ordered supplies or services, except for any adjustments made pursuant to the Limitation of Cost or Limitation of Funds clause, equals or exceeds the minimum amount stated in paragraph (a).

(c) The maximum amount is reached when the sum of the dollar amounts of all ordered supplies or services, except for any adjustments made pursuant to the Limitation of

**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

Cost or Limitation of Funds clause, equals the maximum amount stated in paragraph (a).

(d) The maximum amount, if reached, precludes the issuance of further orders for supplies or services under this contract. However, reaching the maximum amount does not preclude adjustments to the dollar amounts of existing placed orders, for actions that are within the scope of the placed orders, and which are made pursuant to existing contract authority, such as the Changes clause.

(e) The maximum amount may be adjusted unilaterally by the Government on an as needed basis. Historic, current, and/or projected workload requirements will be used to determine the amount of upward adjustment. In no event will the adjusted maximum amount exceed 30% of the original maximum amount.

(End of clause)

B.3 SUPPLEMENTAL TASK ORDERING PROCEDURES (COST REIMBURSEMENT) (GSFC 52.216-91) (APR 2010)

(a) When the Government issues a request for a “task plan” to the Contractor in accordance with the Clause entitled “Task Ordering Procedure” of this contract, the Contractor shall prepare its estimate of the labor hours, labor categories, indirect costs, and other direct costs required to perform the task order requirements. The Contractor shall use only those appropriate labor and indirect cost rates, which may be less than but shall not exceed the rates found in Attachment B, to calculate the proposed estimated costs for all task orders issued in accordance with the “Task Ordering Procedure” clause of this contract.

(b) The Contractor’s proposed approach/pricing of the representative tasks set forth in its proposal for award of this contract shall be used as reference by the Contracting Officer in negotiating tasks with the Contractor which are issued under this contract, but only to the extent portions of a representative task are relevant to portions of a task actually issued.

(c) The Government and Contractor agree that the fixed fee percentage specified in Attachment B shall be used to calculate the fixed fee dollars on all task orders issued in accordance with the “Task Ordering Procedure” clause of this contract.

(End of clause)

B.4 ESTIMATED COST INCREASES (GSFC 52.232-94) (DEC 2005)

(a) The Contractor shall notify the Contracting Officer in writing when the Contractor has reason to believe that the total cost for performance of this contract, or any individual task order, exclusive of any fee, will be either greater or substantially less than the total

**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

estimated cost stated in this contract or in the task order. Notification shall not be delayed pending preparation of a proposal.

(b) A proposal is required to support a request for an increase in the estimated cost of the contract or the task order. The proposal should be submitted as soon as possible after the above notification but no later than 115 days before the incurred costs are expected to exceed the estimated cost. This will allow adequate time for the Government to evaluate the proposal and to mutually establish any increase in estimated cost with the Contractor.

(c)(1) The proposal shall be submitted in the following format unless some other format is directed or approved by the Contracting Officer:

- Incurred costs to date
- Projected cost to completion
- Total cost at completion
- Current negotiated estimated cost
- Requested increase in estimated cost

(2) The “projected cost to completion” shall consist of the following “other than cost or pricing data” unless the Contracting Officer requests or approves the submittal of a greater or lesser amount of information:

- (i) Elements of cost with supporting detail for estimated direct labor hours, direct and indirect rates, materials and subcontracts, and other elements.
- (ii) Supporting explanation for the increases and projections, sufficient for the Government to understand the reasons for the increased estimated cost.

(End of clause)

B.5 ESTIMATED COST AND FIXED FEE (1852.216-74) (DEC 1991)

The estimated cost of this contract is \$[to be negotiated by task order] exclusive of the fixed fee of \$[to be negotiated by task order]. The total estimated cost and fixed fee is \$[to be negotiated by task order].

(End of clause)

B.6 CONTRACT FUNDING (1852.232-81) (JUN 1990)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$2,827,500. This allotment is for the cost of awarded task orders and covers the following estimated period of performance: December 31, 2015.

**SECTION B OF NNG15CR65C
SUPPLIES OR SERVICES AND PRICES/COSTS**

(b) An additional amount of \$172,500 is obligated under this contract for payment of fee.

(End of clause)

(END OF SECTION B]

SECTION C OF NNG15CR65C
DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 SCOPE OF WORK (GSFC 52.211-91) (AUG 2013)

The Contractor shall provide the personnel, materials, and facilities, except as otherwise specified in this contract, necessary to perform the work and to furnish the items specified in the SUPPLIES AND/OR SERVICES TO BE PROVIDED clause of this contract in accordance with Section J.1, Attachment A, Statement of Work, and task orders issued hereunder.

(End of clause)

C.2 REPORTS OF WORK (IDIQ/BPA) (GSFC 52.235-90) (AUG 2013)

- (a) Monthly progress reports. The Contractor shall submit monthly progress reports of all work accomplished covering all Task Orders active during each month of contract's performance. Reports shall address the accomplishments and progress of all work performed under each Task Order for the month being reported. Each Task Order shall be a separate report. The report shall be in narrative form and brief in content. The report shall include a description of overall Task Order progress to include technical accomplishments and status of deliverables. Also the report shall provide a quantitative description of overall progress and identify any risks or problems, which may impede performance and proposed corrective actions. Also the report shall have a discussion of the projected work activities to be performed during the next monthly reporting period.
- (b) Final Task Order Report. The Contractor shall submit a Final Task Order Report for each completed Task Order that summarizes the results of the entire Task Order, including recommendations and conclusions based on the experience and results obtained. The Final Task Order Report should include, as appropriate, tables, graphs, diagrams, curves, sketches, photographs, and drawings in sufficient detail to comprehensively explain the results achieved under the Task Order. The final report shall also include the final incurred cost for the Task Order.
- (c) Submission. The Contractor shall submit the reports required by this clause as follows:

Copies	Report Type	Addressee	Mail Code
1	M,F	Contracting Officer (CO)	210.3
1	M,F	Contracting Officer's Representative (COR)	590
1	M,F	Task Monitor	See Task Order

SECTION C OF NNG15CR65C
DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

[M=Monthly Report, F=Final Report]

- (d) Submission dates. Monthly reports shall be submitted by the 15th day of the month following the month being reported. If the Task Order is awarded beyond the middle of a month, the first monthly report shall cover the period from award until the end of the following month. The final report for each Task Order shall be submitted within 30 days after completion of the Task Order.

(End of clause)

C.3 LIMITED RIGHTS DATA or RESTRICTED COMPUTER SOFTWARE (52.227-90) (MAR 2008)

In accordance with the delivery requirements of this contract, all software data rights shall be delivered in accordance with the Rights in Data – General clause, specified elsewhere in this contract, except for the following:

NONE

(End of clause)

(END OF SECTION C]

**SECTION D OF NNG15CR65C
PACKAGING AND MARKING**

D.1 PACKAGING, HANDLING, AND TRANSPORTATION (1852.211-70 (SEPT 2005))

(a) The Contractor shall comply with NASA Procedural Requirements (NPR) 6000.1, "Requirements for Packaging, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components", as may be supplemented by the statement of work or specifications of this contract, for all items designated as Class I, II, or III.

(b) The Contractor's packaging, handling, and transportation procedures may be used, in whole or in part, subject to the written approval of the Contracting Officer, provided (1) the Contractor's procedures are not in conflict with any requirements of this contract, and (2) the requirements of this contract shall take precedence in the event of any conflict with the Contractor's procedures.

(c) The Contractor must place the requirements of this clause in all subcontracts for items that will become components of deliverable Class I, II, or III items.

(End of clause)

D.2 IDENTIFICATION AND MARKING OF GOVERNMENT EQUIPMENT (1852.245-74) (JAN 2011)

(a) The Contractor shall identify all equipment to be delivered to the Government using NASA Technical Handbook (NASA-HDBK) 6003, Application of Data Matrix Identification Symbols to Aerospace Parts Using Direct Part Marking Methods/Techniques, and NASA Standard (NASA-STD) 6002, Applying Data Matrix Identification Symbols on Aerospace Parts or through the use of commercial marking techniques that: (1) are sufficiently durable to remain intact through the typical lifespan of the property: and, (2) contain the data and data format required by the standards. This requirement includes deliverable equipment listed in the schedule and other equipment when no longer required for contract performance and NASA directs physical transfer to NASA or a third party. The Contractor shall identify property in both machine and human readable form unless the use of a machine readable-only format is approved by the NASA Industrial Property Officer.

(b) Equipment shall be marked in a location that will be human readable, without disassembly or movement of the equipment, when the items are placed in service unless such placement would have a deleterious effect on safety or on the item's operation.

(c) Concurrent with equipment delivery or transfer, the Contractor shall provide the following data in an electronic spreadsheet format:

- (1) Item Description.
- (2) Unique Identification Number (License Tag).
- (3) Unit Price.

**SECTION D OF NNG15CR65C
PACKAGING AND MARKING**

(4) An explanation of the data used to make the unique identification number.

(d) For equipment no longer needed for contract performance and physically transferred under paragraph (a) of this clause, the following additional data is required:

- (1) Date originally placed in service.
- (2) Item condition.

(e) The data required in paragraphs (c) and (d) of this clause shall be delivered to the NASA center receiving activity listed below:

Goddard Space Flight Center
Building 35, Code 279
Greenbelt, MD 20771

(f) The contractor shall include the substance of this clause, including this paragraph (f), in all subcontracts that require delivery of equipment.

(End of clause)

(END SECTION D)

**SECTION E OF NNG15CR65C
INSPECTION AND ACCEPTANCE**

E.1 INSPECTION OF SERVICES – COST REIMBURSEMENT (52.246-5) (Apr 1984) NOTE – This clause applies only to Task Orders for Services.

E.2 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT (52.246-11) (FEB 1999)

The Contractor shall comply with the higher-level quality standards below:

(a) ANSI/ISO/ASQ Q9001-2000 Quality Management System (QMS) requirements as documented on-line in the GSFC QMS system (<http://gsfcmanagementsystem.gsfc.nasa.gov/fundamentals.cfm>). In addition, the contractor's quality system shall be compliant with ISO Q9001-2000. Additional quality requirements may also be specified in individual task orders. "Compliant" means that the contractor has defined, documented, and will continually implement during the term of the contract management-approved methods of operation that conform to the requirements given in the above-cited International Standard.

(b) **Attachment E** - Quality Assurance Plan (QAP)

(End of clause)

E.3 ACCEPTANCE—LOCATION(S) (GSFC 52.246-93) (SEP 2013)

The Contracting Officer or authorized representative will accomplish acceptance at the following location(s):

Deliverable Item No.	Location	Authorized Representative
1	TBD by Task Orders	COR
2-19	GSFC	CO or COR

The Contracting Officer reserves the right to designate other Government agents as authorized representatives. The Contractor will be notified by a written notice or by a copy of the delegation letter if other agents are authorized.

(End of clause)

E.4 INSPECTION SYSTEM RECORDS (GSFC 52.246-102) (APR 2013)

The Contractor shall maintain records evidencing inspections in accordance with the Inspection clause of this contract for a period of six (6) years after delivery of all items and/or completion of all services called for by the contract.

(End of clause)

**SECTION E OF NNG15CR65C
INSPECTION AND ACCEPTANCE**

E.5 GOVERNMENT CONTRACT QUALITY ASSURANCE FUNCTIONS (1852.246-71) (OCT 1988) NOTE – This clause applies only to Task Orders for Supplies.

In accordance with the inspection clause of this contract, the Government intends to perform the following functions at the locations indicated:

Item: To be identified by Task Order

Quality Assurance Location: To be identified by Task Order

Function: To be identified by Task Order

(End of clause)

E.6 MATERIAL INSPECTION AND RECEIVING REPORT (1852.246-72) (AUG 2003)

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) prepared in an original copy and sufficient other copies to accomplish the following distribution:

(1) Via mail and marked "Advance Copy", one copy each to the Contracting Officer, the Contracting Officer's Technical Representative (if designated in the contract), and to the cognizant Administrative Contracting Officer, if any.

(2) Via mail, the original and 1 copy (unfolded) to the shipment address (delivery point) specified in Section F of this contract. Mark the exterior of the envelope "CONTAINS DD FORM 250". This must arrive prior to the shipment.

(3) With shipment in waterproof envelope (one copy) for the consignee.

(4) If the shipment address is not directly to the Goddard Space Flight Center (Greenbelt) or Goddard Space Flight Center (Wallops) central receiving areas, then one copy of the DD Form 250 must be provided (via mail) to one on the following addresses depending upon whether this contract is with GSFC Greenbelt or GSFC Wallops:

Receiving and Inspection (Code 279), Goddard Space Flight Center,
Greenbelt, MD 20771.

Receiving and Inspection (Bldg. F16), Wallops Flight Facility,
Wallops Island VA 23337.

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement [1846.6](#). The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope, which shall be securely attached to the exterior of the package in the most protected location.

(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package

**SECTION E OF NNG15CR65C
INSPECTION AND ACCEPTANCE**

numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

(End of clause)

E.7 MATERIAL INSPECTION AND RECEIVING REPORT NOT REQUIRED (GSFC 52.246-94) (APR 1989)

NASA FAR Supplement clause 18-52.246-72 of this contract requires the furnishing of a Material Inspection and Receiving Report (MIRR) (DD Form 250 series) at the time of each delivery under this contract. However, a MIRR is not required for the following paper/electronic deliverables:

- 1) Services rendered
- 2) Reports/documentation

(End of clause)

E.8 INSPECTION OF SUPPLIES--COST-REIMBURSEMENT (52.246-3_ (MAY 2001) *NOTE – This clause applies only to Task Orders for Supplies.*

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

“Contractor’s managerial personnel” means any of the Contractor’s directors, officers, managers, superintendents, or equivalent representatives who have supervision or direction of --

- (1) All or substantially all of the Contractor’s business;
- (2) All or substantially all of the Contractor’s operation at a plant or separate location where the contract is being performed; or
- (3) A separate and complete major industrial operation connected with performing this contract.

“Supplies” includes but is not limited to raw materials, components, intermediate assemblies, end products, lots of supplies, and, when the contract does not include the Warranty of Data clause, data.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the supplies, fabricating methods, and special tooling under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

SECTION E OF NNG15CR65C
INSPECTION AND ACCEPTANCE

(c) The Government has the right to inspect and test the contract supplies, to the extent practicable at all places and times, including the period of manufacture, and in any event before acceptance. The Government may also inspect the plant or plants of the Contractor or any subcontractor engaged in the contract performance. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If the Government performs inspection or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

(e) Unless otherwise specified in the contract, the Government shall accept supplies as promptly as practicable after delivery, and supplies shall be deemed accepted 60 days after delivery, unless accepted earlier.

(f) At any time during contract performance, but no later than 6 months (or such other time as may be specified in the contract) after acceptance of the supplies to be delivered under the contract, the Government may require the Contractor to replace or correct any supplies that are nonconforming at time of delivery. Supplies are nonconforming when they are defective in material or workmanship or are otherwise not in conformity with contract requirements. Except as otherwise provided in paragraph (h) below, the cost of replacement or correction shall be included in allowable cost, determined as provided in the Allowable Cost and Payment clause, but no additional fee shall be paid. The Contractor shall not tender for acceptance supplies required to be replaced or corrected without disclosing the former requirement for replacement or correction, and, when required, shall disclose the corrective action taken.

(g)

(1) If the Contractor fails to proceed with reasonable promptness to perform required replacement or correction, the Government may --

(i) By contract or otherwise, perform the replacement or correction and charge to the Contractor any increased cost or make an equitable reduction in any fixed fee paid or payable under the contract;

(ii) Require delivery of undelivered supplies at an equitable reduction in any fixed fee paid or payable under the contract; or

(iii) Terminate the contract for default.

(2) Failure to agree on the amount of increased cost to be charged to the Contractor or to the reduction in the fixed fee shall be a dispute.

**SECTION E OF NNG15CR65C
INSPECTION AND ACCEPTANCE**

(h) Notwithstanding paragraphs (f) and (g) above, the Government may at any time require the Contractor to correct or replace, without cost to the Government, nonconforming supplies, if the nonconformances are due to --

(1) Fraud, lack of good faith, or willful misconduct on the part of the Contractor's managerial personnel; or

(2) The conduct of one or more of the Contractor's employees selected or retained by the Contractor after any of the Contractor's managerial personnel has reasonable grounds to believe that the employee is habitually careless or unqualified.

(i) This clause applies in the same manner to corrected or replacement supplies as to supplies originally delivered.

(j) The Contractor shall have no obligation or liability under this contract to replace supplies that were nonconforming at the time of delivery, except as provided in this clause or as may be otherwise provided in the contract.

(k) Except as otherwise specified in the contract, the Contractor's obligation to correct or replace Government-furnished property shall be governed by the clause pertaining to Government property.

(End of Clause)

(END OF SECTION E]

**SECTION F OF NNG15CR65C
DELIVERIES OR PERFORMANCE**

F.1 EFFECTIVE ORDERING PERIOD GSFC 52.217-92 (JAN 2014)

The effective ordering period contract shall be for a period of 5 years from September 23, 2015.

(End of clause)

F.2. PLACE OF PERFORMANCE - SERVICES GSFC 52.237-92 (NOV 2013)

The services to be performed under this contract shall be performed at the following location(s): NASA Goddard Space Flight Center and Contractor facilities. Alternate places of performance may be specified in individual task orders issued.

(End of clause)

F.3 SHIPPING INSTRUCTIONS--CENTRAL RECEIVING (GSFC 52.247-94) (NOV 2012)

Shipments of the items required under this contract shall be to:

Receiving Officer
Building 35
Code 279
Goddard Space Flight Center
Greenbelt, Maryland 20771

Marked for:

Technical Officer (Name): TBD per task order
Code: TBD per task order
Building: TBD per task order
Room: TBD per task order
Contract No.: NNG15CR65C/ Task order #TBD
Item(s) No.: TBD per task order

Compliance with this clause is necessary to assure verification of delivery and acceptance and prompt payment.

(End of clause)

F.4 STOP-WORK ORDER (52.242-15) (AUG 1989) - ALTERNATE I (APR 1984)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period

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of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either -

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Termination clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and in any other terms of the contract that may be affected, and the contract shall be modified, in writing, accordingly, if -

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of clause)

F.5 F.O.B. DESTINATION (52.247-34) (NOV 1991)

(a) The term f.o.b. destination, as used in this clause, means -

(1) Free of expense to the Government, on board the carrier's conveyance, at a

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specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or constructive placement as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including piggyback) is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for heavy or bulky freight. When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall -

- (1)(i) Pack and mark the shipment to comply with contract specifications; or
- (ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;
- (2) Prepare and distribute commercial bills of lading;
- (3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;
- (4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;
- (5) Furnish a delivery schedule and designate the mode of delivering carrier; and
- (6) Pay and bear all charges to the specified point of delivery.

(End of clause)

(END OF SECTION F]

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G.1 FINANCIAL MANAGEMENT REPORTING (GSFC 52.242-90) (JUN 2014)

(a) Requirements. This clause provides the supplemental instructions referred to in NASA FAR Supplement (NFS) clause 1852.242-73. The NFS clause and NASA Procedural Requirements (NPR) 9501.2E, "NASA Contractor Financial Management Reporting", establish report due dates and other financial management reporting requirements. NPR 9501.2E permits withholding of payment for noncompliance.

(b) Supplemental instructions.

(1) Monthly (NF 533M) reports are required. Quarterly (NF 533Q) reports are also required. The reporting structure shall be in accordance with Attachment C, Financial Management Reporting Requirements, of Section J of this contract.

(2) As stated in NPR 9501.2E, NASA strongly encourages electronic contractor cost reporting. The preferred formats are Excel and Adobe. Contact the Contracting Officer for any E-Mail addresses that are not provided or which become noncurrent.

Distribution shall be as follows:

Contracting Officer, Code 210.3
E-Mail: Monica.C.Allen@nasa.gov

Contracting Officer's Representative: Linh Nguyen
E-Mail: Linh.Nguyen-1@nasa.gov

Resources Analyst, Code 501
E-Mail: Arthur.Chan@nasa.gov

Regional Finance Office Cost Team, Code 155.2
E-Mail: GSFC-rfocateam@lists.nasa.gov

Administrative Contracting Officer (if delegated), N/A

(c) Web site. NPR 9501.2E, "NASA Contractor Financial Management Reporting":

<http://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=9501&s=2E>

(End of clause)

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G.2 PROPERTY CLAUSE APPLICABILITY—ON-SITE AND OFF-SITE (GSFC 52.245-96) (MAR 2011)

(a) Performance of this contract requires that Contractor personnel and any furnished and/or acquired Government property be located at both Government controlled and managed premises (on-site) and at Contractor controlled and managed premises (off-site). The requirements for control and accountability of Government property differ depending upon the location of the property. The applicability of the clauses in this contract to on-site and to off-site locations is indicated below.

(b) Clauses applicable to both on-site and off-site locations.

FAR clause 52.245-1, "Government Property"

FAR clause 52.245-9, "Use and Charges"

NASA FAR Supplement clause 1852.245-70, "Contractor Requests for Government-Provided Equipment"

NASA FAR Supplement clause 1852.245-72, "Liability for Government Property Furnished for Repair or Other Services"

NASA FAR Supplement clause 1852.245-74, "Identification and Marking of Government Equipment"

NASA FAR Supplement clause 1852.245-75, "Property Management Changes"

NASA FAR Supplement clause 1852.245-78, "Physical Inventory of Capital Personal Property"

NASA FAR Supplement clause 1852.245-79, "Records and Disposition Reports for Government Property with Potential Historic or Significant Real Value"

NASA FAR Supplement clause 1852.245-83, "Real Property Management Requirements"

(c) Clauses applicable only to off-site locations.

NASA FAR Supplement clause 1852.245-73, "Financial Reporting of NASA Property in the Custody of Contractors"

NASA FAR Supplement clause 1852.245-76, "List of Government Property Furnished Pursuant to FAR 52.245-1"

(d) Clauses applicable only to on-site locations.

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FAR clause 52.245-2, "Government Property Installation Operation Services"

NASA FAR Supplement clause 1852.245-71, "Installation-Accountable Government Property"

NASA FAR Supplement clause 1852.245-77, "List of Government Property Furnished Pursuant to FAR 52.245-2"

NASA FAR Supplement clause 1852.245-82, "Occupancy Management Requirements"

GSFC clause 52.245-93, "Reports of Contractor Acquired Government Property"

(End of clause)

G.3 PAYMENT OF FIXED FEE (1852.216-75) (DEC 1988)

The fixed fee shall be paid in monthly installments based upon the percentage of completion of work as determined by the Contracting Officer.

(End of clause)

G.4 GSFC 52.216-103 SUBMISSION OF VOUCHERS FOR PAYMENT (SEP 2014)

(a) Except for classified vouchers, the Contractor shall submit interim and final cost vouchers electronically using the DOD Wide Area Work Flow (WAWF) system. Vouchers will be reviewed by DCAA based upon a risk-based sampling review process.

(1) To access the DOD WAWF system, the contractor shall be required to have a designated electronic business point of contact in the System for Award Management at <https://www.acquisition.gov> and be registered to use the DOD WAWF at <https://wawf.eb.mil> following the step-by-step procedures for self-registration available at this web site.

(2) NASA voucher payment information can be obtained at the NASA Shared Services Center (NSSC) Vendor Payment information web site at: <https://www.nssc.nasa.gov/vendorpayment>. For technical WAWF help, contact the WAWF helpdesk at 1-866-618-5988. Please contact the NSSC Customer Contact Center at 1-877-NSSC123 (1-877-677-2123) with any additional questions or comments.

(3) For interim cost voucher submissions, the vendor shall use the "Cost Voucher" document type in WAWF. **In addition, the vendor shall change the contract type to "Non-DoD Contract (FAR)".**

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The Activity address codes to be populated in WAWF for submission of vouchers under this contract are (*extension fields will not be populated*):

- a. Paying Office Activity Address Code: 803112 (NSSC)
- b. Admin Office Activity Address Code: 803249
- c. Ship To Code: 803250
- d. DCAA DoD Activity Address Code: HAA721
- e. Service Approver DoDAAC:803249 (GSFC)
- f. If submitting "Final Cost Voucher," add Service Approver DoDAAC:
803249

- (4) The Contractor shall ensure that the payment request includes appropriate contract line item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation to support each payment request.
- (5) The Contractor shall enter the e-mail address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

Monica.C.Allen@nasa.gov

- (b) Vouchers for payment of fee resulting from contract performance or provisional fee (if authorized under this contract) shall be prepared using an SF 1034 and submitted electronically to the following address for payment:

E-mail address: NSSC-AccountsPayable@nasa.gov
Mailing address: NSSC - FMD Accounts Payable
Bldg. 1111, C Road
Stennis Space Center, MS 39529
Fax Number: 1-866-209-5415

- (c) For both cost voucher and fee submissions, a concurrent copy of the voucher shall be provided electronically to the NASA Contracting Officer. The Contracting Officer may designate other recipients as required.
- (d) The NSSC is the designated billing office for cost and fee vouchers for purpose of the Prompt Payment clause of this contract.
- (e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of clause)

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**G.5 GSFC 52.245-94 INVENTORY OF GOVERNMENT OWNED PROPERTY--
SPECIAL PROCEDURES FOR FLIGHT QUALIFIED INVENTORY (DEC 2007)**

(a) The Contractor shall ensure that flight qualified assemblies and parts that are residual inventory under this contract are properly stored in a secure area that is certified for electrostatic discharge (ESD) handling. The parts shall be handled in accordance with electrostatic discharge (ESD) standards and procedures. The Contractor shall also maintain a system to ensure that the associated heritage, test, and qualification documentation is available and traceable to such individual items of inventory.

(b) In accordance with the "Physical inventory" required in FAR clause 52.245-1(f)(iv), the Contractor shall identify any hardware, components or parts suitable for space flight or at any time such inventory is excess to the needs of this contract.

(c) Compliance with this clause is required until:

(1) The Government exercises its right under the Government Property clause of this contract and under FAR 45.6 to require delivery of any such inventory or the transfer of such inventory to another Government contract. [Flight qualified assemblies or parts remaining in residual inventory shall remain subject to this clause]; or

(2) The Contractor and the Government agree to, partly or completely, discontinue the requirements of this clause for specific items of flight qualified assemblies and parts; or.

(3) The period stated in this contract for the Contractor to maintain inspection records under the Inspection clause of this contract has expired.

(d) In the event of (c)(1) above, the delivered or transferred flight qualified inventory shall be accompanied by all data and records regarding the flight certification of each of item(s) comprising the flight qualified inventory for which the Government's right is exercised.

(e) When flight qualified inventory is no longer subject to this clause because of (c)(1), (c)(2) or (c)(3) of this clause, the designated flight qualified inventory item(s), shall subsequently be managed no more stringently than other government property in accordance with FAR 52.245-1.

(End of clause)

**G.6 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT
REPRESENTATIVE (1852.227-72) (JUL 1997)**

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights – Ownership by the Contractor," (based on December 2007 FAR Part 27 re-write) whichever is included, the following named representatives

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are hereby designated by the Contracting Officer to administer such clause:

TITLE:	OFFICE CODE AND ADDRESS (including zip code)
New Technology Representative	Code 504, Goddard Space Flight Center, Greenbelt, MD 20771
Patent Representative	Code 140.1, Goddard Space Flight Center, Greenbelt, MD 20771

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquires or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights - Ownership by the Contractor" clause (based on December 2007 FAR Part 27 re-write), unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in 1827.305-370 of the NASA FAR Supplement.

(End of clause)

G.7 COMMERCIAL COMPUTER SOFTWARE – LICENSING (1852.227-86) (DEC 1987)

(a) Any delivered commercial computer software (including documentation thereof) developed at private expense and claimed as proprietary shall be subject to the restricted rights in paragraph (d) of this clause. Where the vendor/contractor proposes its standard commercial software license, those applicable portions thereof consistent with Federal laws, standard industry practices, the Federal Acquisition Regulations (FAR) and the NASA FAR Supplement, including the restricted rights in paragraph (d) of this clause, are incorporated into and made a part of this purchase order/contract.

(b) Although the vendor/contractor may not propose its standard commercial software license until after this purchase order/contract has been issued, or at or after the time the computer software is delivered, such license shall nevertheless be deemed incorporated into and made a part of this purchase order/contract under the same terms and conditions as in paragraph (a) of this clause. For purposes of receiving updates, correction notices, consultation, and similar activities on the computer software, the NASA Contracting Officer or the NASA Contracting Officer's Technical Representative/User may sign any agreement, license, or registration form or card and return it directly to the vendor/contractor; however, such signing shall not alter any of the terms and conditions of this clause.

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(c) The vendor's/contractor's acceptance is expressly limited to the terms and conditions of this purchase order/contract. If the specified computer software is shipped or delivered to NASA, it shall be understood that the vendor/contractor has unconditionally accepted the terms and conditions set forth in this clause, and that such terms and conditions (including the incorporated license) constitute the entire agreement between the parties concerning rights in the computer software.

(d) The following restricted rights shall apply:

(1) The commercial computer software may not be used, reproduced, or disclosed by the Government except as provided below or otherwise expressly stated in the purchase order/contract.

(2) The commercial computer software may be -

(i) Used, or copied for use, in or with any computer owned or leased by, or on behalf of, the Government; provided, the software is not used, nor copied for use, in or with more than one computer simultaneously, unless otherwise permitted by the license incorporated under paragraphs (a) or (b) of this clause;

(ii) Reproduced for safekeeping (archives) or backup purposes;

(iii) Modified, adapted, or combined with other computer software, provided that the modified, combined, or adapted portions of the derivative software incorporating restricted computer software shall be subject to the same restricted rights; and

(iv) Disclosed and reproduced for use by Government contractors or their subcontractors in accordance with the restricted rights in subparagraphs (d) (2) (i), (ii), and (iii) of this clause; provided they have the Government's permission to use the computer software and have also agreed to protect the computer software from unauthorized use and disclosure.

(3) If the incorporated vendor's/contractor's software license contains provisions or rights that are less restrictive than the restricted rights in paragraph (d) (2) of this clause, then the less restrictive provisions or rights shall prevail.

(4) If the computer software is published, copyrighted computer software, it is licensed to the Government, without disclosure prohibitions, with the rights in paragraphs (d) (2) and (3) of this clause.

(5) The computer software may be marked with any appropriate proprietary notice that is consistent with the rights in paragraphs (d) (2), (3), and (4) of this clause.

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(End of clause)

G.8 TRAVEL OUTSIDE OF THE UNITED STATES (1852.242-71) (DEC 1988)

(a) The Contracting Officer must authorize in advance and in writing travel to locations outside of the United States by Contractor employees that is to be charged as a cost to this contract. This approval may be granted when the travel is necessary to the efforts required under the contract and it is otherwise in the best interest of NASA.

(b) The Contractor shall submit requests to the Contracting Officer at least 30 days in advance of the start of the travel.

(c) The Contractor shall submit a travel report at the conclusion of the travel. The Contracting Officer's approval of the travel will specify the required contents and distribution of the travel report.

(End of clause)

G.9 NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING (1852.242-73) (NOV 2004)

(a) The Contractor shall submit NASA Contractor Financial Management Reports on NASA Forms 533 in accordance with the instructions in NASA Procedures and Guidelines (NPR) 9501.2, NASA Contractor Financial Management Reporting, and on the reverse side of the forms, as supplemented in the Schedule of this contract. The detailed reporting categories to be used, which shall correlate with technical and schedule reporting, shall be set forth in the Schedule. Contractor implementation of reporting requirements under this clause shall include NASA approval of the definitions of the content of each reporting category and give due regard to the Contractor's established financial management information system.

(b) Lower level detail used by the Contractor for its own management purposes to validate information provided to NASA shall be compatible with NASA requirements.

(c) Reports shall be submitted in the number of copies, at the time, and in the manner set forth in the Schedule or as designated in writing by the Contracting Officer. Upon completion and acceptance by NASA of all contract line items, the Contracting Officer may direct the Contractor to submit Form 533 reports on a quarterly basis only, report only when changes in actual cost occur, or suspend reporting altogether.

(d) The Contractor shall ensure that its Form 533 reports include accurate subcontractor cost data, in the proper reporting categories, for the reporting period.

(e) If during the performance of this contract NASA requires a change in the information or reporting requirements specified in the Schedule, or as provided for in

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paragraph (a) or (c) of this clause, the Contracting Officer shall effect that change in accordance with the Changes clause of this contract.

(End of clause)

**G.10 CONTRACTOR REQUESTS FOR GOVERNMENT-PROVIDED EQUIPMENT
(1852.245-70) (JAN 2011)**

**G.11 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (1852.245-71)
(JAN 2011)**

(a) The Government property described in paragraph (c) of this clause may be made available to the Contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property unless authorized by the Contracting Officer under (b)(1)(iv). Under this clause, the Government retains accountability for, and title to, the property, and the Contractor shall comply with the following:

NASA Procedural Requirements (NPR) 4100.1, NASA Materials Inventory Management Manual;

NASA Procedural Requirements (NPR) 4200.1, NASA Equipment Management Procedural Requirements;

NASA Procedural Requirement (NPR) 4300.1, NASA Personal Property Disposal Procedural Requirements;

Notify the cognizant property custodian, COR, and the Installation Security Officer immediately if theft of Government property is suspected or property cannot be located

Identify Government property equipment that is no longer considered necessary for performance of the contract.

Ensure that equipment is turned in to the Property Disposal Officer through the cognizant property custodian when no longer needed. This is the only acceptable procedure for disposal of Government property.

Do not relocate Government property within Government premises or remove Government property from Government premises without written approval.

Ensure that Government property, including property leased to the Government, is used only for the purposes of performing the contract.

Ensure that Government property is protected and conserved.

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Property not recorded in NASA property systems must be managed in accordance with the requirements of the clause at FAR 52.245-1, as incorporated in this contract.

The Contractor shall establish and adhere to a system of written procedures to assure continued, effective management control and compliance with these user responsibilities. In accordance with FAR 52.245-1(h)(1) the contractor shall be liable for property lost, damaged, destroyed or stolen by the contractor or their employees when determined responsible by a NASA Property Survey Board, in accordance with the NASA guidance in this clause.

(b)(1) The official accountable recordkeeping, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished within NASA management information systems prescribed by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the Contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:

(i) The Contractor's purchase order shall require the vendor to deliver the property to the installation central receiving area.

(ii) The Contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area.

(iii) The Contractor shall establish a record for Government titled property as required by FAR 52.245-1, as incorporated in this contract, and shall maintain that record until accountability is accepted by the Government.

(iv) Contractor use of Government property at an off-site location and off-site subcontractor use requires advance approval of the Contracting Officer and notification of the Industrial Property Officer. The property shall be considered Government furnished and the Contractor shall assume accountability and financial reporting responsibility. The Contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR 52.245-1, Government Property (as incorporated in this contract), until its return to the installation. NASA Procedural Requirements related to property loans shall not apply to offsite use of property by contractors.

(2) After transfer of accountability to the Government, the Contractor shall continue to maintain such internal records as are necessary to execute the user responsibilities identified in paragraph (a) of this clause and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the Contracting Officer.

(c) The following property and services are provided if checked:

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(1) Office space, work area space, and utilities. Government telephones are available for official purposes only.

(2) Office furniture.

(3) Property listed in **Attachment H**.

(i) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records.

(ii) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.

(4) Supplies from stores stock.

(5) Publications and blank forms stocked by the installation.

(6) Safety and fire protection for Contractor personnel and facilities.

(7) Installation service facilities: IT Services through the Agency Consolidated End-user Services (ACES) contract.

(8) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

(9) Cafeteria privileges for Contractor employees during normal operating hours.

(10) Building maintenance for facilities occupied by Contractor personnel.

(11) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services may be provided on-site, as approved by the Contracting Officer.

(End of clause)

G.12 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (1852.245-73) (JAN 2011)

(a) The Contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance this clause, the instructions on the form and NFS subpart 1845.71, and any supplemental instructions for the current reporting period issued by NASA.

(b)(1) Subcontractor use of NF 1018 is not required by this clause; however, the Contractor shall include data on property in the possession of subcontractors in the annual NF 1018.

(2) The Contractor shall mail the original signed NF 1018 directly to the Goddard Space Flight Center (GSFC), General Accounting Department, General Ledger Section, Code 157, Greenbelt, MD 20771, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.

(3) One copy shall be submitted (through the Department of Defense (DOD) Property Administrator if contract administration has been delegated to DOD) to the following address: Goddard Space Flight Center, Supply and Equipment Management Branch,

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Code 273, Greenbelt, MD 20771, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.

(c)(1) The annual reporting period shall be from October 1 of each year through September 30 of the following year. The report shall be submitted in time to be received by October 15. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 15. Some activity may be estimated for the month of September, if necessary, to ensure the NF 1018 is received when due. However, contractors' procedures must document the process for developing these estimates based on planned activity such as planned purchases or NASA Form 533 (NF 533 Contractor Financial Management Report) cost estimates. It should be supported and documented by historical experience or other corroborating evidence, and be retained in accordance with FAR Subpart 4.7, Contractor Records Retention. Contractors shall validate the reasonableness of the estimates and associated methodology by comparing them to the actual activity once that data is available, and adjust them accordingly. In addition, differences between the estimated cost and actual cost must be adjusted during the next reporting period. Contractors shall have formal policies and procedures, which address the validation of NF 1018 data, including data from subcontractors, and the identification and timely reporting of errors. The objective of this validation is to ensure that information reported is accurate and in compliance with the NASA FAR Supplement. If errors are discovered on NF 1018 after submission, the contractor shall contact the cognizant NASA Center Industrial Property Officer (IPO) within 30 days after discovery of the error to discuss corrective action.

(2) The Contracting Officer may, in NASA's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set aside, if the Contractor fails to submit annual NF 1018 reports in accordance with NFS subpart 1845.71 and any supplemental instructions for the current reporting period issued by NASA. Such reserve shall be withheld until the Contracting Officer has determined that NASA has received the required reports. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(d) A final report shall be submitted within 30 days after disposition of all property subject to reporting when the contract performance period is complete in accordance with paragraph (b)(1) through (3) of this clause.

(End of clause)

G.13 INDIVIDUALS AUTHORIZED TO ISSUE ORDERS (GSFC 52.216-100) (SEP 2013)

The following personnel are authorized to issue orders under this contract. All

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designated personnel are employed by the NASA Goddard Space Flight Center unless otherwise indicated:

Contracting Officer, Code 210M

(End of clause)

G.14 PROPERTY MANAGEMENT CHANGES (1852.245-75) (JAN 2011)

G.15 LIST OF GOVERNMENT PROPERTY FURNISHED PURSUANT FAR 52.245-1 (1852.245-76) (JAN 2011)

(a) For performance of work under this contract, the Government will make available Government property identified below of this contract on a no-charge-for-use basis pursuant to the clause at FAR 52.245-1, Government Property, as incorporated in this contract. 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 FAR 52.245-1, the Contractor is accountable for the identified property.

Item Description	Acquisition Date	Acquisition Cost	Quantity	Date to be Furnished	If equipment		
					Manufacturer	Model	Serial Number
To Be Specified in each Task Order, if applicable							

(End of clause)

G.16 PHYSICAL INVENTORY OF CAPITAL PERSONAL PROPERTY (1852.245-78) (JAN 2011)

G.17 OCCUPANCY MANAGEMENT REQUIREMENTS (1852.245-82) (JAN 2011)

(a) In addition to the requirements of the clause at FAR 52.245-1, Government Property, as included in this contract, the Contractor shall comply with the following in performance of work in and around Government real property:

- (1) NPD 8800.14, Policy for Real Property Management.
- (2) NPR 8831.2, Facility Maintenance Management.

(b) The Contractor shall obtain the written approval of the Contracting Officer before installing or removing Contractor-owned property onto or into any Government real property or when movement of Contractor-owned property may damage or destroy Government-owned property. The Contractor shall restore damaged property to its original condition at the Contractor's expense.

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CONTRACT ADMINISTRATION DATA

(c) The Contractor shall not acquire, construct or install any fixed improvement or structural alterations in Government buildings or other real property without the advance, written approval of the Contracting Officer. Fixed improvement or structural alterations, as used herein, means any alteration or improvement in the nature of the building or other real property that, after completion, cannot be removed without substantial loss of value or damage to the premises. Title to such property shall vest in the Government.

(d) The Contractor shall report any real property or any portion thereof when it is no longer required for performance under the contract, as directed by the Contracting Officer.

(End of clause)

(END OF SECTION G]

**SECTION H OF NNG15CR65C
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H.1 RESTRICTIONS ON PRINTING AND DUPLICATING (1852.208-81) (NOV 2004)

H.2 LIMITATION OF FUTURE CONTRACTING (1852.209-71) (DEC 1988)

(a) The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest. Accordingly, the attention of prospective offerors is invited to FAR Subpart 9.5 - Organizational Conflicts of Interest.

(b) The nature of this conflict, in general terms, is that:

The contractor may be assigned work to develop statements of work and/or specifications, which may be used in subsequent, competitive acquisitions, and

The contractor may require access to other NASA contractor data.

(c) The restrictions upon future contracting are as follows:

(1) If the Contractor, under the terms of this contract, or through the performance of task orders pursuant to this contract, is required to develop specifications or statements of work that are to be incorporated into a solicitation, the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing NASA contract. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer and the Contractor, sufficient to avoid unfair competitive advantage or potential bias (this time shall in no case be less than the duration of the initial production contract). NASA shall not unilaterally require the Contractor to prepare such specifications or statements of work under this contract.

(2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as these data remain proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with those other companies.

(End of clause)

H.3 TASK ORDERING PROCEDURE (1852.216-80) (OCTOBER 1996)

(a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.

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(b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:

(1) A functional description of the work identifying the objectives or results desired from the contemplated task order.

(2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.

(3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.

(c) Within 14 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.

(d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:

(1) Date of the order.

(2) Contract number and order number.

(3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.

(4) Performance standards, and where appropriate, quality assurance standards.

(5) Maximum dollar amount authorized (cost and fee or price). This includes allocation of award fee among award fee periods, if applicable.

(6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.

(7) Delivery/performance schedule including start and end dates.

(8) If contract funding is by individual task order, accounting and appropriation data.

(e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within three calendar days after receipt of the task order.

(f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.

(g) The Contracting Officer may amend tasks in the same manner in which they were issued.

(h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

**SECTION H OF NNG15CR65C
SPECIAL CONTRACT REQUIREMENTS**

(End of clause)

H.4 SAFETY AND HEALTH (1852.223-70) (APR 2002)

H.5 MAJOR BREACH OF SAFETY OR SECURITY (1852.223-75) (FEB 2002)

H.6 EXPORT LICENSE (1852.225-70) (FEB 2000) -- ALTERNATE I (FEB 2000)

(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 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data, and software, or for the provision of technical assistance.

(b) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at Goddard Space Flight Center or other NASA installations, where the foreign person will have access to export-controlled technical data or software.

(c) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(d) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

(e) The Contractor may request, in writing, that the Contracting Officer authorize it to export ITAR-controlled technical data (including software) pursuant to the exemption at 22 CFR 125.4(b) (3). The Contracting Officer or designated representative may authorize or direct the use of the exemption where the data does not disclose details of the design, development, production, or manufacture of any defense article.

(End of clause)

**H.7 CROSS-WAIVER OF LIABILITY FOR INTERNATIONAL SPACE STATION
ACTIVITIES (1852.228-76) (OCT 2012)**

**H.8 CROSS-WAIVER OF LIABILITY FOR SCIENCE OR SPACE EXPLORATION
ACTIVITIES UNRELATED TO THE INTERNATIONAL SPACE STATION (1852.228-
78) (OCT 2012)**

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**H.9 OBSERVANCE OF LEGAL HOLIDAYS (1852.242-72) (AUG 1992) –
ALTERNATE II (OCT 2000)**

(a) The on-site Government personnel observe the following holidays:

New Year's Day
Labor Day
Martin Luther King, Jr.'s Birthday
Columbus Day
President's Day
Veterans Day
Memorial Day
Thanksgiving Day
Independence Day
Christmas Day

Any other day designated by Federal statute, Executive order, or the President's proclamation.

(b) When any holiday falls on a Saturday, the preceding Friday is observed. When any holiday falls on a Sunday, the following Monday is observed. Observance of such days by Government personnel shall not by itself be cause for an additional period of performance or entitlement of compensation except as set forth within the contract.

(c) When the NASA installation grants administrative leave to its Government employees (e.g., as a result of inclement weather, potentially hazardous conditions, or other special circumstances), Contractor personnel working on-site should also be dismissed. However, the contractor shall provide sufficient on-site personnel to perform round-the-clock requirements of critical work already in process, unless otherwise instructed by the Contracting Officer or authorized representative.

(d) Whenever administrative leave is granted to Contractor personnel pursuant to paragraph (c) of this clause, it shall be without loss to the Contractor. The cost of salaries and wages to the Contractor for the period of any such excused absence shall be a reimbursable item of cost under this contract for employees in accordance with the Contractor's established accounting policy.

(End of clause)

H.10 GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM (1852.244-70) (APR 1985)

H.11 CONTRACTOR PERSONNEL - IDENTIFICATION, ONSITE REPORTING, AND CHECKOUT PROCEDURES (GSFC 52.204-99) (APR 2013)

(a) In accordance with FAR 52.204-9, Personal Identity Verification of Contractor

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Personnel, the Contractor shall follow Steps 1 through 7 described in Attachment I, Personal Identity Verification (PIV) Card Issuance Procedures, for each contract employee (prime and subcontractor) who will have physical access to a NASA-controlled facility (also referred to as “onsite”). The Contractor must apply for permanent NASA/GSFC PIV cards for those contract employees who will be employed by the Contractor onsite for at least six months. The GSFC Security Division will consider permanent PIV cards for other employees of the Contractor on a case-by-case basis, such as employees that are not resident onsite, but must frequently visit. In the future, upon written notice from the Contracting Officer, the Contractor shall follow Steps 1 through 7 in Attachment I for each offsite contract employee (prime and subcontractor) who require remote access to a NASA information system for contract performance.

(b) The Contractor shall notify the GSFC Security Division, Code 240, Attention: PIV Manager, and the Contracting Officer’s Representative (COR) of the contractor’s designated PIV Requester within 15 calendar days after award of this contract. The NASA maintained PIV system contains work and home location and contact information for personnel that have permanent NASA PIV cards. The Contractor may contact the PIV Manager, Tel 301-286-2306 for assistance regarding the PIV system.

(c) Each contract employee shall provide to the Contractor’s designated PIV Requester the basic identifying information required for a PIV Request to be initiated in the PIV System. The PIV Request must be approved by the PIV Sponsor (COR or the Contracting Officer). The COR will resolve any housing or access issues, and review the request for accuracy and completeness. Requests that are approved by the PIV Sponsor will be forwarded to the GSFC Security Division, Code 240, PIV Authorization, Badge enrollment, and Badge issuance.

(d) The Contractor shall submit an annotated PIV Report each month. The GSFC PIV Manager will furnish a PIV print-out to the Contractor no later than the end of each month. The Contractor shall annotate this provided report monthly to correct and update the information as follows:

- (1) Draw a line through the names of employees who are no longer employed by the contractor or that no longer work onsite under the contract, and;
- (2) Make handwritten changes to any other incorrect data.

The annotated PIV Report shall be separately submitted to the GSFC Security Division, Code 240, Attention: PIV Manager, and to the COR by the 10th calendar day of the month.

For the final PIV Report under the contract, the GSFC PIV Manager will furnish a PIV print-out to the Contractor no later than two weeks prior to the end of the contract. The Contractor shall submit its annotated final PIV Report no later than 3 days prior to the end of the contract.

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If this is a follow-on contract, at the end of the phase-in period (if any)/start of the basic contract period, the GSFC Security Division will provide the Contractor a copy of the final PIV Report from the previous contract. The Contractor shall review the list and redline it as necessary to reflect its employees requiring PIV cards. The redlined list shall be provided the GSFC Security Division within 30 days after the start of the contract.

(e) The Contractor shall ensure that all personnel who have NASA/GSFC issued PIV cards, keys or other property who leave its employment or that no longer work onsite, process out through the GSFC Security Division, Code 240. Employees must return all GSFC issued identification and any Government property no later than the last day of their employment or the last day they work onsite under this contract. The Contractor shall establish appropriate procedures and controls to ensure this is accomplished. Failure to comply may result in the exercise of Government rights to limit and control access to Government premises, including denial of access and invalidation of NASA issued PIV cards and identification.

(End of clause)

H.12 GOVERNMENT PREMISES—PHYSICAL ACCESS AND COMPLIANCE WITH PROCEDURES (GSFC 52.211-95) (APR 2013)

(a)(1) The Contractor must apply for permanent NASA/GSFC Personal Identity Verification (PIV) cards (badges) for those employees that will be employed by the Contractor and subcontractors and that will be resident for at least six months at GSFC or at locations controlled by GSFC, such as GSFC leased space. Other personnel may be issued a temporary badge. All personnel must conspicuously display the GSFC PIV card at, or above, the waistline. Refer to GSFC clause 52.204-99, “Contractor Personnel—Identification, Onsite Reporting, and Checkout Procedures” for permanent PIV card issuance procedures.

(2) Visits by foreign nationals are restricted and must be necessary for the performance of the contract and concurred with by the Contracting Officer or by the Contracting Officer’s Representative. Approval of such visits must be approved in advance in accordance with Goddard Procedural Requirement (GPR) 1600.1.

(3) Access to the GSFC may be changed or adjusted in response to threat conditions or special situations.

(b) While on Government premises, the Contractor shall comply with all requirements governing the conduct of personnel and the operation of the facility. These requirements are set forth in NASA Procedural Requirements (NPR), NASA Policy Directives (NPD), GPRs, GSFC Policy Directives (GPD), handbooks and announcements. The following cover many of the requirements:

(1) Harassment and Discrimination Announcements

<http://eeo.gsfc.nasa.gov/policy.html>

(2) GSFC Workplace Violence Announcement

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https://gs279gdmsias.gsfc.nasa.gov/srv/GDMSNEWDatabaseObject?document_id=211

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- (3) GPR 1600.1, GSFC Security Requirements
- (4) NPD 1600.3, Policy on Prevention of and Response to Workplace Violence
- (5) GPR 1700.1, Occupational Safety Program at GSFC
- (6) GPR 1700.2, Chemical Hygiene Plan
- (7) GPR 1700.8, GSFC Hazard Communication Program
- (8) GPR 1800.1, GSFC Smoking and Other Tobacco Use Requirements
- (9) GPR 1800.6, Occupational Health, Medicine and Employee Assistance Programs
- (10) GPR 1860.1, Ionizing Radiation Protection
- (11) GPR 1860.2, Laser Radiation Protection
- (12) GPR 1860.3, Radio Frequency Radiation Protection
- (13) GPR 1860.4, Ultraviolet and High Intensity Light Radiation Protection
- (14) NPD 2540.1, Personal Use of Government Office Equipment Including Information Technology
- (15) GPR 2570.1, Spectrum Management and Radio Frequency (RF) Equipment Licensing
- (16) NPR 3713.3, Anti-Harassment Procedures
- (17) GPD 8500.1, Environmental Policy and Program Management
- (18) GPR 8710.2, GSFC Emergency Management Program Plan
- (19) GPR 8710.7, Cryogenic Safety
- (20) GPR 8710.8, GSFC Safety Program Management
- (21) GPD 8715.1, GSFC Safety Policy
- (22) GPR 8715.1, Processing of NASA Safety Reporting System (NSRS) Incident Reports

Copies of the current issuances of the GPD/GPRs may be obtained at <http://gdms.gsfc.nasa.gov> from a computer onsite (GSFC Government Facility or from the Contracting Officer). Copies of the current issuances of the NPD/NPRs may be obtained at <http://nodis3.gsfc.nasa.gov> or from the Contracting Officer. The above list may be modified by the Contracting Officer to include additional issuances pertaining to the conduct of personnel and the operation of the facility.

(c) The Contractor may not use official Government mail (indicia or "eagle" mail). Contractors found in violation could be liable for a fine of \$300 per piece of indicia mail used. However, the Contractor is allowed to use internal GSFC mail to the extent necessary for purposes of the contract.

(End of clause)

H.13 SAFETY AND HEALTH--ADDITIONAL REQUIREMENTS GSFC 52.223-91 (JUN 2014)

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In addition to compliance with all Federal, state, and local laws as required by paragraph (b) of NFS clause 1852.223-70, the Contractor shall comply with the following:

(a) Incident Reporting: The immediate notification and prompt reporting requirement included in paragraph (d) of NFS clause 1852.223-70 shall be to Goddard Space Flight Center Occupational Safety and Health Division, Code 350, Telephone 301-356-3224 and to the Contracting Officer (CO). This verbal notification should be confirmed in writing via E-Mail to the CO and Jimmy.R.McLaughlin@nasa.gov and entered into the NASA Mishap Information System (NMIS) within 24 hours.

This notification is also required for any unsafe or environmentally hazardous condition associated with Government-owned property that is provided or made available for the performance of the contract.

(b) Submit a monthly safety and health report using NMIS. Specify incidents (mishaps and close calls) and man-hours worked/month. Access to NMIS must be requested through the NASA Access Management System (NAMS) within 30 days of the contract effective date at <https://idmax.nasa.gov>. Until access is approved, use the [Contractor Monthly Statistics Report Template](http://safety1st.gsfc.nasa.gov) available at <http://safety1st.gsfc.nasa.gov> under Contractor Safety and e-mail the completed form to Hernan.Castellanos@nasa.gov.

(End of clause)

H.14 RIGHTS IN DATA (GSFC 52.227-99) (JUNE 2012)

The default Data Rights clause under this contract is FAR 52.227-14 RIGHTS IN DATA-GENERAL—Alternate II and Alternate III as modified by NASA FAR Supplement 1852.227-14 and GSFC 52.227-90. Any exceptions to this clause will be covered by FAR 52.227-17 RIGHTS IN DATA--SPECIAL WORKS as modified by NASA FAR Supplement 1852.227-17, if applicable, and GSFC 52.227-93.

(End of clause)

H.15 ADVANCE AGREEMENT BETWEEN THE PARTIES: REQUIREMENT TO PROVIDE CONTRACT HISTORICAL DATA (GSFC 52.242-91)(AUG 2013)

(a) NASA may issue a competitive solicitation for a follow-on effort for services similar to those provided under this contract. As part of this follow-on competition, NASA may include historical labor category descriptions, full-time equivalents (FTEs), average direct labor rates, and other information from this contract in the follow-on solicitation for use by all potential offerors. Including this data in the solicitation is intended to ensure a comprehensive and fair evaluation

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of competitive proposals and increase the probability that realistic pricing is provided in future proposals submitted. Minimizing the potential risk for unrealistic or unsubstantiated pricing materially reduces the risk that cost/price could become an inappropriate discriminator among competing offerors.

- (b) Based on the above, the Contractor shall, within 30 days of a written request from the Contracting Officer, provide and deliver all of the information included in **Attachment J, CONTRACT HISTORICAL DATA**, of the contract.

(End of clause)

**H.16 APPLICABILITY OF RIGHTS IN DATA – SPECIAL WORKS (GSFC 52.227-93)
(MAR 2008)**

The "Rights in Data - Special Works" clause of this contract applies to the following aspects (or items):

Any data requested by the Government for any legitimate government use.

(End of clause)

**H.17 REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF
OFFEROR GSFC 52.204-100 (SEP 2013)**

The completed provision 52.204-8, Annual Representations and Certifications, including any amended representation(s) made at paragraph (b) of the provision; and other representations, certifications and other statements contained in Section K completed and submitted as part of the offer dated December 22, 2014 are hereby incorporated by reference in this resulting contract.

(End of clause)

(END OF SECTION H]

**SECTION I OF NNG15CR65C
CONTRACT CLAUSES**

- I.1 DEFINITIONS (52.202-1) (NOV 2013)**
- I.2 GRATUITIES (52.203-3) (APR 1984)**
- I.3 COVENANT AGAINST CONTINGENT FEES (52.203-5) (MAY 2014)**
- I.4 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (52.203-6) (SEP 2006)**
- I.5 ANTI-KICKBACK PROCEDURES (52.203-7) (MAY 2014)**
- I.6 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (52.203-8) (MAY 2014)**
- I.7 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (52.203-10) (MAY 2014)**
- I.8 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (52.203-12) (OCT 2010)**
- I.9 CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT (52.203-13) (APR 2010)**
- I.10 DISPLAY OF HOTLINE POSTER/s (52.203-14) (DEC 2007)**
- (b)(3) – Inspector General Hotline Posters may be obtained from NASA Office of Inspector General, Code W, Washington, DC 20546-001
- I.11 RESERVED**
- I.12 PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER (52.204-4) (MAY 2011)**
- I.13 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (52.204-9) (JAN 2011)**
- I.14 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS (52.204-10) (JUL 2013)**
- I.15 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE (52.204-13) (JUL 2013)**

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I.16 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (52.209-6) (AUG 2013)

I.17 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (52.209-9) (JUL 2013)

(a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the System for Award Management database via <https://www.acquisition.gov>.

(b) As required by section 3010 of the Supplemental Appropriations Act, 2010 (Pub. L. 111-212), all information posted in FAPIS on or after April 15, 2011, except past performance reviews, will be publicly available. FAPIS consist of two segments—

(1) The non-public segment, into which Government officials and the Contractor post information, which can only be viewed by—

(i) Government personnel and authorized users performing business on behalf of the Government; or

(ii) The Contractor, when viewing data on itself; and

(2) The publicly-available segment, to which all data in the non-public segment of FAPIS is automatically transferred after a waiting period of 14 calendar days, except for--

(i) Past performance reviews required by subpart 42.15;

(ii) Information that was entered prior to April 15, 2011; or

(iii) Information that is withdrawn during the 14-calendar-day waiting period by the Government official who posted it in accordance with paragraph (c)(1) of this clause.

(c) The Contractor will receive notification when the Government posts new information to the Contractor's record.

(1) If the Contractor asserts in writing within 7 calendar days, to the Government official who posted the information, that some of the information posted to the non-public segment of FAPIS is covered by a disclosure exemption under the Freedom of Information Act, the Government official who posted the information must within 7 calendar days remove the posting from FAPIS and resolve the issue in accordance with agency Freedom of Information procedures, prior to reposting the releasable information. The contractor must cite 52.209-9 and request removal within 7 calendar days of the posting to FAPIS.

(2) The Contractor will also have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, i.e., for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.

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(3) As required by section 3010 of Pub. L. 111-212, all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available.

(d) Public requests for system information posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

(End of clause)

I.18 RESERVED

I.19 AUDIT AND RECORDS – NEGOTIATION (52.215-2) (OCT 2010)

I.20 ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT (52.215-8) (OCT 1997)

I.21 RESERVED

I.22 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA – MODIFICATIONS (52.215-11) (AUG 2011)

I.23 RESERVED

I.24 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA – MODIFICATIONS (52.215-13) (OCT 2010)

I.25 INTEGRITY OF UNIT PRICES (52.215-14) (OCT 2010)

I.26 PENSION ADJUSTMENTS AND ASSET REVERSIONS (52.215-15) (OCT 2010)

I.27 RESERVED

I.28 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (52.215-18) (JUL 2005)

I.29 NOTIFICATION OF OWNERSHIP CHANGES (52.215-19) (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

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(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall -

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

(c) The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

I.30 REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA AND DATA OTHER THAN CERTIFIED COST OR PRICING DATA – MODIFICATIONS (52.215-21) (OCT 2010)

I.31 LIMITATIONS ON PASS-THROUGH CHARGES (52.215-23) (OCT 2009)

I.32 ALLOWABLE COST AND PAYMENT (52.216-7) (JUN 2013) paragraph (a)(3) 30th day

I.33 FIXED FEE (52.216-8) (JUN 2011)

I.34 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 or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from the effective date of this contract through a five (5) year period afterwards (effective ordering period).

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

(c) If mailed, a delivery order or task 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 Schedule.

(End of clause)

I.35 ORDER 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 \$15M;

(2) Any order for a combination of items in excess of \$15M; or

(3) A series of orders from the same ordering office within fifteen (15) calendar days that together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) of this section.

(c) If this is a requirements contract (*i.e.*, includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) 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 three (3) 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)

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I.36 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 (1) the end of the effective ordering period, or (2) no more than one (1) year from the end of the contract's effective ordering period for those orders placed within the ordering period where performance extends beyond the end of the effective ordering period.

(End of clause)

I.37 NOTICE OF TOTAL SMALL BUSINESS SET- ASIDE (52.219-6) (NOV 2011)

I.38 UTILIZATION OF SMALL BUSINESS CONCERNS (52.219-8) (OCT 2014)

I.39 LIMITATIONS ON SUBCONTRACTING (52.219-14) (NOV 2011)

**I.40 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION
(52.219-28) (APR 2012)**

**I.41 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (52.222-1) (FEB
1997)**

I.42 PAYMENT FOR OVERTIME PREMIUMS (52.222-2) (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium does

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not exceed \$0 or the overtime premium is paid for work -

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;

(2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;

(3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or

(4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall -

(1) Identify the work unit; *e.g.*, department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;

(2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;

(3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and

(4) Provide reasons why the required work cannot be performed by using multi-shift operations or by employing additional personnel.

(End of clause)

I.43 CONVICT LABOR (52.222-3) (JUN 2003)

I.44 PROHIBITION OF SEGREGATED FACILITIES (52.222-21) (FEB 1999)

I.45 EQUAL OPPORTUNITY (52.222-26) (MAR 2007)

I.46 EQUAL OPPORTUNITY FOR VETERANS (52.222-35) (JUL 2014)

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**I.47 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES (52.222-36)
(JUL 2014)**

I.48 EMPLOYMENT REPORTS ON VETERANS (52.222-37) (JUL 2014)

**I.49 NOTIFICATION OF EMPLOYEES RIGHTS UNDER THE NATIONAL LABOR
RELATIONS ACT (52.222-40) (DEC 2010)**

I.50 COMBATING TRAFFICKING IN PERSONS (52.222-50) (FEB 2009)

I.51 EMPLOYMENT ELIGIBILITY VERIFICATION (52.222-54) (AUG 2013)

**I.52 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIALSAFETY DATA
(52.223-3) (JAN 1997) - ALTERNATE I (JUL 1995)**

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (*If none, insert "None"*) Identification No.

None	

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted

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under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to—

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with paragraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2), the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS's with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS's must be placed in a weather resistant envelope.

(End of clause)

**I.53 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (52.223-5)
(MAY 2011) – ALTERNATE I (MAY 2011) – ALTERNATE II (MAY 2011)**

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I.54 DRUG-FREE WORKPLACE (52.223-6) (MAY 2001)

I.55 NOTICE OF RADIOACTIVE MATERIALS (52.223-7) (JAN 1997)

(a) The Contractor shall notify the Contracting Officer or designee, in writing, 30 days prior to the delivery of, or prior to completion of any servicing required by this contract of, items containing either (1) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in Title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (2) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. Such notice shall specify the part or parts of the items which contain radioactive materials, a description of the materials, the name and activity of the isotope, the manufacturer of the materials, and any other information known to the Contractor which will put users of the items on notice as to the hazards involved (OMB No. 9000-0107).

(b) If there has been no change affecting the quantity of activity, or the characteristics and composition of the radioactive material from deliveries under this contract or prior contracts, the Contractor may request that the Contracting Officer or designee waive the notice requirement in paragraph (a) of this clause. Any such request shall -

(1) Be submitted in writing;

(2) State that the quantity of activity, characteristics, and composition of the radioactive material have not changed; and

(3) Cite the contract number on which the prior notification was submitted and the contracting office to which it was submitted.

(c) All items, parts, or subassemblies which contain radioactive materials in which the specific activity is greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries, and all containers in which such items, parts or subassemblies are delivered to the Government shall be clearly marked and labeled as required by the latest revision of MIL-STD 129 in effect on the date of the contract.

(d) This clause, including this paragraph (d), shall be inserted in all subcontracts for radioactive materials meeting the criteria in paragraph (a) of this clause.

(End of clause)

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- I.56 WASTE REDUCTION PROGRAM (52.223-10) (MAY 2011)**
- I.57 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING (52.223-18) (AUG 2011)**
- I.58 BUY AMERICAN – SUPPLIES (52.225-1) (MAY 2014)**
- I.59 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (52.225-13) (JUN 2008)**
- I.60 AUTHORIZATION AND CONSENT (52.227-1) (DEC 2007)**
- I.61 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (52.227-2) (DEC 2007)**
- I.62 ADDITIONAL DATA REQUIREMENTS (52.227-16) (JUN 1987)**
- I.63 RIGHTS TO PROPOSAL DATA (TECHNICAL) (52.227-23) (JUN 1987)**

Except for data contained on pages None, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the “Rights in Data—General” clause contained in this contract) in and to the technical data contained in the proposal dated December 22, 2014, upon which this contract is based.

(End of clause)

- I.64 INSURANCE - LIABILITY TO THIRD PERSONS (52.228-7) (MAR 1996)**
- I.65 LIMITATION ON WITHHOLDING OF PAYMENTS (52.232-9) (APR 1984)**
- I.66 INTEREST (52.232-17) (MAY 2014)**
- I.67 LIMITATION OF FUNDS (52.232-22) (APR 1984)**
- I.68 ASSIGNMENT OF CLAIMS (52.232-23) (MAY 2014)**
- I.69 PROMPT PAYMENT (52.232-25) (JUL 2013) – ALTERNATE I (FEB 2002)**
- I.70 PAYMENT BY ELECTRONIC FUNDS TRANSFER—SYSTEM FOR AWARD MANAGEMENT (52.232-33) (JUL 2013)**
- I.71 RESERVED**

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- I.72 DISPUTES (52.233-1) (MAY 2014) – ALTERNATE I (DEC 1991)**
- I.73 PROTEST AFTER AWARD (52.233-3) (AUG 1996) - ALTERNATE I (JUN 1985)**
- I.74 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (52.233-4) (OCT 2004)**
- I.75 PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION (52.237-2) (APR 1984)**
- I.76 CONTINUITY OF SERVICES (52.237-3) (JAN 1991)**
- I.77 PRIVACY OR SECURITY SAFEGUARDS (52.239-1) (AUG 1996)**
- I.78 NOTICE OF INTENT TO DISALLOW COSTS (52.242-1) (APR 1984)**
- I.79 PENALTIES FOR UNALLOWABLE COSTS (52.242-3) (MAY 2014)**
- I.80 CERTIFICATION OF FINAL INDIRECT COSTS (52.242-4) (JAN 1997)**
- I.81 BANKRUPTCY (52.242-13) (JUL 1995)**
- I.82 CHANGES – COST-REIMBURSEMENT (52.243-2) (AUG 1987) – ALTERNATE II (APR 1984)**
- I.83 SUBCONTRACTS (52.244-2) (OCT 2010)**
 - (d) Professional and Consultant costs as defined at FAR 31.205-33
 - (j) None
- I.84 COMPETITION IN SUBCONTRACTING (52.244-5) (DEC 1996)**
- I.85 SUBCONTRACTS FOR COMMERCIAL ITEMS (52.244-6) (OCT 2014)**
- I.86 GOVERNMENT PROPERTY (52.245-1) (APR 2012)**
- I.87 USE AND CHARGES (52.245-9) (APR 2012)**
- I.88 LIMITATION OF LIABILITY – SERVICES (52.246-25) (FEB 1997)**
- I.89 Commercial Bill of Lading Notations (52.247-1) (FEB 2006)**
 - Paragraph (a) NASA/GSFC
 - Paragraph (b) NASA/GSFC, Contract No. NNG15CR65C, NASA/GSFC, Contracting Officer, Code 210.3, Greenbelt, MD 20771

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I.90 PREFERENCE FOR U.S.-FLAG AIR CARRIERS (52.247-63) (JUN 2003)

**I.91 SUBMISSION OF TRANSPORTATION DOCUMENTS FOR AUDIT (52.247-67)
(FEB 2006)**

(a) The Contractor shall submit to the address identified below, for prepayment audit, transportation documents on which the United States will assume freight charges that were paid--

(1) By the Contractor under a cost-reimbursement contract; and

(2) By a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(b) Cost-reimbursement Contractors shall only submit for audit those bills of lading with freight shipment charges exceeding \$100. Bills under \$100 shall be retained on-site by the Contractor and made available for on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(c) Contractors shall submit the above referenced transportation documents to--

NASA/GSFC, Contracting Officer, Code 210.3, Greenbelt, MD 20771

(End of clause)

I.92 TERMINATION (COST-REIMBURSEMENT) (52.249-6) (MAY 2004)

I.93 EXCUSABLE DELAYS (52.249-14) (APR 1984)

I.94 GOVERNMENT SUPPLY SOURCES (52.251-1) (APR 2012)

I.95 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):

For Federal Acquisition Regulation (FAR) clauses, see
<https://www.acquisition.gov/far/index.html>

For NASA FAR Supplement (NFS) clauses, see
<http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm>

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(End of clause)

I.96 AUTHORIZED DEVIATIONS IN CLAUSES (52.252-6) (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any NASA FAR Supplement (48 CFR Chapter 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

I.97 COMPUTER GENERATED FORMS (52.253-1) (JAN 1991)

**I.98 DISPLAY OF INSPECTOR GENERAL HOTLINE POSTERS (1852.203-70)
(JUN 2001)**

I.99 RESERVED

**I.100 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION
TECHNOLOGY RESOURCES (1852.204-76) (JAN 2011)**

I.101 OMBUDSMAN (1852.215-84) (NOV 2011) -- ALTERNATE I (JUN 2000)

(a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the contracting officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution.

(b) If resolution cannot be made by the contracting officer, interested parties may contact the installation ombudsman, whose name, address, telephone number, facsimile number, and e-mail address may be found at:
http://prod.nais.nasa.gov/pub/pub_library/Omb.html. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the Agency ombudsman identified at the above URL. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify

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technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(c) If this is a task or delivery order contract, the ombudsman shall review complaints from contractors and ensure they are afforded a fair opportunity to be considered, consistent with the procedures of the contract.

(End of clause)

I.102 ASSIGNMENT AND RELEASE FORMS (1852.216-89) (JUL 1997)

I.103 USE OF RURAL AREA SMALL BUSINESSES (1852.219-74) (SEP 1990)

I.104 NASA 8 PERCENT GOAL (1852.219-76) (JUL 1997)

(a) Definitions.

"Historically Black Colleges or University," as used in this clause, means an institution determined by the Secretary of Education to meet the requirements of 34 CFR Section 608.2. The term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institutions," as used in this clause, means an institution of higher education meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which for the purposes of this clause includes a Hispanic-serving institution of higher education as defined in section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

"Small disadvantaged business concern," as used in this clause, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR 124.

"Women-owned small business concern," as used in this clause, 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

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operations are controlled by one or more women.

(b) The NASA Administrator is required by statute to establish annually a goal to make available to small disadvantaged business concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns, at least 8 percent of NASA's procurement dollars under prime contracts or subcontracts awarded in support of authorized programs, including the space station by the time operational status is obtained.

(c) The contractor hereby agrees to assist NASA in achieving this goal by using its best efforts to award subcontracts to such entities to the fullest extent consistent with efficient contract performance.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as small disadvantaged business concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns.

(End of clause)

I.105 DRUG-AND ALCOHOL-FREE WORKFORCE (1852.223-74) (MAR 1996)

I.106 RESTRICTION ON FUNDING ACTIVITY WITH CHINA (1852.225-71) (FEB 2012) (DEVIATION)

(a) Definition - "China" or "Chinese-owned company" means the People's Republic of China, any company owned by the People's Republic of China or any company incorporated under the laws of the People's Republic of China.

(b) Public laws 112-10, section 1340(a) and 112-55, section 539, restrict NASA from contracting to participate, collaborate, coordinate bilaterally in any way with China or a Chinese-owned company using funds appropriated on or after April 25, 2011. Contracts for commercial and non developmental items are exempted from the prohibition because they constitute purchase of goods or services that would not involve participation, collaboration, or coordination between the parties.

(c) This contract may use restricted funding that was appropriated on or after April 25, 2011. The contractor shall not contract with China or Chinese-owned companies for any effort related to this contract except for acquisition of commercial and non-developmental items. If the contractor anticipates making an award to China or Chinese-owned companies, the contractor must contact the contracting officer to determine if funding on this contract can be used for that purpose.

(d) Subcontracts - the contractor shall include the substance of this clause in all subcontracts made hereunder.

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(End of clause)

I.107 PATENT RIGHTS--OWNERSHIP BY THE CONTRACTOR (52.227-11) (MAY 2014) AS MODIFIED BY NFS 1852.227-11

(j) Communications. Communications and information submissions required by this clause shall be made to the individuals identified in NFS clause 1852.227-72, Designation of New Technology Representative and Patent Representative.

I.108 RIGHTS IN DATA-GENERAL (52.227-14) (MAY 2014) AS MODIFIED BY NASA FAR Supplement 1852.227-14—ALTERNATE II (DEC 2007) AND ALTERNATE III (DEC 2007)

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

"Computer database" or "database means" a collection of recorded information in a form capable of, and for the purpose of, being stored in, processed, and operated on by a computer. The term does not include computer software.

"Computer software"-

(1) Means

(i) Computer programs that comprise a series of instructions, rules, routines, or statements, regardless of the media in which recorded, that allow or cause a computer to perform a specific operation or series of operations; and

(ii) Recorded information comprising source code listings, design details, algorithms, processes, flow charts, formulas, and related material that would enable the computer program to be produced, created, or compiled.

(2) Does not include computer databases or computer software documentation.

"Computer software documentation" means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

"Data" means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

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"Form, fit, and function data" means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, and data identifying source, size, configuration, mating and attachment characteristics, functional characteristics, and performance requirements. For computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithms, processes, formulas, and flow charts of the software.

"Limited rights" means the rights of the Government in limited rights data as set forth in the Limited Rights Notice of paragraph (g)(3) if included in this clause.

"Limited rights data" means data, other than computer software, that embody trade secrets or are commercial or financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private expense, including minor modifications.

"Restricted computer software" means computer software developed at private expense and that is a trade secret, is commercial or financial and confidential or privileged, or is copyrighted computer software, including minor modifications of the computer software.

"Restricted rights," as used in this clause, means the rights of the Government in restricted computer software, as set forth in a Restricted Rights Notice of paragraph (g) if included in this clause, or as otherwise may be provided in a collateral agreement incorporated in and made part of this contract, including minor modifications of such computer software.

"Technical data" means recorded information (regardless of the form or method of the recording) of a scientific or technical nature (including computer databases and computer software documentation). This term does not include computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration. The term includes recorded information of a scientific or technical nature that is included in computer databases (See [41 U.S.C. 116](#)).

"Unlimited rights" means the rights of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) Allocation of rights.

(1) Except as provided in paragraph (c) of this clause, the Government shall have unlimited rights in-

(i) Data first produced in the performance of this contract;

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(ii) Form, fit, and function data delivered under this contract;

(iii) Data delivered under this contract (except for restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under this contract; and

(iv) All other data delivered under this contract unless provided otherwise for limited rights data or restricted computer software in accordance with paragraph (g) of this clause.

(2) The Contractor shall have the right to-

(i) Assert copyright in data first produced in the performance of this contract to the extent provided in paragraph (c)(1) of this clause;

(ii) Use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, unless provided otherwise in paragraph (d) of this clause;

(iii) Substantiate the use of, add, or correct limited rights, restricted rights, or copyright notices and to take other appropriate action, in accordance with paragraphs (e) and (f) of this clause; and

(iv) Protect from unauthorized disclosure and use those data that are limited rights data or restricted computer software to the extent provided in paragraph (g) of this clause.

(c) Copyright-

(1) Data first produced in the performance of this contract.

(i) Unless provided otherwise in paragraph (d) of this clause, the Contractor may, without prior approval of the Contracting Officer, assert copyright in scientific and technical articles based on or containing data first produced in the performance of this contract and published in academic, technical or professional journals, symposia proceedings, or similar works. The prior, express written permission of the Contracting Officer is required to assert copyright in all other data first produced in the performance of this contract.

(ii) When authorized to assert copyright to the data, the Contractor shall affix the applicable copyright notices of [17 U.S.C. 401 or 402](#), and an acknowledgment of Government sponsorship (including contract number).

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(iii) For data other than computer software, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly by or on behalf of the Government. For computer software, the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable, worldwide license in such copyrighted computer software to reproduce, prepare derivative works, and perform publicly and display publicly (but not to distribute copies to the public) by or on behalf of the Government.

(2) *Data not first produced in the performance of this contract.* The Contractor shall not, without the prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract unless the Contractor-

(i) Identifies the data; and

(ii) Grants to the Government, or acquires on its behalf, a license of the same scope as set forth in paragraph (c)(1) of this clause or, if such data are restricted computer software, the Government shall acquire a copyright license as set forth in paragraph (g)(4) of this clause (if included in this contract) or as otherwise provided in a collateral agreement incorporated in or made part of this contract.

(3) *Removal of copyright notices.* The Government will not remove any authorized copyright notices placed on data pursuant to this paragraph (c), and will include such notices on all reproductions of the data.

(d) *Release, publication, and use of data.* The Contractor shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, except-

(1) As prohibited by Federal law or regulation (e.g., export control or national security laws or regulations);

(2) As expressly set forth in this contract; or

(3) If the Contractor receives or is given access to data necessary for the performance of this contract that contain restrictive markings, the Contractor shall treat the data in accordance with such markings unless specifically authorized otherwise in writing by the Contracting Officer.

(i) The Contractor agrees not to establish claim to copyright, publish or release to others any computer software first produced in the performance of this contract without the Contracting Officer's prior written permission.

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(ii) If the Government desires to obtain copyright in computer software first produced in the performance of this contract and permission has not been granted as set forth in paragraph (d)(3)(i) of this clause, the Contracting Officer may direct the contractor to assert, or authorize the assertion of, claim to copyright in such data and to assign, or obtain the assignment of, such copyright to the Government or its designated assignee.

(iii) Whenever the word "establish" is used in this clause, with reference to a claim to copyright, it shall be construed to mean "assert".

(e) Unauthorized marking of data.

(1) Notwithstanding any other provisions of this contract concerning inspection or acceptance, if any data delivered under this contract are marked with the notices specified in paragraph (g)(3) or (g) (4) if included in this clause, and use of the notices is not authorized by this clause, or if the data bears any other restrictive or limiting markings not authorized by this contract, the Contracting Officer may at any time either return the data to the Contractor, or cancel or ignore the markings. However, pursuant to [41 U.S.C. 4703](#), the following procedures shall apply prior to canceling or ignoring the markings.

(i) The Contracting Officer will make written inquiry to the Contractor affording the Contractor 60 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;

(ii) If the Contractor fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 60-day period (or a longer time approved in writing by the Contracting Officer for good cause shown), the Government shall have the right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.

(iii) If the Contractor provides written justification to substantiate the propriety of the markings within the period set in paragraph (e)(1)(i) of this clause, the Contracting Officer will consider such written justification and determine whether or not the markings are to be cancelled or ignored. If the Contracting Officer determines that the markings are authorized, the Contractor will be so notified in writing. If the Contracting Officer determines, with concurrence of the head of the contracting activity, that the markings are not authorized, the Contracting Officer will furnish the Contractor a written determination, which determination will become the final agency decision regarding the appropriateness of the markings unless the Contractor files suit in a court of competent jurisdiction within 90 days of receipt of the Contracting Officer's decision. The Government will continue to abide by the markings under this paragraph (e)(1)(iii) until final resolution of the matter either by the Contracting Officer's determination becoming final (in which instance the Government will thereafter have the right to cancel or ignore the markings at any time and the data will no longer be made subject to any disclosure prohibitions), or by final disposition of the matter by court decision if suit is filed.

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(2) The time limits in the procedures set forth in paragraph (e)(1) of this clause may be modified in accordance with agency regulations implementing the Freedom of Information Act ([5 U.S.C. 552](#)) if necessary to respond to a request thereunder.

(3) Except to the extent the Government's action occurs as the result of final disposition of the matter by a court of competent jurisdiction, the Contractor is not precluded by paragraph (e) of the clause from bringing a claim, in accordance with the Disputes clause of this contract, that may arise as the result of the Government removing or ignoring authorized markings on data delivered under this contract.

(f) Omitted or incorrect markings.

(1) Data delivered to the Government without any restrictive markings shall be deemed to have been furnished with unlimited rights. The Government is not liable for the disclosure, use, or reproduction of such data.

(2) If the unmarked data has not been disclosed without restriction outside the Government, the Contractor may request, within 6 months (or a longer time approved by the Contracting Officer in writing for good cause shown) after delivery of the data, permission to have authorized notices placed on the data at the Contractor's expense. The Contracting Officer may agree to do so if the Contractor-

(i) Identifies the data to which the omitted notice is to be applied;

(ii) Demonstrates that the omission of the notice was inadvertent;

(iii) Establishes that the proposed notice is authorized; and

(iv) Acknowledges that the Government has no liability for the disclosure, use, or reproduction of any data made prior to the addition of the notice or resulting from the omission of the notice.

(3) If data has been marked with an incorrect notice, the Contracting Officer may-

(i) Permit correction of the notice at the Contractor's expense if the Contractor identifies the data and demonstrates that the correct notice is authorized; or

(ii) Correct any incorrect notices.

(g) Protection of limited rights data and restricted computer software.

(1) The Contractor may withhold from delivery qualifying limited rights data or restricted computer software that are not data identified in paragraphs (b)(1)(i), (ii), and (iii) of this clause. As a condition to this withholding, the Contractor shall-

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(i) Identify the data being withheld; and

(ii) Furnish form, fit, and function data instead.

(2) Limited rights data that are formatted as a computer database for delivery to the Government shall be treated as limited rights data and not restricted computer software.

(3) Notwithstanding paragraph (g)(1) of this clause, the contract may identify and specify the delivery of limited rights data, or the Contracting Officer may require by written request the delivery of limited rights data that has been withheld or would otherwise be entitled to be withheld. If delivery of that data is required, the Contractor shall affix the following "Limited Rights Notice" to the data and the Government will treat the data, subject to the provisions of paragraphs (e) and (f) of this clause, in accordance with the notice:

LIMITED RIGHTS NOTICE (DEC 2007)

(a) These data are submitted with limited rights under Government Contract No. NNG15CR65C (and subcontract, if appropriate). These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Contractor, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any; provided that the Government makes such disclosure subject to prohibition against further use and disclosure:

(i) Use (except for manufacture) by support service contractors.

(ii) Evaluation by nongovernment evaluators.

(iii) Use (except for manufacture) by other contractors participating in the Government's program of which the specific contract is a part.

(iv) Emergency repair or overhaul work.

(v) Release to a foreign government, or its instrumentalities, if required to serve the interests of the U.S. Government, for information or evaluation, or for emergency repair or overhaul work by the foreign government.

(vi) or any other legitimate government use

(b) This notice shall be marked on any reproduction of these data, in whole or in part.

(End of notice)

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(4)(i) Notwithstanding paragraph (g)(1) of this clause, the contract may identify and specify the delivery of restricted computer software, or the Contracting Officer may require by written request the delivery of restricted computer software that has been withheld or would otherwise be entitled to be withheld. If delivery of that computer software is required, the Contractor shall affix the following "Restricted Rights Notice" to the computer software and the Government will treat the computer software, subject to paragraphs (e) and (f) of this clause, in accordance with the notice:

Restricted Rights Notice (Dec 2007)

(a) This computer software is submitted with restricted rights under Government Contract No. NNG15CR65C (and subcontract, if appropriate). It may not be used, reproduced, or disclosed by the Government except as provided in paragraph (b) of this notice or as otherwise expressly stated in the contract.

(b) This computer software may be-

(1) Used or copied for use with the computer(s) for which it was acquired, including use at any Government installation to which the computer(s) may be transferred;

(2) Used or copied for use with a backup computer if any computer for which it was acquired is inoperative;

(3) Reproduced for safekeeping (archives) or backup purposes;

(4) Modified, adapted, or combined with other computer software, *provided* that the modified, adapted, or combined portions of the derivative software incorporating any of the delivered, restricted computer software shall be subject to the same restricted rights;

(5) Disclosed to and reproduced for use by support service Contractors or their subcontractors in accordance with paragraphs (b)(1) through (4) of this notice; and

(6) Used or copied for use with a replacement computer and other legitimate government use.

(c) Notwithstanding the foregoing, if this computer software is copyrighted computer software, it is licensed to the Government with the minimum rights set forth in paragraph (b) of this notice.

(d) Any other rights or limitations regarding the use, duplication, or disclosure of this computer software are to be expressly stated in, or incorporated in, the contract.

(e) This notice shall be marked on any reproduction of this computer software, in whole or in part.

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(End of notice)

(ii) Where it is impractical to include the Restricted Rights Notice on restricted computer software, the following short-form notice may be used instead:

Restricted Rights Notice Short Form (Jun 1987)

Use, reproduction, or disclosure is subject to restrictions set forth in Contract No.NNG15CR65C (and subcontract, if appropriate) with (name of Contractor and subcontractor).

(End of notice)

(iii) If restricted computer software is delivered with the copyright notice of [17 U.S.C. 401](#), it will be presumed to be licensed to the Government without disclosure prohibitions, with the minimum rights set forth in paragraph (b) of this clause.

(h) *Subcontracting*. The Contractor shall obtain from its subcontractors all data and rights therein necessary to fulfill the Contractor's obligations to the Government under this contract. If a subcontractor refuses to accept terms affording the Government those rights, the Contractor shall promptly notify the Contracting Officer of the refusal and shall not proceed with the subcontract award without authorization in writing from the Contracting Officer.

(i) *Relationship to patents or other rights*. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government.

(End of clause)

I.109 MINIMUM INSURANCE COVERAGE (1852.228-75) (OCT 1988)

I.110 CENTER FOR AEROSPACE INFORMATION (1852.235-70) (DEC 2006)

**I.111 FINAL SCIENTIFIC AND TECHNICAL REPORTS (1852.235-73) (DEC 2006) –
ALTERNATE II (DEC 2005)**

I.112 EMERGENCY EVACUATION PROCEDURES (1852.237-70) (DEC 1988)

I.113 ACCESS TO SENSITIVE INFORMATION (1852.237-72) (JUN 2005)

I.114 RELEASE OF SENSITIVE INFORMATION (1852.237-73) (JUN 2005)

(a) As used in this clause, "Sensitive information" refers to information, not

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currently in the public domain, that the Contractor has developed at private expense, that may embody trade secrets or commercial or financial information, and that may be sensitive or privileged.

(b) In accomplishing management activities and administrative functions, NASA relies heavily on the support of various service providers. To support NASA activities and functions, these service providers, as well as their subcontractors and their individual employees, may need access to sensitive information submitted by the Contractor under this contract. By submitting this proposal or performing this contract, the Contractor agrees that NASA may release to its service providers, their subcontractors, and their individual employees, sensitive information submitted during the course of this procurement, subject to the enumerated protections mandated by the clause at 1852.237-72, Access to Sensitive Information.

(c) (1) The Contractor shall identify any sensitive information submitted in support of this proposal or in performing this contract. For purposes of identifying sensitive information, the Contractor may, in addition to any other notice or legend otherwise required, use a notice similar to the following:

Mark the title page with the following legend:

This proposal or document includes sensitive information that NASA shall not disclose outside the Agency and its service providers that support management activities and administrative functions. To gain access to this sensitive information, a service provider's contract must contain the clause at NFS 1852.237-72, Access to Sensitive Information. Consistent with this clause, the service provider shall not duplicate, use, or disclose the information in whole or in part for any purpose other than to perform the services specified in its contract. This restriction does not limit the Government's right to use this information if it is obtained from another source without restriction. The information subject to this restriction is contained in pages [*insert page numbers or other identification of pages*]. Mark each page of sensitive information the Contractor wishes to restrict with the following legend:

Use or disclosure of sensitive information contained on this page is subject to the restriction on the title page of this proposal or document.

(2) The Contracting Officer shall evaluate the facts supporting any claim that particular information is "sensitive." This evaluation shall consider the time and resources necessary to protect the information in accordance with the detailed safeguards mandated by the clause at 1852.237-72, Access to Sensitive Information. However, unless the Contracting Officer decides, with the advice of Center counsel, that reasonable grounds exist to challenge the Contractor's claim that particular information is sensitive,

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NASA and its service providers and their employees shall comply with all of the safeguards contained in paragraph (d) of this clause.

(d) To receive access to sensitive information needed to assist NASA in accomplishing management activities and administrative functions, the service provider must be operating under a contract that contains the clause at 1852.237-72, Access to Sensitive Information. This clause obligates the service provider to do the following:

(1) Comply with all specified procedures and obligations, including the Organizational Conflicts of Interest Avoidance Plan, which the contract has incorporated as a compliance document.

(2) Utilize any sensitive information coming into its possession only for the purpose of performing the services specified in its contract.

(3) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.

(4) Allow access to sensitive information only to those employees that need it to perform services under its contract.

(5) Preclude access and disclosure of sensitive information to persons and entities outside of the service provider's organization.

(6) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in its contract and to safeguard it from unauthorized use and disclosure.

(7) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.

(8) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.

(e) When the service provider will have primary responsibility for operating an information technology system for NASA that contains sensitive information, the service provider's contract shall include the clause at 1852.204-76, Security Requirements for Unclassified Information Technology Resources. The Security Requirements clause requires the service provider to implement an Information Technology Security Plan to protect information processed, stored, or transmitted from unauthorized access, alteration, disclosure, or use. Service provider

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personnel requiring privileged access or limited privileged access to these information technology systems are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse impact to NASA missions. The Contracting Officer may allow the service provider to conduct its own screening, provided the service provider employs substantially equivalent screening procedures.

(f) This clause does not affect NASA's responsibilities under the Freedom of Information Act.

(g) The Contractor shall insert this clause, including this paragraph (g), suitably modified to reflect the relationship of the parties, in all subcontracts that may require the furnishing of sensitive information.

(End of clause)

I.115 EMERGENCY MEDICAL SERVICES AND EVACUATION (1852.242-78) (APR 2001)

I.116 NOTIFICATION PRIOR TO ACQUIRING INFORMATION TECHNOLOGY SYSTEMS FROM ENTITIES OWNED, DIRECTED OR SUBSIDIZED BY THE PEOPLE'S REPUBLIC OF CHINA (1852.225-74) (JUNE 2013) (DEVIATION)

(a) Definitions –

“Acquire” means procure with appropriated funds by and for the use of NASA through purchase or lease.

“Entity owned, directed or subsidized by the People’s Republic of China” means any organization incorporated under the laws of the People’s Republic of China.

“Information Technology (IT) System” means the combination of hardware components, software, and other equipment to make a system whose core purpose is to accomplish a data processing need such as the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data. IT systems include ground systems in support of flight hardware. IT systems do not include—

- (i) Systems acquired by a contractor incidental to a contract;
- (ii) Imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, are not information technology systems;
- (iii) Services in support of IT systems, such as help desk services; or

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(iv) Flight hardware, which includes aircraft, spacecraft, artificial satellites, launch vehicles, balloon systems, sounding rockets, on-board instrument and technology demonstration systems, and equipment operated on the International Space Station; as well as prototypes, and engineering or brass boards created and used to test, troubleshoot, and refine air- and spacecraft hardware, software and procedures.

(b) Section 516 of the Consolidated and Further Continuing Appropriation Act, 2013 (Pub. L.113-6), requires NASA's Office of the Chief Information Officer (OCIO) to assess the risk of cyber-espionage or sabotage of an information technology (IT) system that is produced, manufactured, or assembled by an entity owned, directed or subsidized by the People's Republic of China (PRC). The Government retains the right to reject any IT system tendered for acceptance under this Contract, without any further recourse by, or explanation to, the Contractor, if the Government determines the IT system, in whole or in part, presents an unacceptable risk to national security.

(c) The Contractor shall obtain the approval of the Contracting Officer before acquiring any IT system(s) from entities owned, directed or subsidized by the People's Republic of China under this contract. Any Contractor request to use such items shall include adequate information for Government evaluation of the request, including—

- (1) A brief description of the item(s); and
- (2) Vendor/manufacturer's company name and address;

(d) The Contracting Officer will provide the information referenced in paragraph (c) to the NASA Office of the Chief Information Officer (OCIO) which will assess the risk of cyber-espionage or sabotage and make a determination if the acquisition of such system is in the national interest. Only items so approved shall be provided under the contract.

(End of clause)

I.117 RESERVED

I.118 MARKET RESEARCH (52.210-1) (APR 2011)

I.119 RESERVED

I.120 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS (52.232-39) (JUN 2013)

I.121 52.219-18 NOTIFICATION OF COMPETITION LIMITED TO ELIGIBLE 8(A) CONCERNS (JUNE 2003) (DEVIATION)

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(a) Offers are solicited only from small business concerns expressly certified by the Small Business Administration (SBA) for participation in the SBA's 8(a) Program and which meet the following criteria at the time of submission of offer—

(1) The Offeror is in conformance with the 8(a) support limitation set forth in its approved business plan; and

(2) The Offeror is in conformance with the Business Activity Targets set forth in its approved business plan or any remedial action directed by the SBA.

(b) By submission of its offer, the Offeror represents that it meets all of the criteria set forth in paragraph (a) of this clause.

(c) Any award resulting from this solicitation will be made directly by the Contracting Officer to the successful 8(a) offeror selected through the evaluation criteria set forth in this solicitation.

(d)(1) *Agreement.* A small business concern submitting an offer in its own name shall furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States or its outlying areas. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic firm. This paragraph does not apply to construction or service contracts.

(2) The Trident Vantage Systems, LLC will notify the NASA, Goddard Space Flight Center's Contracting Officer in writing immediately upon entering an agreement (either oral or written) to transfer all or part of its stock or other ownership interest to any other party.

(End of clause)

I.122 OZONE-DEPLETING SUBSTANCES (52.223-11) (MAY 2001)

(a) Definition. "Ozone-depleting substance", as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR part 82 as--

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including, but not limited to, hydro chlorofluorocarbons

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

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"WARNING: Contains (or manufactured with, if applicable) _____* _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere."

* The Contractor shall insert the name of the substance(s).

(End of clause)

I.123 MATERIAL REQUIREMENTS (52-211-5) (AUG 2000)

I.124 CONTRACTS FOR MATERIALS, SUPPLIES, ARTICLES, AND EQUIPMENT EXCEEDING \$15,000 (52.222-20) (MAY 2014)

I.125 ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS (52.223-15) (DEC 2007)

I.126 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT SYSTEMS (52.223-19) (MAY 2011)

I.127 NOTIFICATION OF CHANGES (52.243-7) (APR 1984)

(b) Notice. ...within _____ (to be negotiated) calendar days...

(d) Government response. ...within _____ (to be negotiated) calendar days...

I.128 PREVENTING PERSONAL CONFLICTS OF INTEREST (52.203-16) (DEC 2011)

I.129 SERVICE CONTRACT REPORTING REQUIREMENTS FOR INDEFINITE-DELIVERY CONTRACTS (52.204-15) (JAN 2014)

I.130 RIGHTS IN DATA—SPECIAL WORKS (52.227-17) (DEC 2007) AS MODIFIED BY NFS 1852.227-17

I.131 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS (52.232-40) (DEC 2013)

I.132 REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS (1852.203-71) (AUG 2014)

I.133 SHARED SAVINGS (1852.243-71) (MAR 1997)

[END OF SECTION I]

**SECTION J OF NNG15CR65C
LIST OF ATTACHMENTS**

J.1 LIST OF ATTACHMENTS (GSFC 52.211-101) (AUG 2014)

The following documents are attached hereto and made a part of this contract:

Attachment	Description	Date	Number of Pages (including the cover page)
A	Statement of Work	7/2014	29
B	Direct Labor Rates, Indirect Rates, and Fee Matrices	12/2014	28
C	Financial Management Reporting Requirements	6/2014	4
D	Safety & Health Plan	12/2014	37
E	Quality Assurance Plan	12/2014	25

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LIST OF ATTACHMENTS**

F	IT Security Management Plan	30 days after contract effective date & annual updates as required	TBS
G	Organizational Conflicts of Interest Avoidance Plan	30 days after contract effective date	TBS
H	Installation-Accountable Government Property	4/2014	7
I	Personal Identity Verification (PIV) Card Issuance Procedures	6/2014	5
J	Contract Historical Data	06/2014	2
K	IT Security Applicable Documents List	6/2014	6

***TBS**–To Be Submitted

***TBP** –To Be Proposed

(End of clause)
[END OF SECTION J]

**NNG15CR65C
Attachment A**

07/2014

**NASA
GODDARD SPACE FLIGHT CENTER**

STATEMENT OF WORK

FOR

**TECHNOLOGY AND INTEGRATED DISCIPLINE ENGINEERING
SERVICES (TIDES)**

FOR THE

**APPLIED ENGINEERING AND
TECHNOLOGY DIRECTORATE (AETD)**

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INTRODUCTION

The National Aeronautics and Space Administration (NASA) was established to plan, direct, and conduct aeronautical and space activities for peaceful purposes for the benefit of all mankind. The operational aspects of NASA's work are divided among field installations around the country and involve research and development activities under the responsibility of four technical program offices at NASA Headquarters.

The Goddard Space Flight Center (GSFC) has primary locations in Greenbelt, Maryland and Wallops Island, Virginia. The GSFC is chartered to expand the knowledge of the earth and its environment, the solar system, and the universe through observations from space. To this end, the GSFC's primary emphasis is in scientific investigation, in the development and operation of space systems, and in the advancement of essential technologies. In accomplishing this responsibility, the GSFC has undertaken a broad program of scientific research, both theoretical and experimental, in the study of space phenomena and earth sciences. The program ranges from basic research to flight experiment development and from mission operations to data analysis.

Within the GSFC, the Applied Engineering Technology Directorate (AETD) plans, organizes, and conducts a broad range of technical research and development activities in support of science applications. The AETD is responsible for providing engineering expertise and support in the formulation, design, development, fabrication, integration, test, verification, and operation of components, subsystems, systems, science instruments, and complete spacecraft for multiple projects. The specific components, subsystems, systems, and science instruments are ultimately integrated into the spacecraft to form a science observatory. It is these observatories that are launched to fulfill the mission of the GSFC. The AETD comprises five engineering divisions: the Mechanical Systems Division (MSD), the Software Engineering Division (SED), the Instrument Systems and Technology Division (ISTD), the Electrical Engineering Division (EED), and the Mission Engineering and Systems Analysis Division (MESAD).

To fulfill these responsibilities and ultimately achieve their missions, the AETD must acquire a wide range of engineering services in support of its divisions to implement the GSFC mission.

SCOPE OF WORK

The purpose of this contract is to acquire engineering and related services to MESAD and related organizations, as required, for the formulation, design, development, fabrication, integration, testing, verification, and operations of guidance, navigation and control (GN&C) space flight and ground system hardware and software, including development and validation of new technologies to enable future space and science missions. The emphasis in engineering services will be in the area of guidance, navigation, and control systems, which includes GN&C systems engineering, Attitude Control Systems (ACS) hardware and software development, and propulsion engineering and development.

To this end, the contractor shall provide on/off-site multidisciplinary engineering services, pursuant to Task Orders issued by the Contracting Officer. These services shall include the personnel, facilities, and materials (unless otherwise provided by the Government) to accomplish the tasks.

Task Orders will be issued to perform services in all aspects of mission and instrument development and implementation for components, subsystems, systems, science instruments, observatories, launch, ground system, spacecraft, and suborbital craft (e.g., aircraft, sounding rockets, unmanned aerial vehicles (UAVs), balloons), including services for the following: free-flying spacecraft, suborbital craft payloads, and Space Station payloads as well as ground support equipment, simulators, non-flight models, prototypes and flight hardware; candidate, feasibility, and systems definition studies; project management; systems engineering; analysis; preliminary design; detailed design; fabrication; assembly; integration; test and verification; test instrumentation; data systems management; launch and post-launch operations; research and technology unique to system development; documentation; maintenance; sustaining engineering; configuration management; mission assurance; architectural trades; performance, cost, and risk assessment; and systems safety.

I. GENERAL RESPONSIBILITIES

The Contractor's responsibilities shall include the establishment of a management organization for the management of personnel; timely and effective implementation of Task Orders; control and monitoring of contract and subcontract performance; management of scheduled deliveries; and timely and effective reporting to the Government. These responsibilities shall also include efficient cost management methods as well as procedures to ensure that the Government is aware of Task Order status and progress achieved during all phases of work.

The Contractor shall be responsible for ensuring that all contractor and subcontractor personnel engaged in performance of this Statement of Work have appropriate qualifications, knowledge, and certification to perform work in accordance with the Task Orders.

II. PERFORMANCE MEASUREMENT

Performance-based statements of work/specifications will be used for establishing contract requirements. Therefore, each Task Order issued by the Contracting Officer will include, as a minimum, the following:

1. Statement of Work, including the requirements to be met, the standard(s) of performance/quality of work, and required deliverables (or other output)
2. Performance Specification (if applicable)
3. Applicable Documents (if required)
4. Period of Performance

The Contractor shall be required to adhere to the performance measurements detailed in each Task Order.

III. TASK ORDERS

Services shall be required in one or more of the areas described in the scope above for any given Task Order. Services within the scope of this Statement of Work and specified in Task Orders shall include, but not be limited to, the specific services delineated in the following sections.

FUNCTION 1 – DISCIPLINE ENGINEERING SUPPORT FOR PRE-FORMULATION AND FORMULATION SERVICES: CANDIDATE AND PRELIMINARY ANALYSIS STUDIES

The Contractor shall provide discipline engineering services as required for mission concept development that integrate the aspects of flight systems, ground systems, instrument systems, and launch systems.

In general, the Contractor shall:

1. Support pre-formulation and formulation phase study inputs for spacecraft, suborbital craft, and instruments.
2. Develop preliminary, relative cost and schedule estimates based on design alternatives, and identify and assess high-risk elements in designs.
3. Document the history of design, qualification, flight experience, and modifications where existing components or subsystems are to be utilized.
4. Provide subsystem requirements for pre-launch, launch, on-orbit servicing, or retrieval of flight hardware.
5. Prepare requirements and specification packages that conform to applicable standards defined within Task Order statement.
6. Prepare interface control documents.
7. Provide technical inputs for problem-solving and/or design inputs in selected spacecraft, instruments, suborbital craft, ground system, and data disciplines.
8. Analyze various reports (e.g., progress reports) delivered by the GSFC mission contractor(s) and provide recommendations to the project.
9. Provide liaison and coordination services between the subsystem and project teams.
10. Provide design services that include performance of preliminary design (leading to a Preliminary Design Review) of the subsystems, components, and assemblies that comprise the instrument/spacecraft/platform/launch system.

A. Candidate Study Services

The Contractor shall provide study services for the conceptual design and development of subsystems, thereby participating in the identification of scientific objectives, mission requirements and technical concepts.

B. Preliminary Analysis Study Services

The Contractor shall provide preliminary analysis study services focusing on analyzing subsystem requirements in order to demonstrate that a credible, feasible design(s) exist(s). Study products produced during this phase shall include:

Analysis Services Specific Task Orders – The Contractor shall perform analysis services Task Orders, including but not limited to:

1. Preliminary design of a feasible, but not necessarily optimum configuration.
2. Assessment of technical risks, including identification of technical problems and the criticality of their solution to follow-on efforts; identification of those problems currently

being addressed, and a judgment of effort and time likely to be necessary to find a practical solution .

3. Identification of all recommended subsystem characteristics.
4. Supporting the development of the System Implementation Plans.
5. Preparation of the subsystem design that forms the basis for implementing system development (hardware or software).
6. Providing alternative subsystem design concepts including feasibility and risk studies, cost and schedule estimates, and advanced technology requirements.
7. Preparing for and supporting the appropriate Phase A project and technical reviews and prepare Phase A project documentation as appropriate (see the NASA Systems Engineering Handbook, SP-6105, December 2007).

FUNCTION 2 – IMPLEMENTATION PHASE SERVICES - DISCIPLINE SPECIFIC SERVICES

A. Guidance, Navigation and Control (GN&C) Engineering Services

The Contractor shall provide GN&C engineering support for all phases of project development, monitoring and reporting progress and conformance to appropriate practices and specifications. This shall include:

1. **GN&C Systems Engineering Specific Task Orders** – The Contractor shall perform specific GN&C systems engineering tasks that include:
 - a. Flight Project GN&C Subsystem Engineering, including requirements development; analysis; trade studies; ICD development; verification and validation; risk management; general coordination of all GN&C elements; maintenance of mass, power, and pointing budgets; operations planning
 - b. GN&C Conceptual Design, Modeling and Simulation
 - c. GN&C Science and Instrument Interface Engineering
 - d. Spacecraft Re-entry Systems Engineering
 - e. Re-entry Debris Analysis, Modeling and Simulation
 - f. GN&C Engineering Support to Integrated Mission Design Lab (IMDL)
 - g. Advanced GN&C Systems Technology Development, including the design, analysis, fabrication, assembly, and test of hardware and/or software
 - h. Advanced GN&C Testbeds, Tools and Methods Development
 - i. Balloon, UAV and Sounding Rocket GN&C Engineering
 - j. Formation Flying Test Bed (FFTB) Design and Development
 - k. Rendezvous Proximity Operations, Docking, Undocking (RPODU) Systems
 - l. Autonomous Rendezvous & Capture (AR&C) Systems
 - m. Pose Estimation Systems
 - n. Technical Consultation and Support (Proposals, Peer, Design, and Anomaly Reviews)
2. **GN&C Analysis & Simulation Specific Task Orders** – The Contractor may be called upon to perform specific GN&C analysis and simulation engineering tasks that include:
 - a. Attitude Design, Analysis and Simulation
 - b. Attitude Control Design, Analysis and Simulation
 - c. Space and Launch Vehicle Dynamics Analysis and Simulation
 - d. Control/Structure Interaction Analysis and Simulation
 - e. Attitude Estimation Design, Analysis and Simulation
 - f. Aerodynamics Design, Analysis and Simulation
 - g. Formation Flying/Constellation Design, Analysis and Simulation
3. **Component and Hardware Systems Engineering Specific Task Orders** – The Contractor shall perform specific GN&C component and hardware systems engineering tasks that include:

- a. Advanced GN&C Sensor/Actuator Design, Development, Fabrication and Test (hardware and/or software).
 - b. Design, Development, Fabrication and Test (hardware and/or software) of sensor/actuator interfacing electronic components and subsystems.
 - c. Analog and digital circuit design and analysis
 - d. Printed circuit board layout, fabrication and assembly.
 - e. Electronics packaging, including design, analyses, fabrication, assembly, testing and verification.
 - f. Field Programmable Grid Array (FPGA) development and testing
 - g. Electrical Technician tasks for the fabrication, assembly, integration and test of printed circuit boards, including certified soldering, crimping, staking, harness fabrication, electrical component test and integration.
4. **Propulsion Engineering Specific Task Orders** – The Contractor shall perform specific spacecraft propulsion systems engineering tasks that include:
- a. Spacecraft Propulsion Subsystem Engineering, including concept design, design maturation, requirements definition and verification, integration and testing, propellant handling, launch support, and flight operations support.
 - b. Advanced Propulsion Technology Development, including advanced chemical propulsion, green propulsion, electrical propulsion (EP), Micro-Electrical-Mechanical Systems (MEMS), micro-propulsion components; test equipment and instrumentation to support development & testing of sub-microN thrusters.
 - c. Fluid Systems Engineering including transient flow, vapor diffusion, fluid slosh and plume impingement analyses.
 - d. Power & Electric Propulsion System Engineering, including low thrust trajectory design; EP system design & trades; EMI testing, analysis and mitigation.
 - e. Nanocalorimetry
 - f. Propulsion Chemical Analyses
 - g. Propulsion GSE Design and Development
 - h. Propulsion System Engineering Support to IMDL and advanced mission studies
 - i. Propulsion System Engineering Support to Flight Project, including technical consultations and engineering support for design reviews, analyses, proposal development, and anomaly resolution. Data Acquisition Engineer, including software and hardware design, development and test.
 - j. Mechanical and Thermal Engineering Support specific to propulsion system design and analysis.
5. **Propulsion System Technician Specific Task Orders** - The Contractor shall perform specific spacecraft propulsion system technician tasks that include:
- a. Mechanical Technician tasks for the fabrication, assembly, integration and test of propulsion subsystems, including subsystem manifold fabrication, precision cleaning, certified welding, integration of propulsion subsystem components, propellant handling and clean room operation.

- b. Electrical Technician tasks for the fabrication, assembly, integration and test of propulsion subsystems, including certified soldering, crimping, staking, harness fabrication, electrical component test and integration.
- c. Advanced Propulsion Technology Development Technician tasks, including conducting micro-Newton thrust stand tests; vacuum system assembly, maintenance and operation; chemical handling; fluid system assembly and operation.

B. GN&C Related Engineering Services

The Contractor shall provide GN&C engineering support for all phases of project development, monitoring and reporting progress and conformance to appropriate practices and specifications. This shall include:

1. Test Bed & Simulator Design/ Development Services

The Contractor shall provide engineering services for the design, development, validation, implementation, certification and maintenance of ground or on-board computer system simulators/emulators, including validation of flight system software for ascent, transfer, or on-orbit phases and near real-time reprogramming and validation of modifications for recovery from anomalous situations.

2. Radio Frequency (RF) Engineering

The contractor shall provide design, analysis, fabrication and testing services for RF systems and components including but not limited to oscillators, transmitters, receivers, low noise amplifiers, filters, synthesizers and mixers. The contractor should also have knowledge of and experience with transmission lines and antennas.

Task Orders may include, but not be limited to the following:

- a. RF system design including receiver architecture
- b. RF and microwave RF circuit design, analysis and testing
- c. RF system testing utilizing the Formation Flying Test Bed (FFTB)
- d. EMI/EMC environmental test support

3. Optical Engineering Services

The Contractor shall provide, on an as-needed basis, engineering services for state-of-the-art optical systems. These services shall include, for example, the design, development and analysis of optical components, diffraction and stray light/energy analyses, component/system alignment and/or calibration, and/or other services, as required.

4. Detector Engineering Services

The Contractor shall provide, on an as-needed basis, engineering services for state-of-the-art X-Ray, Gamma Ray, Visible, RF, and Microwave detection systems requiring low noise levels and calibrations traceable to physical standards. These services shall include, for example, Field Programmable Gate Arrays design and analyses, and/or other services, as required.

5. **Laser Engineering Services**

The Contractor shall provide, on an as-needed basis, engineering services for state-of-the-art Laser systems. These services shall include, for example, the design, development and analysis of laser transmitters, laser transmitter components, laser-based GN&C components, laser-based communication systems, laser-based science instruments, laser-based science instrument subsystems and components.

C. **Systems Engineering Services**

The Contractor shall provide systems engineering support for project development, reporting progress and conformance to appropriate practices and specifications (see the GPR 7123.1 Systems Engineering). These services shall include but not be limited to: operations concept development and support; architecture and design development; requirements analysis, identification and management; validation and verification; interfaces and interface control documents (ICDs); mission environment requirements; technical resource budget tracking; risks analysis, reduction and management; systems milestones review candidates; configuration management and documentation; and systems engineering management plan.

The Contractor shall provide instrument systems engineering support for project development, reporting progress and conformance to appropriate practices and specifications (see the GPR 7123.1 Systems Engineering). These services shall include but not be limited to: instrument data processing development and support; instrument architecture and design development; requirements analysis, identification and management; validation and verification; interfaces and interface control documents (ICDs); instrument environment requirements; technical resource budget tracking; risks analysis, reduction and management; instrument systems milestones review candidates; configuration management and documentation; and instrument systems engineering management plan.

FUNCTION 3 – IMPLEMENTATION PHASE SERVICES - MULTI-DISCIPLINARY FUNCTIONS

The Contractor shall provide services to design, develop, test, integrate, verify, deploy, and operate hardware and software on spacecraft, platform, and/or payload as defined by this Statement of Work. The implementation phase services shall include:

A. Multi-disciplinary Analyses Services

The Contractor shall provide analytical and detailed design support that includes multi-disciplinary subsystem analyses and trade studies involving, but not limited to, mechanical, thermal, optics (including radiometrics and stray light), contamination, control, guidance, navigation, detector, electrical, electronic, and software aspects of flight and ground systems, including associated ground support equipment. Services shall include the definition, development and use of models and simulations to study and quantify system performance and to conduct system trade studies. This includes, but is not limited to, such specific efforts as electromagnetic interference/electromagnetic contamination (EMI/EMC) analysis, environmental testing, magnetics testing, thermal vacuum testing, systems performance error budgets, power and weight budgeting and tracking, microphonics analyses, fracture control analyses, microwave communication system analyses (including link margin availability), controls-structures analyses, control-structural-thermal-optical analyses, instrument system analyses (including system sensitivities), computer performance analyses (including CPU, memory, simulations, etc), and reviews of selected critical subsystems. Services shall also include the development of measurement tools and models, analysis of measurement data, defect tracking, process improvement, cost estimation of hardware and software systems, modeling of organizational processes, electrical parts analyses, electrical board layouts, thermal analysis, electrical board fabrication, mechanical enclosure design, and technical writing documentation.

The Contractor shall document all results from the modeling, simulations, analyses, and design effort and shall provide supporting materials and documentation.

B. Multi-disciplinary Design Services

The Contractor shall provide design services that include performance of detailed (leading to a Critical Design Review) design of the subsystems, components and assemblies that comprise the instrument/spacecraft/platform. This effort includes hardware and software (flight and ground) as well as ground support equipment (electrical, thermal, contamination, mechanical, and cryogenic). Documentation, including technical reports, drawings, schematics, block diagrams, layouts, parts and materials list, and equipment lists, shall be provided.

The Contractor shall document all results from the modeling, simulations, analyses, and design effort and shall provide supporting materials and documentation.

C. Fabrication, Assembly and Testing Services

The Contractor shall provide fabrication, assembly and testing services, including breadboards, engineering models, and other models, including:

1. **Planning Specific Task Orders** – The Contractor shall provide planning services, including:
 - a. Implementation and maintenance of overall production and quality engineering plans
 - b. Manufacturing, integration and test plans, describing sequences, qualification and acceptance test levels, and facilities needed to accomplish assembly, integration, alignment, testing, quality control, and checkout.

2. **Non-Flight & Flight Fabrication Specific Task Orders** – The Contractor shall provide or support fabrication services, including:
 - a. Optical, mechanical, detector, electrical/electronics, and microwave components and subsystems, including antennas. Mechanical systems shall include pressurized propulsion systems containing hazardous fluids.
 - b. Ground support equipment, including mechanical, electrical, and optical components and subsystems.
 - c. Wiring harnesses
 - d. Special parts
 - e. Surface mount printed circuit boards, including leadless chip carriers and chip-on-board techniques.

3. **Non-Flight & Flight Assembly Specific Task Orders** – The Contractor shall provide assembly services, including:
 - a. Optical, mechanical, detector, electrical/electronics, and microwave components and subsystems, including antennas. Mechanical systems shall include pressurized propulsion systems containing hazardous fluids.
 - b. Ground support equipment including mechanical, electrical, and optical components and subsystems.
 - c. Test equipment and fixtures
 - d. Wiring harnesses
 - e. Surface mount printed circuit boards, including leadless chip carriers and chip-on-board techniques.

D. Integration, Test, and Verification Services

The Contractor shall provide engineering and test-conductor services that include integrating and verifying the flight, ground systems, and science data system; preparing and executing test procedures; documenting all non-conformances and dispositions; providing operating manuals, reference documents, training, and launch site support.

Integration, Test and Verification Specific Task Orders – The Contractor shall provide integration, test, and verification services including acceptance testing, regression testing, software support and subsystem-level support of products during component, box, instrument, spacecraft and observatory I&T including:

1. Major program reviews
2. Space flight subsystems
3. Space flight instruments
4. Space flight payloads
5. Suborbital craft instruments
6. Ground instrumentation
7. Ground support systems
8. Science data systems/applications
9. Spacecraft and science operations control rooms
10. Suborbital craft subsystems

E. Laboratory and Test Instrumentation Services

The Contractor shall provide the services necessary for conceptualization, prototyping, design, development, integration, test, sustaining engineering, maintenance and utilization of laboratory and test instrumentation.

F. Launch and Post-Launch Operations Support

The Contractor shall supply launch and post-launch mission, hardware, software, and ground systems support services for Expendable Launch Vehicles (ELV), sounding rocket, balloon, and aircraft-based missions, including:

1. **Launch Site Preparation Specific Task Orders** – The Contractor shall provide support services at the launch site, including:
 - a. Support to payload system and its support equipment
 - b. Interfaces to the mission operations control centers
 - c. Technical services to facilitate interfacing with the launch site organization
 - d. Development of launch site support requirements
 - e. Development of launch site plans and procedures
 - f. Support for shipment of the flight hardware and associated support equipment to and from the launch site.
2. **Launch Operations Specific Task Orders** – The Contractor shall provide launch and post-launch operations services for ELV, sounding rocket, balloon, and aircraft-based missions, including:
 - a. Assuring flight readiness of the payload and observatory system
 - b. Pre-launch testing of the payload and observatory system
 - c. Operation of associated ground support equipment
 - d. Services to the launch vehicle team for payload integration to the vehicle at the launch facility.

3. **Mission Operation Support Specific Task Orders** – The Contractor shall provide mission operation engineering services, including services for the payload and for carrier and flight support system during launch and early orbit mission operations.
4. **Landing and De-Integration Specific Task Orders** – The Contractor shall provide landing and de-integration services, including services at the landing site for payload de-integration, post-flight testing, and payload shipment. This shall include suborbital craft and payloads recovery.
5. **Refurbishment of Recovered Systems Specific Task Orders** – The Contractor shall provide refurbishment services for recovered flight systems.
6. **Data Reduction Specific Task Orders** – The Contractor shall provide data reduction services, including:
 - a. Compiling and analyzing subsystem performance data during and after the mission
 - b. Reviewing and contributing to the implementation of proposed science data processing systems to ensure timely flow of accurate science data sets
 - c. Reviewing the design and implementation of information data systems to identify sources of science data for investigative purposes, including existing databases and newly acquired data requirements to be scheduled
 - d. Analyzing the development of data transfer systems and data status accounting systems for multiple science data processing centers
7. **Documentation Specific Task Orders** – The Contractor shall provide post-flight summary reports, analyzing the performance of the subsystem during flight.

G. Mission Assurance and Systems Safety Services

For all levels of flight hardware and software provided by the Contractor and specified by this Statement of Work, the Contractor shall establish and maintain a mission assurance program commensurate with mission requirements as specified by the Task Order. The mission assurance program shall incorporate a system safety program which meets the requirements of National Space Transportation Systems (NSTS) 1700.7B, "Safety Policy and Requirements for Payloads Using the Space Transportation System". For ELV missions at ETR or WTR, the system safety program shall meet the requirements of AFSPCMAN 91-710, Range Safety User Requirements Manual.

The contractor shall establish and maintain practices, procedures, and processes that are ISO Q9001-2000 compliant.

1. **Performance Assurance Specific Task Orders** – The Contractor shall provide performance assurance services, including:
 - a. Reviewing payload designs to assure their compliance with performance assurance, reliability, and safety specifications.
 - b. Developing, analyzing, and monitoring performance assurance, reliability,

system safety plans and procedures, fabrication and assembly, integration and test, verification, and launch support.

- c. Analyzing basic plans for system safety, contamination control, integration, and testing of subsystems and systems

2. **Safety Specific Task Orders** – The Contractor shall provide safety services which conform to the system safety/mission assurance program, including:

- a. Establishing and documenting a systems safety plan in concert with the appropriate launch vehicle and NASA safety policy.
- b. Conducting and assessing system safety analyses for flight designs and launch/retrieval operations to satisfy NASA safety and reliability requirements.
- c. Analyzing design changes related to minimizing hazard levels.
- d. Participating in system safety reviews.
- e. Reviewing the proposed systems design to ensure that proper considerations are given to safety-critical areas, and that safety problems exposed in prior analyses, testing, and operational use of instruments and subsystems are corrected.
- f. Conducting project test/validation programs for flight and critical ground systems software.
- g. Preparing the Safety Data Package, including writing and editing.
- h. Performing hazards analysis of flight system and ground support equipment.
- i. Participating in required inspection/testing to fulfill safety data requirements.
- j. Coordinating with the GSFC safety officer and participating in formal safety reviews.

FUNCTION 4 – RESEARCH AND TECHNOLOGY SERVICES

The contractor shall provide advanced research and technology support to MESAD and related organizations. These services may include development, test, and analysis work in support of the Research and Technology activities.

A. GN&C Systems Technology Services

The Contractor shall provide research, design, development, analysis, and testing services for GN&C systems, including but not limited to:

1. **GN&C Systems Specific Task Orders** – The Contractor shall provide services for the research and development of advanced analytical, engineering, integration, testing, and software engineering techniques including, but not limited to:
 - a. GN&C Systems Performance modeling
 - b. GN&C Systems signal to noise analysis
 - c. Rendezvous Proximity Operations, Docking, Undocking (RPODU) Systems
 - d. Autonomous Rendezvous & Capture (AR&C) Systems
 - e. Pose Estimation Systems
 - f. Advanced Global Positioning System algorithms
 - g. Miniaturization and Micro-Electromechanical (MEMS) Devices
 - h. Advanced Propulsion Systems, including advanced chemical propulsion, green propulsion, electrical propulsion (EP), Micro-Electrical-Mechanical Systems (MEMS), and micro-propulsion components

B. GN&C Electronics Systems Technology Services

The Contractor shall provide services for research, design, development, test, and analysis of advanced signal processing electronics for space flight systems, including support for language-based microelectronics development. The Contractor shall provide services for sensor signal processing technology Task Orders, digital signal processing technology Task Orders, and advanced applications technology Task Orders.

C. Software Systems Technology Services

The Contractor shall provide technology services for the research and development of advanced software topics, including:

1. Automation and artificial intelligence applications
2. Software engineering
3. Distributed processing
4. Embedded software systems
5. Visualization and virtual environments
6. Data processing, archival and distribution
7. Simulation and modeling
8. Middleware

D. Systems Technology Services

The Contractor shall provide services for the research and development of advanced technologies for end-to-end mission architectures, systems, subsystems, components, devices, and elements for spacecraft, balloons, UAV's, sounding rockets, instruments, and other platforms, including:

1. Technology validation
2. Technology infusion
3. Technology state-of-the-art and gap analyses
4. Strategic technology planning and road mapping
5. Technology study/proposal support
6. Technology infrastructure/facility requirements planning
7. Technology special studies, including the development and refinement of technology enabled missions
8. Technology tracking, documentation and reporting
9. Technology prototyping

FUNCTION 5 – SUPPORT SERVICES

The Contractor shall provide support services covering all items within the scope of this SOW, as specified in task assignments. All work shall be performed in accordance with the latest versions of the applicable documents, specifications and standards under this SOW, and as further specified on individual task orders.

A. Computer Support Technology Services

The Contractor shall provide computer technology services, including:

1. **Computer Support Specific Task Orders** – The Contractor shall provide computer technology services, including:
 - a. Engineering support to analyze data acquisition, processing, distribution, archival/storage, and measurement problems
 - b. Data reduction to include statistical and thematic trends analyses
 - c. Diagnostics support for instrument checkout between test consoles and test components
 - d. Program services to utilize test instruments in aerospace system test and analysis, including General Purpose Interface Bus (GPIB) type operation and Graphical User Interface (GUI) based software system
 - e. General in-house computer software maintenance to include, but not be limited to, updating and debugging programs
 - f. Design, coding, integration, test, documentation, and maintenance of special applications programs
 - g. Updating of existing technical in-house computer databases
 - h. Transfer of programs from one system to another and testing for functional operations and real time data transfer between dissimilar systems
 - i. Debugging of general utility programs, such as graphic packages
 - j. Support in analyzing and implementing solutions to computer hardware interface problems
 - k. Support for network and operating system configurations, troubleshooting, installation, and maintenance
 - l. Design and debug of test procedures
2. **Web Page Development and Maintenance Function** – The contractor shall provide web development services to help promote organizational capabilities, including:
 - a. Development, maintenance, and upgrade of web sites
 - b. Management of mission test facilities that require significant computer capabilities
 - c. Compliance to Agency and Center policy (GSFC Webmaster) such as 508 compliance and Post 9-11 accessibility compatibility
 - d. Defining with customer the look and feel of the web site, and reviewing web site requirements
 - e. Developing prototype web sites for maturing web based concepts
 - f. Providing maintenance services to keep web site up to date and compliant

B. Configuration Management Services

The Contractor shall provide overall management and oversight of the Configuration Management (CM), Documentation Management (DM), and Quality Control Management (QCM) disciplines throughout the life cycle of flight hardware and software provided within the scope of this Statement of Work. Each discipline shall require the development, establishment, and implementation of procedures and processes and establishment of mechanisms and tools for consistency.

The Contractor shall support the planning, identification of processes, and leading GSFC Project efforts in these disciplines. This support shall also include the necessary planning and associated process development for the GSFC Project in meeting conformance requirements to NASA procedures and guidelines as well as the ISO standards.

The main CM/DM/QCM functions shall include:

- Configuration identification, configuration control, configuration accounting and reporting
- Configuration verification and configuration auditing
- Implementation and maintenance of a DM system

The Contractor shall be responsible for providing the necessary tools and databases to accomplish the above functions; developing and establishing procedures and guidelines and training in the configuration management, documentation management, and ISO Q9001-2000 disciplines.

C. Documentation Services

The Contractor shall provide documentation services for all levels of hardware and software within the scope of this Statement of Work, as specified in Task Orders. Documents shall conform to applicable documents and specifications. These shall include pertinent performance assurance guidelines, quality standards, GSFC standards, documents of other NASA Centers, Federal standards, military standards, and commercial standards.

The Contractor shall provide documentation services, including instrument conceptual designs, program plans, systems analyses, illustrations, technical and implementation plans, test plans, test procedures, test scripts, software documentation, and the full range of system hardware and software documentation. These shall also include up-to-date drawings, specifications, certifications, reports, interface control documents, and agreements.

1. **Document Services Specific Task Orders** – The Contractor shall provide electronic media and document services, including:
 - a. Technical writing
 - b. Editing
 - c. Drafting
 - d. Computer-Aided Design (CAD)/Computer-Aided Manufacturing (CAM)
 - e. Photographic

- f. Video
- g. Reproduction
- h. Compact Disc (CD), Digital Versatile Disc (DVD)
- i. Posters and Displays

2. **Photo and Video Specific Task Orders** – The Contractor shall use photos and video for maintenance, engineering, or as documentation to explain a problem. They shall become supplemental to support unit repair or future development and maintenance. A scale shall be included to indicate relative dimensions in photographs and/or video, where appropriate.

D. Demonstration, Presentation and Conference Services

The Contractor shall provide technology services for hardware and software demonstrations, technical/project/conference presentations, and conference planning/implementation for items within the scope of this Statement of Work, including:

1. **Demonstration Specific Task Orders** – The Contractor shall provide hardware, software, support equipment, and technical services for onsite and offsite demonstrations.
2. **Presentation Specific Task Orders** – The Contractor shall provide materials for inclusion in technical/project/conference presentations, including posters, information, photographs, etc. In addition, the Contractor shall perform the presentation.
3. **Conference Specific Task Orders** – The Contractor shall support the Government by providing services in the planning and implementation of conferences.

E. Laboratory & Office Safety/Property Program Services

The Contractor shall provide services to support laboratory/office safety and property programs including:

1. Performing safety audits and walkthroughs.
2. Documenting safety hazards and recommending corrective actions.
3. Performing property audits and documenting results.
4. Creating training materials to ensure employees are cognizant of all relevant safety policies and procedures.

F. Maintenance Services

The Contractor shall provide maintenance support to ensure long term reliability through an integrated and efficient approach, including:

1. **Preventative Maintenance**

The Contractor shall perform preventative maintenance on hardware and software within the scope of this Statement of Work as specified in Task Orders.

2. Emergency Repair Services

The Contractor shall provide expeditious emergency repair services for hardware and software within the scope of this Statement of Work, as specified in Task Orders. The Contractor shall respond to the Government within four hours of notification to determine and implement a mutually agreeable course of action. In some cases, there shall be 24-hour coverage during flight hardware and software evaluation, verification, and test. This service shall comprise of repair, modification, or replacement of components, codes, subassemblies, and assemblies. Documentation updates shall be required as a result of any change.

G. Sustaining Engineering Services

The Contractor shall provide sustaining engineering services for hardware and software within the scope of this Statement of Work, including:

1. Modifications of hardware/firmware and software, including installation of elements for improved reliability and/or performance
2. Modifications of wiring to improve circuit performance
3. Fabrication, assembly, wiring, and testing of printed circuit assemblies where necessary to update old circuitry or improve reliability
4. Engineering, fabrication, testing of assemblies or sub-assemblies to replace outdated circuitry to eliminate component or circuit failures
5. Engineering, fabrication, assembly, and testing of engineering circuits to correct problems encountered
6. Modifications of mechanical assemblies, structures, and mechanisms to correct or improve the design
7. Update of drawings, manuals, and technical data to reflect current status at the time of modifications
8. Firmware and software modifications in response to approved changes, including problem fixes.

H. Education Services

The Contractor shall provide education services, including:

1. Supporting the AETD Systems Engineering Education and Development (SEED) program and Science & Engineering Collaboration Program (SECP) as well as the HQ System Engineering Leadership Development Program (SELDP).
2. Supporting educational outreach programs with universities and NASA headquarters.
3. Supporting MESAD and ISTD division or branch-level educational programs and training.

I. Standards and Processes

The Contractor shall provide support for engineering standards work and engineering process work, including:

1. International Standard Organization (ISO) documentation and process generation.
2. Engineering standards documentation and review.
3. Engineering process documentation.
4. Activities in support of engineering process improvement.

This work shall include providing support for systems engineering capability assessment and improvement services, Task Ordering support of the Systems Engineering Working Group (SEWG), and Systems Engineering process improvement activities.

APPLICABLE DOCUMENTS AND SPECIFICATIONS

The contractor shall adhere to all applicable portions of the following documents and/or specifications in the performance of this contract. The latest updated version shall apply:

General:

NPR 7120.5, NASA Space Flight Program and Project Management Requirements
GPR 7123.1A, Systems Engineering
NPR 8705.4, Risk Classification for NASA Payloads
GPR 8070.4B, Administration and Application of Goddard Open-Learning Design (GOLD)
Rules for the Design, Development, Verification and Operation of Flight Systems
GPR 8700.6B Engineering Peer Reviews
GSFC-STD-1000F, Rules for the Design, Development, Verification, and Operation of Flight Systems
NASA/SP-2007-6105 Rev 1, NASA Systems Engineering Handbook

Launch Vehicles:

AFSPCMAN 91-710, Range Safety User Requirements Manual
NASA-STD 8719.24, NASA Expendable Launch Vehicle Payload Safety Requirements
NPR 8715.7, Expendable Launch Vehicle Payload Safety Program

Conformal Coating and Staking:

NASA-STD-8739.1, Workmanship Standard for Polymeric Application on Electronic Assemblies

Soldering – Flight, Ground Systems:

Association Connecting Electronics Industries (IPC)/Electronics Industry Alliance (EIA)
IPC-J-STD-001E, Requirements for Soldered Electrical and Electronic Assemblies

Electronic Assemblies – Ground Systems:

IPC-A-610, Acceptability of Electronic Assemblies

Crimping, Wiring, and Harnessing:

NASA-STD-8739.4, Crimping, Interconnecting Cables, Harnesses, and Wiring

Fiber Optics:

NASA-STD-8739.5, Fiber Optic Terminations, Cable Assemblies, and Installation

Electro-Static Discharge (ESD) Control:

ANSI/ESD S20.20, Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
GPR 8730.6B, Electrostatic Discharge (ESD) Control

Printed Wiring Board (PWB) Design:

500-PG-8700.2.2, Electronics Design and Development Guidelines
500-PG-8700.2.4, Mechanical Design and Development Guidelines,
GSFC X-673-64-1, Engineering Drawing Standards Manual
IPC-2221, Generic Standard on Printed Board Design
IPC-2222, Sectional Design Standard for Rigid Organic Printed Boards
IPC-2223, Sectional Design Standard for Flexible Printed Boards
IPC D-275 Design Standard for Rigid Printed Boards and Rigid Printed Board
Assemblies
IPC-2225 Sectional Design Standard for Organic Multichip Modules (MCM-L) and MCM-L
Assemblies
GSFC-STD-6001, Ceramic Column Grid Array Design and Manufacturing Rules for Flight
Hardware

PWB Manufacture:

GSFC EEE-INST-002, Instructions for EEE Parts Selection, Screening,
Qualification, and Derating
IPC A-600, Acceptability of Printed Boards
IPC-6011, Generic Performance Specification for Printed Boards
IPC-6012, Qualification and Performance Specification for Rigid Printed Boards
Flight Applications – Supplemented with: GSFC/S312-P-003, Procurement Specification for
Rigid Printed Boards for Space Applications and Other High Reliability Uses
IPC-6013, Qualification and Performance Specification for Flexible Printed Boards
IPC-6015 Qualification and Performance Specification for Organic Multichip Module
(MCM-L) Mounting and Interconnecting Structures
IPC-6018, Microwave End Product Board Inspection and Test

Materials Processing

NASA-STD-6016, Standard Materials and Processes Requirements for Spacecraft

Contamination

GSFC 546-WI-8072.1.56A, Contamination Control Procedure for Tape Lift Sampling of
Surfaces
IEST-STD-CC1246D, Product Cleanliness Levels and Contamination Control Program
ASTM E1559-09, Standard Test Method for Contamination Outgassing Characteristics of
Spacecraft Materials
GSFC 546-WI-8072.1.82A, MOLEKIT2/3 Operating Procedures
GSFC 546-WI-8072.1.80A, Measurement OF BRDF
GSFC 546-WI-8072.1.81A, Determination of Particulate Contamination Using
Automated Microscope/Image Analyzer ISO 14644, Cleanrooms and Associated Controlled
Environments

Mechanical Design

541-PG-8072.1.2B, GSFC Fastener Integrity Requirements
540-PG-8700.2.1B, Design of Dollies, Stands, and Spacecraft Shipping Containers
540-PG-8719.1.1A, Lift Sling Design

ASME Y14.5M-1994, Dimensioning and Tolerancing
500-PG-8700.2.5C GSFC Engineering Drawing Requirements Manual

Environmental Testing

GSFC-STD-7000 General Environmental Verification Standard (GEVS)

Outgassing

ASTM E-595-07, Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment

Outgassing Data for Selecting Spacecraft Materials Online:

<http://outgassing.nasa.gov>

Section 508 EIT Standards

1194.21 Software Applications and Operating Systems

1194.22 Web-based Intranet and Internet Information and Applications

1194.24 Video and Multimedia Products

REFERENCE DOCUMENTS AND SPECIFICATIONS

The following documents and/or specifications are provided as reference material for the performance of this contract. The latest updated version shall apply:

NASA/SP-2007-6105 Rev1, NASA Systems Engineering Handbook

ACRONYMS

ACS	Attitude Control System
ADP	Automatic Data Processing
ADR	Adiabatic Demagnetization Refrigeration
AETD	Applied Engineering and Technology Directorate
ANSI	American National Standards Institute
ASAP	Advanced Sensor Analysis Program
ASIC	Application-Specific Integration Circuit
ASTM	American Society for Testing Materials
ATR	Approved Technical Representative
CAD	Computer Aided Design
CAE	Computer Aided Engineering
CAM	Computer Aided Manufacturing
CCB	Change Control Board
CD	Compact Disk
C&DH	Communication and Data Handling
CDR	Critical Design Review
CIA	Calibration, Integration and Alignment
CM	Configuration Management
CMMI	Capability Maturity Model® Integration
CNE	Center Network Environment
COR	Contracting Officer's Representative
CVCM	Collected Volatile Condensable Materials
DM	Documentation Management
DVD	Digital Video Disk
EED	Electrical Engineering Division
EEE	Electronic, Electrical, and Electromechanical
ELV	Expendable Launch Vehicle
EMI	Electromagnetic Interference
EMC	Electromagnetic Compatibility
EP	Electrical Propulsion
ESD	Electro-Static Discharge
ETR	Eastern Test Range
ETU	Engineering Test Unit
EVA	Extra-Vehicular Activities
EWR	Eastern/Western Range
F	Fahrenheit
FEM	Finite Element Model
FEMAP	Finite Element Modeling software by Siemens PLM
FTTB	Formation Flying Test Bed
FMEA	Failure Modes and Effects Analysis
FMECA	Failure Modes, Effects, and Criticality Analysis
FPGA	Field Programmable Gate Array
FRB	Failure Review Board
FTA	Fault Tree Analysis
GEVS	General Environmental Verification Standard

GFE	Government Furnished Equipment
GIDEP	Government Interagency Data Exchange Program
GN&C	Guidance Navigation and Control
GPG	Goddard Procedures and Guidelines
GPIB	General-Purpose Interface Bus
GPR	Goddard Procedural Requirements
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
ICD	Interface Control Drawing/Document
IDEAS	Software by EDS (formerly by Structural Dynamics Research Corporation)
IENT	Institute of Environmental Sciences and Technology
IMDC	Integrated Mission Design Center
ISO	International Standard Organization
ISS	International Space Station
ISTD	Instrument Systems and Technology Division
IT	Information Technology
I&T	Integration and Test
IPC	<i>formerly</i> Institute for Interconnecting and Packaging Electronic Circuits
ITS	Information Technology Security
LAN	Local Area Network
MAR	Mission Assurance Requirement
MEMS	Micro Electro-mechanical
MESA	Mission Engineering and Systems Analysis Division
MIL	Military
MIMO	Multiple Input/Multiple Output
MIP	Mandatory Inspection Point
MLI	Multi-Layer Insulation
MRB	Material Review Board
MSD	Mechanical Systems Division
N	Newton
NASA	National Aeronautics and Space Administration
NASTRAN	NASA Structural Analysis Program
NDE	Nondestructive Evaluation
NDI	Non-destructive Inspection
NHB	NASA Handbook
NPR	NASA Procedural Requirements
NSTS	National Space Transportation System
PAR	Product Assurance Requirement
PCB	Printed Circuit Board
PDR	Preliminary Design Review
PFR	Problem Failure Reporting
PG	Procedures and Guidelines
PIC	Procurement Information Circular
PR	Problem Reporting
PRA	Probability Risk Assessment
PWB	Printed Wiring Board

QCM	Quality Control Management
QMS	Quality Management System
REA	Radiation Effects Analysis
RF	Radio Frequency
R&TD	Research and Technology Development
SEMP	System Engineering Management Plans
SINDA	Systems Improved Numerical Differencing Analyzer
SISO	Single Input/Single Output
SMA	Safety and Mission Assurance
SMAP	Software Mission Assurance Plan
SSPTA	Simplified Space Payload Thermal Analyzer
STD	Standard
STOL	Spacecraft Testing and Operations Language
STOP	Structural-Thermal-Optical Performance
STS	Space Transportation System
TML	Total Mass Loss
TOMS	Task Order Management System
TRASYS	Thermal Radiation Analyzer System
TSS	Thermal Synthesizer Systems
UAV	Unmanned Aerial Vehicle
UNIX	Operating System Software
UV	Ultra Violet
WI	Work Instruction
WTR	Western Test Range
WVR	Water Vapor Regained

1. PRIME DIRECT LABOR RATE MATRIX (For All Task Orders):

The Contractor shall not exceed the direct labor rates as specified below for pricing all taskorders:

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin						
Configuration Management Specialist						
Education Outreach Specialist						
Electrical Assembler						
Electrical Assembler 2						
Electrical Engineer 1						
Electrical Engineer 2						
Electrical/Electronic Designer						
Electrical/Electronic Technician 1						
Electrical/Electronic Technician 2						
Electro-Optical Engineer						
GN&C Embedded Software Engineer						
GN&C Engineer 1						
GN&C Engineer 2						
GN&C Engineer 3						
GN&C Engineer - Chief						
GN&C Systems Engineer 1						
GN&C Systems Engineer 2						
GN&C Systems Engineer 3						
Integration & Test Engineer						
Engineer Jr						
Machinist						
Manufacturing Engineer						
Mechanical Designer						
Mechanical Engineer 1						
Mechanical Engineer 2						
Mechanical Technician						
Mission Assurance and Safety Manager						
Multimedia Production Specialist						
Optical Engineer						
Optical Analyst						
Optical Technician						
Packaging Engineer						
Parts/Materials Technician						
Propulsion Engineer 1						
Propulsion Engineer 2						
Propulsion Technician 1						
Propulsion Technician 2						
Quality Assurance Engineer						
Quality Assurance Engineer 2						
RF Engineer						
RF Engineer 2						
RF Engineer 3						
Safety Engineer 1						
Safety Engineer 2						
Senior Staff Engineer 1						
Senior Staff Engineer 2						
Senior Staff Engineer - Chief						
Technical Typist						
Technical Writer						
Thermal Engineer 1						
Thermal Engineer 2						



2. PRIME INDIRECT COST RATE MATRIX (For All Task Orders):

The Contractor shall not exceed the Indirect rates as specified below for pricing all taskorders:

Indirect Rate	Application Base	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
Fringe Benefits	Labor	(b) (4)					
Overhead - Onsite	DL & Direct Fringe	(b) (4)					
General & Administrative	Total Cost	(b) (4)					

3. RATES OR FACTORS FROM COST ESTIMATING RELATIONSHIPS (For All Task Orders):

CERs	Base of Application	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
Management Team	DL Hours	(b) (4)					
Offsite Facilities	Offsite DL Hrs						
Manufacturing Facilities	Mfg Site DL Hrs						

4. PRIME FIXED FEE RATE MATRIX (For All Task Orders):

Fixed Fee Rate	Application Base	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
Fixed Fee	Total Cost except ODCs	(b) (4)					
Fixed Fee on ODC's	ODCs	(b) (4)					



5. SUBCONTRACTOR LOADED LABOR RATE MATRIX (For All Task Orders):

The Contractor shall not exceed the fully-loaded direct labor rates as specified below for pricing the subcontractor labor hours on all task orders:

5.1.a. UM On-Site

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin	(b) (4)					
Configuration Management Specialist	(b) (4)					
Education Outreach Specialist	(b) (4)					
Electrical Assembler	(b) (4)					
Electrical Assembler 2	(b) (4)					
Electrical Engineer 1	(b) (4)					
Electrical Engineer 2	(b) (4)					
Electrical/Electronic Designer	(b) (4)					
Electrical/Electronic Technician 1	(b) (4)					
Electrical/Electronic Technician 2	(b) (4)					
Electro-Optical Engineer	(b) (4)					
GN&C Embedded Software Engineer	(b) (4)					
GN&C Engineer 1	(b) (4)					
GN&C Engineer 2	(b) (4)					
GN&C Engineer 3	(b) (4)					
GN&C Engineer - Chief	(b) (4)					
GN&C Systems Engineer 1	(b) (4)					
GN&C Systems Engineer 2	(b) (4)					
GN&C Systems Engineer 3	(b) (4)					
Integration & Test Engineer	(b) (4)					
Engineer Jr	(b) (4)					
Machinist	(b) (4)					
Manufacturing Engineer	(b) (4)					
Mechanical Designer	(b) (4)					
Mechanical Engineer 1	(b) (4)					
Mechanical Engineer 2	(b) (4)					
Mechanical Technician	(b) (4)					
Mission Assurance and Safety Manager	(b) (4)					
Multimedia Production Specialist	(b) (4)					
Optical Engineer	(b) (4)					
Optical Analyst	(b) (4)					
Optical Technician	(b) (4)					
Packaging Engineer	(b) (4)					
Parts/Materials Technician	(b) (4)					
Propulsion Engineer 1	(b) (4)					
Propulsion Engineer 2	(b) (4)					
Propulsion Technician 1	(b) (4)					
Propulsion Technician 2	(b) (4)					
Quality Assurance Engineer	(b) (4)					
Quality Assurance Engineer 2	(b) (4)					
RF Engineer	(b) (4)					
RF Engineer 2	(b) (4)					
RF Engineer 3	(b) (4)					
Safety Engineer 1	(b) (4)					
Safety Engineer 2	(b) (4)					
Senior Staff Engineer 1	(b) (4)					
Senior Staff Engineer 2	(b) (4)					
Senior Staff Engineer - Chief	(b) (4)					
Technical Typist	(b) (4)					
Technical Writer	(b) (4)					
Thermal Engineer 1	(b) (4)					
Thermal Engineer 2	(b) (4)					

5.2.a. Chesapeake On-Site

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin						
Configuration Management Specialist						
Education Outreach Specialist						
Electrical Assembler						
Electrical Assembler 2						
Electrical Engineer 1						
Electrical Engineer 2						
Electrical/Electronic Designer						
Electrical/Electronic Technician 1						
Electrical/Electronic Technician 2						
Electro-Optical Engineer						
GN&C Embedded Software Engineer						
GN&C Engineer 1						
GN&C Engineer 2						
GN&C Engineer 3						
GN&C Engineer - Chief						
GN&C Systems Engineer 1						
GN&C Systems Engineer 2						
GN&C Systems Engineer 3						
Integration & Test Engineer						
Engineer Jr						
Machinist						
Manufacturing Engineer						
Mechanical Designer						
Mechanical Engineer 1						
Mechanical Engineer 2						
Mechanical Technician						
Mission Assurance and Safety Manager						
Multimedia Production Specialist						
Optical Engineer						
Optical Analyst						
Optical Technician						
Packaging Engineer						
Parts/Materials Technician						
Propulsion Engineer 1						
Propulsion Engineer 2						
Propulsion Technician 1						
Propulsion Technician 2						
Quality Assurance Engineer						
Quality Assurance Engineer 2						
RF Engineer						
RF Engineer 2						
RF Engineer 3						
Safety Engineer 1						
Safety Engineer 2						
Senior Staff Engineer 1						
Senior Staff Engineer 2						
Senior Staff Engineer - Chief						
Technical Typist						
Technical Writer						
Thermal Engineer 1						
Thermal Engineer 2						

5.3.a. Risk Management Corp On-Site

Labor Category	CY 1 HR Rate	CY 2 HR Rate	CY 3 HR Rate	CY 4 HR Rate	CY 5 HR Rate	CY 6 HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin						
Configuration Management Specialist						
Education Outreach Specialist						
Electrical Assembler						
Electrical Assembler 2						
Electrical Engineer 1						
Electrical Engineer 2						
Electrical/Electronic Designer						
Electrical/Electronic Technician 1						
Electrical/Electronic Technician 2						
Electro-Optical Engineer						
GN&C Embedded Software Engineer						
GN&C Engineer 1						
GN&C Engineer 2						
GN&C Engineer 3						
GN&C Engineer - Chief						
GN&C Systems Engineer 1						
GN&C Systems Engineer 2						
GN&C Systems Engineer 3						
Integration & Test Engineer						
Engineer Jr						
Machinist						
Manufacturing Engineer						
Mechanical Designer						
Mechanical Engineer 1						
Mechanical Engineer 2						
Mechanical Technician						
Mission Assurance and Safety Manager						
Multimedia Production Specialist						
Optical Engineer						
Optical Analyst						
Optical Technician						
Packaging Engineer						
Parts/Materials Technician						
Propulsion Engineer 1						
Propulsion Engineer 2						
Propulsion Technician 1						
Propulsion Technician 2						
Quality Assurance Engineer						
Quality Assurance Engineer 2						
RF Engineer						
RF Engineer 2						
RF Engineer 3						
Safety Engineer 1						
Safety Engineer 2						
Senior Staff Engineer 1						
Senior Staff Engineer 2						
Senior Staff Engineer - Chief						
Technical Typist						
Technical Writer						
Thermal Engineer 1						
Thermal Engineer 2						



5.4.a. Pinnacle On-Site

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin	(b) (4)					
Configuration Management Specialist	(b) (4)					
Education Outreach Specialist	(b) (4)					
Electrical Assembler	(b) (4)					
Electrical Assembler 2	(b) (4)					
Electrical Engineer 1	(b) (4)					
Electrical Engineer 2	(b) (4)					
Electrical/Electronic Designer	(b) (4)					
Electrical/Electronic Technician 1	(b) (4)					
Electrical/Electronic Technician 2	(b) (4)					
Electro-Optical Engineer	(b) (4)					
GN&C Embedded Software Engineer	(b) (4)					
GN&C Engineer 1	(b) (4)					
GN&C Engineer 2	(b) (4)					
GN&C Engineer 3	(b) (4)					
GN&C Engineer - Chief	(b) (4)					
GN&C Systems Engineer 1	(b) (4)					
GN&C Systems Engineer 2	(b) (4)					
GN&C Systems Engineer 3	(b) (4)					
Integration & Test Engineer	(b) (4)					
Engineer Jr	(b) (4)					
Machinist	(b) (4)					
Manufacturing Engineer	(b) (4)					
Mechanical Designer	(b) (4)					
Mechanical Engineer 1	(b) (4)					
Mechanical Engineer 2	(b) (4)					
Mechanical Technician	(b) (4)					
Mission Assurance and Safety Manager	(b) (4)					
Multimedia Production Specialist	(b) (4)					
Optical Engineer	(b) (4)					
Optical Analyst	(b) (4)					
Optical Technician	(b) (4)					
Packaging Engineer	(b) (4)					
Parts/Materials Technician	(b) (4)					
Propulsion Engineer 1	(b) (4)					
Propulsion Engineer 2	(b) (4)					
Propulsion Technician 1	(b) (4)					
Propulsion Technician 2	(b) (4)					
Quality Assurance Engineer	(b) (4)					
Quality Assurance Engineer 2	(b) (4)					
RF Engineer	(b) (4)					
RF Engineer 2	(b) (4)					
RF Engineer 3	(b) (4)					
Safety Engineer 1	(b) (4)					
Safety Engineer 2	(b) (4)					
Senior Staff Engineer 1	(b) (4)					
Senior Staff Engineer 2	(b) (4)					
Senior Staff Engineer - Chief	(b) (4)					
Technical Typist	(b) (4)					
Technical Writer	(b) (4)					
Thermal Engineer 1	(b) (4)					
Thermal Engineer 2	(b) (4)					

5.5.a. ACS On-Site

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin						
Configuration Management Specialist						
Education Outreach Specialist						
Electrical Assembler						
Electrical Assembler 2						
Electrical Engineer 1						
Electrical Engineer 2						
Electrical/Electronic Designer						
Electrical/Electronic Technician 1						
Electrical/Electronic Technician 2						
Electro-Optical Engineer						
GN&C Embedded Software Engineer						
GN&C Engineer 1						
GN&C Engineer 2						
GN&C Engineer 3						
GN&C Engineer - Chief						
GN&C Systems Engineer 1						
GN&C Systems Engineer 2						
GN&C Systems Engineer 3						
Integration & Test Engineer						
Engineer Jr						
Machinist						
Manufacturing Engineer						
Mechanical Designer						
Mechanical Engineer 1						
Mechanical Engineer 2						
Mechanical Technician						
Mission Assurance and Safety Manager						
Multimedia Production Specialist						
Optical Engineer						
Optical Analyst						
Optical Technician						
Packaging Engineer						
Parts/Materials Technician						
Propulsion Engineer 1						
Propulsion Engineer 2						
Propulsion Technician 1						
Propulsion Technician 2						
Quality Assurance Engineer						
Quality Assurance Engineer 2						
RF Engineer						
RF Engineer 2						
RF Engineer 3						
Safety Engineer 1						
Safety Engineer 2						
Senior Staff Engineer 1						
Senior Staff Engineer 2						
Senior Staff Engineer - Chief						
Technical Typist						
Technical Writer						
Thermal Engineer 1						
Thermal Engineer 2						

5.6.a. J&T On-Site

Labor Category	CY 1	CY 2	CY 3	CY 4	CY 5	CY 6
	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate	HR Rate
CAD/Draftsman	(b) (4)					
Computer System Engineer/System Admin						
Configuration Management Specialist						
Education Outreach Specialist						
Electrical Assembler						
Electrical Assembler 2						
Electrical Engineer 1						
Electrical Engineer 2						
Electrical/Electronic Designer						
Electrical/Electronic Technician 1						
Electrical/Electronic Technician 2						
Electro-Optical Engineer						
GN&C Embedded Software Engineer						
GN&C Engineer 1						
GN&C Engineer 2						
GN&C Engineer 3						
GN&C Engineer - Chief						
GN&C Systems Engineer 1						
GN&C Systems Engineer 2						
GN&C Systems Engineer 3						
Integration & Test Engineer						
Engineer Jr						
Machinist						
Manufacturing Engineer						
Mechanical Designer						
Mechanical Engineer 1						
Mechanical Engineer 2						
Mechanical Technician						
Mission Assurance and Safety Manager						
Multimedia Production Specialist						
Optical Engineer						
Optical Analyst						
Optical Technician						
Packaging Engineer						
Parts/Materials Technician						
Propulsion Engineer 1						
Propulsion Engineer 2						
Propulsion Technician 1						
Propulsion Technician 2						
Quality Assurance Engineer						
Quality Assurance Engineer 2						
RF Engineer						
RF Engineer 2						
RF Engineer 3						
Safety Engineer 1						
Safety Engineer 2						
Senior Staff Engineer 1						
Senior Staff Engineer 2						
Senior Staff Engineer - Chief						
Technical Typist						
Technical Writer						
Thermal Engineer 1						
Thermal Engineer 2						

6. POSITION QUALIFICATIONS (For All Prime and Subcontractor Direct Labor Categories):

Labor Category	E/NE	Edu	Exp
CAD/Draftsman	(b) (4)		
Computer System Engineer/System Admin			
Configuration Management Specialist			
Education Outreach Specialist			
Electrical Assembler			
Electrical Assembler 2			
Electrical Engineer 1			
Electrical Engineer 2			
Electrical/Electronic Designer			
Electrical/Electronic Technician 1			
Electrical/Electronic Technician 2			
Electro-Optical Engineer			
GN&C Embedded Software Engineer			
GN&C Engineer 1			
GN&C Engineer 2			
GN&C Engineer 3			
GN&C Engineer - Chief			
GN&C Systems Engineer 1			
GN&C Systems Engineer 2			
GN&C Systems Engineer 3			
Integration & Test Engineer			
Engineer Jr			
Machinist			
Manufacturing Engineer			
Mechanical Designer			
Mechanical Engineer 1			
Mechanical Engineer 2			
Mechanical Technician			
Mission Assurance and Safety Manager			
Multimedia Production Specialist			
Optical Engineer			
Optical Analyst			
Optical Technician			
Packaging Engineer			
Parts/Materials Technician			
Propulsion Engineer 1			
Propulsion Engineer 2			
Propulsion Technician 1			
Propulsion Technician 2			
Quality Assurance Engineer			
Quality Assurance Engineer 2			
RF Engineer			
RF Engineer 2			
RF Engineer 3			
Safety Engineer 1			
Safety Engineer 2			
Senior Staff Engineer 1			
Senior Staff Engineer 2			
Senior Staff Engineer - Chief			
Technical Typist			
Technical Writer			
Thermal Engineer 1			
Thermal Engineer 2			

ATTACHMENT C

**FINANCIAL MANAGEMENT REPORTING
REQUIREMENTS**

**TECHNOLOGY AND INTEGRATED DISCIPLINE
ENGINEERING SERVICES (TIDES)**

CONTRACT NNG15CR65C

FINANCIAL MANAGEMENT REPORTING REQUIREMENTS

Financial Management Reports shall be submitted by the Contractor on the NASA 533 series reports, in accordance with the instructions on the reverse of the forms, NASA Procedural Requirements NPR 9501.2E entitled "NASA Contractor Financial Management Reporting," dated May 27, 2011, and additional instructions issued by the Contracting Officer.

a. Level of Detail

An individual 533 Report shall be provided for each Task Order in addition to a cumulative 533 Report summarizing all Task Orders issued. The reports shall contain a breakdown of hours and costs by the elements of cost categories listed in Section d below.

b. Variance Narrative Reporting

In accordance with Section 3.6 of NPR 9501.2, the Contractor shall include a narrative explanation for variances exceeding plus or minus 10 percent (+/- 10%) between the Total Direct Labor Hours (prime and subcontractors) and/or Total Estimated Cost amount shown in the prior month and the Actual Total Direct Labor Hours and/or Actual Total Cost amount shown in the current month for each individual task order. (For example, the Total Estimated Cost amount shown for June in column 8a in the May NF 533M and the Actual June Total Cost amount shown in column 7a in the June NF 533M.)

Each task order variance narrative shall explain the: (1) reason for the variance, (2) impact(s) on the individual task order, and (3) specific corrective action(s) being taken or to be taken.

c. Distribution

The Contractor shall distribute 533 reports to each addressee indicated in the contract clause entitled, "Financial Management Reporting." The Contractor shall submit an initial report in the NF 533Q format within 30 working days after contract award.

After the initial report, the NF 533M reports shall be distributed not later than the tenth (10th) working day following the close of the contractors' monthly accounting period. The 533Q reports shall be distributed not later than the fifteenth (15th) day of the month preceding the quarter being reported. The NF 533M need not be submitted in months in which an NF 533Q is submitted.

d. Reporting Requirements

Each individual report shall, at a minimum, provide cost data by the following elements of cost categories:

1. Prime Direct Labor Hours:

Prime Direct Labor Hours - Onsite
(List applicable labor categories)

Prime Direct Labor Hours – Offsite
(List applicable labor categories)

Total Prime Direct Labor Hours

2. Subcontractor Direct Labor Hours:

Subcontractor A Direct Labor Hours – Onsite
(List applicable labor categories)
Subcontractor A Direct Labor Hours – Offsite
(List applicable labor categories)

Subcontractor B Direct Labor Hours – Onsite
(List applicable labor categories)
Subcontractor B Direct Labor Hours – Offsite
(List applicable labor categories)

Subcontractor C Direct Labor Hours – Onsite
(List applicable labor categories)
Subcontractor C Direct Labor Hours – Offsite
(List applicable labor categories)

Total Subcontractors Direct Labor Hours

3. Total Prime and Subcontractors Direct Labor Hours:

Total Prime and Subcontractors Hours – Onsite
Total Prime and Subcontractors Hours – Offsite

Total Prime and Subcontractors Direct Labor Hours

4. Prime Direct Labor Costs:

Prime Direct Labor Costs - Onsite
(List applicable labor categories)

Prime Direct Labor Costs – Offsite
(List applicable labor categories)

Total Prime Direct Labor Costs

5. Prime Overhead Expenses:

Onsite Overhead
Offsite Overhead

Total Prime Overhead

6. Other Direct Costs (ODCs):

a. Subcontracts (list separately, Subcontractor A, B, C, etc.)

b. Material

c. Travel

d. Other (specify)

Total ODCs

7. Subtotal (Direct Labor, Overhead & ODCs)

8. G&A Expense

9. Total Estimated Cost

10. Fixed Fee

11. Total Cost-Plus-Fixed-Fee (CPFF)

**Volume II — Mission Suitability Volume
Appendix D: Safety and Health Plan**



**Technology and Integrated Discipline Engineering Services
(TIDES)**

Solicitation Number:

RFP NNG15499033R

December 22, 2014

Submitted to:

NASA/Goddard Space Flight Center

Prepared by:



Trident Vantage Systems, LLC
1220 North Fillmore Street, Suite 320
Arlington, VA 22201
(571) 482-7131

(b) (4)

Safety & Health Plan
Pages 121-156

ATTACHMENT E

**TECHNOLOGY AND INTEGRATED
DISCIPLINE ENGINEERING SERVICES**

**QUALITY ASSURANCE PLAN
(QAP)**

CONTRACT # NNG15CR65C

Volume II — Mission Suitability Volume
Quality Assurance Plan

**Technology and Integrated Discipline Engineering Services
(TIDES)**

December 22, 2014

Submitted to:

NASA/Goddard Space Flight Center

Prepared by:



Trident Vantage Systems, LLC
1220 North Fillmore Street, Suite 320
Arlington, VA 22201
(571) 482-7131

(b) (4)

Quality Assurance Plan
Pages 159-182

ATTACHMENT F

**TECHNOLOGY AND INTEGRATED
DISCIPLINE ENGINEERING SERVICES**

**INFORMATION TECHNOLOGY (IT)
SECURITY MANAGEMENT PLAN**

**TO BE SUBMITTED 30 DAYS AFTER CONTRACT
EFFECTIVE DATE**

CONTRACT NNG15CR65C

ATTACHMENT G

**TECHNOLOGY AND INTEGRATED
DISCIPLINE ENGINEERING SERVICES**

**ORGANIZATIONAL CONFLICTS
OF INTEREST AVOIDANCE PLAN**

**TO BE SUBMITTED 30 DAYS AFTER CONTRACT
EFFECTIVE DATE**

CONTRACT NNG15CR65C

ATTACHMENT H

**TECHNOLOGY AND INTEGRATED
DISCIPLINE ENGINEERING SERVICES**

**INSTALLATION ACCOUNTABLE
GOVERNMENT PROPERTY**

CONTRACT NNG15CR65C

ATTACHMENT H TIDES RFP # NNG15499033R

The property identified in this list is GSFC onsite equipment that may be available f

ECN	Equipment Description	Manufacturer Name
3078777	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2168586	COMPUTER, MICRO	BROADAX SYSTEMS INC
3039959	COMPUTER, MICRO	BROADAX SYSTEMS INC
3069215	COMPUTER, MICRO	CYBER RESEARCH INC
3077977	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
3069661	COMPUTER, MICRO	LZS GLOBAL SERVICES INC.
2374753	COMPUTER, MICRO	SUPER LOGICS
3076513	COMPUTER, MICRO, RACKMOUNTED	ADVANTECH CORP
2374253	COMPUTER, RACKMOUNT	SUPERLOGICS INC
2374254	COMPUTER, RACKMOUNT	SUPERLOGICS INC
2374255	COMPUTER, RACKMOUNT	SUPERLOGICS INC
2502213	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3069658	DISPLAY UNIT	LZS GLOBAL SERVICES INC.
2159658	DISPLAY UNIT	SONY CORP OF AMERICA
2034916	LATHE	COLCHESTER LATHE CO INC
2173480	MILLING MACHINE	WABCO CONSTRUCTION AND MINING
2173801	OSCILLOSCOPE	TEKTRONIX INC
2173033	POWER SUPPLY	AGILENT TECHNOLOGIES INC
2173034	POWER SUPPLY	AGILENT TECHNOLOGIES INC
2173035	POWER SUPPLY	AGILENT TECHNOLOGIES INC
2333856	POWER SUPPLY	KEPCO INC
2333857	POWER SUPPLY	KEPCO INC
2333858	POWER SUPPLY	KEPCO INC
3036450	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
3079647	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
2622662	COMPUTER, TABLET	APPLE COMPUTER INC
2501283	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3039342	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
2550452	CAMERA	MESA IMAGING
2519788	CONTROLLER	ULTRA ELECTRONICS
2519791	CONTROLLER	ULTRA ELECTRONICS
2332135	DISK ARRAY	HEWLETT-PACKARD CO
2519798	DISK ARRAY	SGI
3038301	DISK DRIVE UNIT	SILICON GRAPHICS INC
2170983	DISPLAY UNIT	APPLE COMPUTER INC
3068056	DISPLAY UNIT	SONY CORP OF AMERICA
2168644	DISPLAY UNIT, 3D VISUALIZATION	BARCO ELECTRONICS INC

2520605	JOYSTICK, GIMBAL	ULTRA ELECTRONICS
2520606	JOYSTICK, GIMBAL	ULTRA ELECTRONICS
3076514	JOYSTICK, GIMBAL	ULTRA ELECTRONICS
3012329	AMPLIFIER, VIDEO	KISTLER INSTRUMENT CORP
1820844	ANALYZER	HEWLETT-PACKARD CO
2373617	ANALYZER	TIMING SOLUTIONS CORP
3067209	ANALYZER, CHEMICAL	AQUEOUS TECH
G036682	ANALYZER, FREQUENCY RESPONSE	SCHLUMBERGER LTD
2042587	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
2168426	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
2175319	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
2176466	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
3015551	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
3080139	ANALYZER, LOGIC	AGILENT TECHNOLOGIES INC
1414988	ANALYZER, LOGIC	HEWLETT-PACKARD CO
2031520	ANALYZER, LOGIC	HEWLETT-PACKARD CO
2333466	ANALYZER, NETWORK	AGILENT TECH INC
1750570	ANALYZER, NETWORK	HEWLETT-PACKARD CO
2325505	ANALYZER, SPECTRUM	AGILENT TECHNOLOGIES INC
1752411	ANALYZER, SPECTRUM	HEWLETT-PACKARD CO
2042685	ANALYZER, SPECTRUM	ROHDE UND SWARZ
2593794	ANALYZER, TIMING INTERVALT	SYMMETRICOM INC
3070428	ARRAY, REWORK SYSTEM	METCAL INC
459045	AUTOCOLLIMATOR STAR SIMULATOR	BALL AREOSPACE SYS DV BALL CP
2038688	BALANCING, MACHINE	SCHENCK TREBEL CORP
1334194	BUS TESTER	TEST SYSTEMS INTERNATIONAL INC
1608498	CALIBRATOR, FREQUENCY	FREQUENCY AND TIME SYSTEMS INC
2594052	CAMERA	OPTIMUM ELECTRONICS
1673319	CAMERA, DIGITAL	CANON INC
2132783	CHAMBER, VACUUM	BUFFALO TANK CORP
2333011	CHASSIS, 4 CHANNEL, I/U	INNOVATIVE ENGINEERING INC
3079388	COMPUTER, LAPTOP	ASUS COMPUTER INTL INC
2171688	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2173254	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2173258	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2176256	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2325539	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
2373819	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
3067293	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
3078611	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD
3075345	COMPUTER, MAINFRAME	AGILENT TECHNOLOGIES INC

2040538	COMPUTER, MICRO	ATIPA LINUX SOLUTIONS
1750139	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1750154	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1756448	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1756458	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1756464	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1756468	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
1957731	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2168724	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2173301	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2173302	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2176714	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2177212	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2177232	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
3039288	COMPUTER, MICRO	DELL COMPUTER CORP F-PC'S LTD
2031452	COMPUTER, MICRO	GATEWAY COMPANIES INC
2115698	COMPUTER, MICRO	GATEWAY COMPANIES INC
2170209	COMPUTER, MICRO	GODDARD SPACE FLIGHT CENTER
2170210	COMPUTER, MICRO	GODDARD SPACE FLIGHT CENTER
3079386	COMPUTER, MICRO	GODDARD SPACE FLIGHT CENTER
3079963	COMPUTER, MICRO	GODDARD SPACE FLIGHT CENTER
3079965	COMPUTER, MICRO	GODDARD SPACE FLIGHT CENTER
2332158	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332159	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332160	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332161	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332162	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332163	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332166	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332170	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332171	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332172	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332173	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332174	COMPUTER, MICRO	HEWLETT-PACKARD CO
2332175	COMPUTER, MICRO	HEWLETT-PACKARD CO
2333721	COMPUTER, MICRO	HEWLETT-PACKARD CO
2373307	COMPUTER, MICRO	HEWLETT-PACKARD CO
2374979	COMPUTER, MICRO	HEWLETT-PACKARD CO
1102888	COMPUTER, MICRO	INDUSTRIAL COMPUTER SOURCE
2164121	COMPUTER, MICRO	KOLAR SYSTEMS INTERNATIONAL
3070429	COMPUTER, MICRO	METCAL INC

3068478	COMPUTER, MICRO	MPC COMPUTERS
3075469	COMPUTER, MICRO MINI	DELL COMPUTER CORP F-PC'S LTD
3075472	COMPUTER, MICRO MINI	DELL COMPUTER CORP F-PC'S LTD
3075475	COMPUTER, MICRO MINI	DELL COMPUTER CORP F-PC'S LTD
2171598	COMPUTER, RACKMOUNT	CORE MICROSYSTEMS
2171599	COMPUTER, RACKMOUNT	CORE MICROSYSTEMS
2171649	COMPUTER, RACKMOUNT	LZS GLOBAL SERVICES INC.
2374051	COMPUTER, RACKMOUNT	MICRO-TEL CORP
2333219	COMPUTER, RACKMOUNT	PUGET CUSTOM COMPUTERS
2333220	COMPUTER, RACKMOUNT	PUGET CUSTOM COMPUTERS
1756094	CONTROLLER	NEWPORT CORP
2044821	COUNTER	FLUKE CORP
2173120	DATA ACQUISITION SYSTEM	ASTRO-MED INC
2173977	DATA ACQUISITION SYSTEM (LAPCAT III)	DELL COMPUTER CORP F-PC'S LTD
2109384	DISPLAY UNIT	ACER INC
2329622	DISPLAY UNIT	APPLE COMPUTER INC
1628037	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
1673768	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2103184	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2165256	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2501272	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2501284	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2502152	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3011940	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3036461	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3038103	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3067902	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
3067934	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
2115123	DISPLAY UNIT	DELL COMPUTER CORP F-PC'S LTD
1342400	DISPLAY UNIT	FUJITSU AMERICA INC
1522907	DISPLAY UNIT	GATEWAY COMPANIES INC
2169205	DISPLAY UNIT	GATEWAY COMPANIES INC
2174546	DISPLAY UNIT	GATEWAY COMPANIES INC
2174547	DISPLAY UNIT	GENERAL TECHNICS
2324778	DISPLAY UNIT	GENERAL TECHNICS
2159034	DISPLAY UNIT	HEWLETT-PACKARD CO
3037125	DISPLAY UNIT	NEC CORP
3015911	DISPLAY UNIT	NEC CORP
2168203	DISPLAY UNIT	PLANAR ADVANCE INC
3012393	DISPLAY UNIT	SAMSUNG ELECTRONICS
3068220	DISPLAY UNIT	SONY CORP OF AMERICA
		VIEWSONIC CORP/ DIV KEYPOINT

2111561	DISPLAY UNIT	XENON CORP
2112895	DISPLAY UNIT	XEROX CORP
2172074	FREEZER	SCIENTEMP
2373317	FREQUENCY, STANDARD	SYMMETRICOM INC
1817091	GAUSSMETER	BELL F W INC
1524514	GENERATOR	TEKTRONIX INC
2176598	GENERATOR, PULSE	AGILENT TECHNOLOGIES INC
2623614	GENERATOR, SIGNAL	AGILENT TECHNOLOGIES INC
1756152	GENERATOR, SIGNAL	HEWLETT-PACKARD CO
2168427	GENERATOR, SIGNAL	RHODE & SCHWARZ
3067875	GENERATOR, SIGNAL	RHODE & SCHWARZ
3068229	GENERATOR, SIGNAL	RHODE & SCHWARZ
2109178	GENERATOR, SIGNAL	ROHDE AND SCHWARZ INC F-ROHDE
2114338	GENERATOR, SIGNAL	ROHDE AND SCHWARZ INC F-ROHDE
2333895	GENERATOR, WAVEFORM	TEKTRONIX INC
2173672	GLOBAL POSITIONING UNIT	SPIRENT FEDERAL SYSTEMS INC.
2173673	GLOBAL POSITIONING UNIT	SPIRENT FEDERAL SYSTEMS INC.
3038551	INERTIAL REFERENCE UNIT, MGNT OH	APPLIED TECHNOLOGY ASSOC. INC
2168243	LASER	LDS T&M INC.
2176592	LASER, MULTICHANNEL	BRUEL & KJAER NORTH AMERICA
98186	MAGNETIC SHIELD ENCLOSURE	GODDARD SPACE FLIGHT CENTER
3013430	MEASURING, FORCE, PLATE	KISTLER INSTRUMENT CORP
188355	MICROPROCESSOR	TEKTRONIX INC
2164437	MICROSCOPE, OPTICAL	OK INTERNATIONAL COMPUTERS INC
2622094	MODULE, OPTICAL	AGILENT TECH INC
2176932	MONITOR, TELEVISION	NEC INFORMATION SYSTEMS INC
2173320	MONITOR, VIDEO	LENOX INSTRUMENT CO INC
459033	OPTICAL DIVIDG HEAD	INTERNATIONAL MACHINE AND TOOL
459046	OPTICAL HEAD	LEITZ ERNST GMBH
2323944	OPTICAL, TABLE	NEWPORT CORP
2323945	OPTICAL, TABLE	NEWPORT CORP
2373509	OSCILLATOR, SWEEP	SYMMETRICOM INC
1522875	OSCILLOSCOPE	TEKTRONIX INC
1527439	OSCILLOSCOPE	TEKTRONIX INC
1700703	OSCILLOSCOPE	TEKTRONIX INC
2034968	OSCILLOSCOPE	TEKTRONIX INC
2111978	OSCILLOSCOPE	TEKTRONIX INC
2111979	OSCILLOSCOPE	TEKTRONIX INC
2112766	OSCILLOSCOPE	TEKTRONIX INC
2173802	OSCILLOSCOPE	TEKTRONIX INC
2173803	OSCILLOSCOPE	TEKTRONIX INC

2173804	OSCILLOSCOPE	TEKTRONIX INC
2175287	OSCILLOSCOPE	TEKTRONIX INC
2375650	OSCILLOSCOPE	TEKTRONIX INC
2551277	OSCILLOSCOPE	TEKTRONIX INC
2551278	OSCILLOSCOPE	TEKTRONIX INC
3069459	OSCILLOSCOPE	TEKTRONIX INC
3075505	OSCILLOSCOPE	TEKTRONIX INC
3077776	OSCILLOSCOPE	TEKTRONIX INC
2521001	OSCILLOSCOPE	TEKTRONIX INC
2038676	OVEN, REFLOW*SOLDERING	ESSEMTEC AG
2521000	POWER SUPPLY	KIKUSUI AMERICA INC.
3076250	POWER SUPPLY	KIKUSUI AMERICA INC.
3069347	POWER SUPPLY	KIKUSUI ELECTRONICS CORP
459109	POWER SUPPLY, SIMULATOR SOLAR	EXOTECH INC
2505608	PRESS ASSEMBLY , STAX CAP LEAD	FANCORT INDUSTRIES INC
1816215	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
1821414	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
2103419	PRINTER, ADP, LASER	HEWLETT-PACKARD CO
3080581	PROBE	TEKTRONIX INC
3080633	PROBE	TEKTRONIX INC
3035500	PROGRAMMER	DATA I/O CORP
3036366	PUMP, VACUUM	DANIELSON ASSOCIATES INC
1626743	RECEIVER, GPS	TRIMBLE NAVIGATION LTD
1626745	RECEIVER, GPS	TRIMBLE NAVIGATION LTD
2170212	RECORDER, SIGNAL DATA	GODDARD SPACE FLIGHT CENTER
3077430	REFRIGERATED CIRCULATOR	LIBBY MANUFACTURING COMPANY LT
2325648	REFRIGERATOR CIRCULATOR	THERMO-NELSAB INC.
2113318	SATELLITE, SIMULATOR	JCAIR INC
3037134	SCANNER	OCE GRAPHICS USA INC
3068477	SECURITY INSPECTION UNIT, XRAY	GLENBROOK TECHNOLOGIES INC
3076248	SENSOR	QCM RESEARCH
2625399	SERVER	DELL COMPUTER CORP F-PC'S LTD
2625400	SERVER	DELL COMPUTER CORP F-PC'S LTD
2625482	SERVER	INTERNATIONAL INDUSTRIES INC
459102	SIMULATOR STAR	DIFFRACTION LTD INC
3034622	SIMULATOR, CROSSLINK CHANNEL	GENERAL DYNAMICS DECISION SYS
2373599	SIMULATOR, GPS	SPIRENT COMMUNICATIONS GSS,INC
3015435	SIMULATOR, GPS	SPIRENT COMMUNICATIONS GSS,INC
3076763	SIMULATOR, GPS	SPIRENT COMMUNICATIONS GSS,INC
3079321	SIMULATOR, GPS	SPIRENT COMMUNICATIONS GSS,INC
2553522	SIMULATOR, GPS	SPIRENT FEDERAL SYSTEMS INC.

2553523	SIMULATOR, GPS	SPIRENT FEDERAL SYSTEMS INC.
2164208	SIMULATOR, GPS, PORTABLE	SPIRENT COMMUNICATIONS GSS,INC
2334381	SIMULATOR, GPSQ	SPIRENT COMMUNICATIONS GSS,INC
2334382	SIMULATOR, GPSQ	SPIRENT COMMUNICATIONS GSS,INC
2334383	SIMULATOR, GPSQ	SPIRENT COMMUNICATIONS GSS,INC
2334384	SIMULATOR, GPSQ	SPIRENT COMMUNICATIONS GSS,INC
1754923	SOURCE LIGHT	ORIEL CORP F-ORIEL OPTICAL
1953003	SWITCHING UNIT	LING DYNAMIC SYSTEM LTD
1953005	TABLE VIBRATION	LING DYNAMIC SYSTEM LTD
1954610	TABLE, TILTING, GYRO TEST	ACUTRONIC USA INC
2373512	TEST SET, EXTENDED RANGE	SYMMETRICOM INC
2111557	THEODOLITE	SOKKIA CORP
1527525	THEODOLITE, SURVEYING	SOKKIA CORP
2109626	THERMAL CHAMBER	LUNAIRE LTD TENNEY ENVIRONMENT
2328463	TRANSCEIVER, CROSS LINK	JOHNS HOPKINS UNIV APPLIED
2328464	TRANSCEIVER, CROSS LINK	JOHNS HOPKINS UNIV APPLIED
1419684	VACUUM PUMP	BALZERS
3012700	VACUUM PUMP	STOKES VACUUM INC
2031789	VACUUM, CHAMBER	PHYSICAL ELECTRONICS INDUS
3076249	WIRE STRIPPER, THERMAL	EUBANKS ENGINEERING CO
2332966	ANALYZER, HANDHELD	PHYSIMETRICS INC.
2332967	ANALYZER, HANDHELD	PHYSIMETRICS INC.
3034420	AUTO COLLIMATOR	MICRO-RADIAN INSTRUMENTS INC
2159821	AUTO COLLIMATOR	NEWPORT CORP
2109281	AUTOCOLLIMATOR	MICRO-RADIAN INSTRUMENTS INC
3035545	BELL JAR SYSTEM	KURT J. LESKER COMPANY
3068656	BENDING STATION	PINES MANUFACTURING INC
3076253	BORESCOPE	HAWKEYE GRADIENT LENS CORP
1644016	CAMERA SYSTEM, DIGITAL	CANON USA MICROGRAPHICS DIV
1950132	CAMERA, TELEVISION	SONY CORP
2623895	CAMERA, VIDEOSCOPE	OLYMPUS AMERICA INC.
2331513	CART, LOADING, TEST	MARTIN MARIETTA AEROSPACE
2331512	DETECTOR, HELIUM LEAK	VARIAN INC
2329431	DETECTOR, LEAK HELIUM	PFEIFFER VACUUM TECHNOLOGY INC
2373516	DETECTOR, LEAK HELIUM	PFEIFFER VACUUM TECHNOLOGY INC
1529122	DOLLY	GODDARD SPACE FLIGHT CENTER
2333502	HYDRA SET	DEL MAR AVIONICS F-AVONICS
2031829	LASER HEAD	ZYGO CORP
1812224	MICROSCOPE	NIKON CORP
2177042	MILLING MACHINE	MAJESTIC MACHINERY INC
2109282	OPTICAL HEAD	MICRO-RADIAN INSTRUMENTS INC

3034419	OPTICAL HEAD	MICRO-RADIAN INSTRUMENTS INC
3038803	OSCILLOSCOPE	TEKTRONIX INC
3068661	OVEN, VACUUM	YAMATO SCIENTIFIC CO LTD
188196	POWER FLARER	TELEDYNE REPUBLIC MFG
3077672	POWER SUPPLY	INDUCTION ATMOSPHERES
2112211	PRESSURE PANEL	GODDARD SPACE FLIGHT CENTER
1757453	PRINTER, ADP	METTLER TOLEDO
2113642	PUMP CONTROL	PHYSICAL ELECTRONICS INDUS
2623381	PUMP, TURBO MOLECULAR	IDEAL VACUUM PRODUCTS, LLC
2623402	PUMP, TURBO MOLECULAR	IDEAL VACUUM PRODUCTS, LLC
2177181	PUMP, VACUUM	AGILENT TECHNOLOGIES INC
2333532	PUMP, VACUUM	IDEAL VACUUM PRODUCTS, LLC
2333533	PUMP, VACUUM	IDEAL VACUUM PRODUCTS, LLC
95821	PUMPING SYSTEM, ROOTS/VANE	ADVANCED VACUUM SYSTEMS INC
3066535	RECORDER, STRIP CHART	GOULD INC TEST & MEASURE GROUP
1625271	RECORDER, VIDEO CASSETTE	SONY CORP OF AMERICA
3012095	SIMULATOR, PROPELLANT TANK	GODDARD SPACE FLIGHT CENTER
1955189	TANK, LIQUID PROPELLANT	PRESSURE SYSTEMS INC
1955190	TANK, LIQUID PROPELLANT	PRESSURE SYSTEMS INC
3010710	TELESCOPE	BRUNSON INSTRUMENT CO
2329430	TESTER, CABLE	CIRRIS SYSTEMS CORP
1954580	TURBO PUMP	VARIAN ASSOC F-NAT'L RESEARCH
1955073	TURBO PUMP SYSTEM	COMBINOVA AB

for contractor use during work under the TIDES contract.

Model Number	Manufacturer Serial No.	Location	Room
PP04X	58JY5F1	GS-011	E138
RMS6151B	1025858	GS-028	B28/N276
RMS6151B	BSI1020703	GS-011	S001
NONE	48051	GS-028	N276
DCTA	F507JD1	GS-011	E138
NONE	62256628	GS-011	E138
SL-DK-P8H61-ID	71700007	GS-011	E138
610	AC6001949	GS-001	12
SL-4U-H77KC-HA	424700105	GS-011	E138
SL-4U-H77KC-HA	424700104	GS-011	E138
MTEL-RM-SWTS-2	13080001	GS-011	E138
2000FP	TW09E2494663536C0GYL	GS-011	E138
RM19-AN-01	51507675	GS-029	150
SDM-S81	4002266	GS-011	S138B
STUDENT2500	306521	GS-011	S138B
XTG350-20	50335463	GS-011	S138B
MS04104	C003181	GS-011	E138
6627A	SG4000273	GS-011	S001
6627A	SG4000271	GS-011	E138
6627A	SG4000272	GS-011	S332C
NONE	135608	GS-011	E138
NONE	135609	GS-011	E138
NONE	135583	GS-011	E138
Q2473A	CNBFC88891	GS-011	S001A
Q7546A	CNDXB02446	GS-011	S241
A1219	GB0447NTZ3A	GS-011	S124
1901FP	CN05Y232716183BIBD88	GS-011	S124
Q2475A	SCNBGH64986	GS-011	S103
SR4000	40000122	GS-005	E90
544-G1810	1.01923E+11	GS-028	N274C
544-G2132	101923	GS-028	N274C
LH52AV	2UA23201M2	GS-011	E142
R-200 1802	MLW789	GS-028	N210
SLGR014	33525183740	GS-028	N210
A1083	CY635129UG1	GS-028	N274C
SDM-P232W	5708119	GS-GSFCD52	#
TRACE	NONE	GS-028	N210

544-G3363	109802	GS-011	S108
544-G3361	109827	GS-011	S108
544-G1159	109676	GS-011	S108
5017B1801	1227677	GS-011	S138C
E4432A	US37231064	GS-011	S332C
TSC 5110A	134102	GS-011	S332C
ZI-100A	7238	GS-011	E124B
1250	302992	GS-011	S332B
1670G	US40150245	GS-011	S332B
16903A	SG43002401	GS-011	E120
16801A	SG50010101	GS-011	E125
16802A	SG50010101	GS-011	E138
16702B	SG42001003	GS-011	E125
16804A	SG46230101	GS-011	S332C
16500B	US34510733	GS-011	S332B
16700A	US39150174	GS-011	E112A
E5071C	SG46300360	GS-011	S332C
8753D	3410A07257	GS-007	EMI
E4407B	SG50140125	GS-007	EMI
8561E	3623A01513	GS-011	E112
FSEM30	836531-010	GS-011	E130
5125A	160142	GS-011	S332C
5000-XLS	201	GS-011	E124
NONE	5	GS-011	S138C
RS2B	ARD8506	GS-011	S138B
122	9305158	GS-011	S332B
1050A/015/0012	580	GS-011	S332C
FL1R	55900986	GS-011	E124
10D	1720501709	GS-011	E124
NONE	NONE	GS-LRLWHS	1
NONE	231138	GS-011	S332C
M51	83N0AS4849313B	GS-011	S332C
PP08X	GYBGLJ1	GS-011	S332C
PP30L	CTD5LK1	GS-011	S232B
PP30L	6TDSLK1	GS-011	E112
PP08X	CXNHNM1	GS-011	E127
P13F	HFB01R1	GS-011	E127
E6430	195RBY1	GS-011	E120
PP05L	HN0D461	GS-011	E112
PP04X	7G2LXD1	GS-011	S332E
16903-A	G43003200	GS-011	S332C

NONE	D252833	GS-011	S332E
166SXPS	7F4KW	GS-011	S332B
166SXPS	7F4GR	GS-011	S130
166SXPS	7F4HN	GS-011	S332B
166SXPS	7F4GL	GS-011	S332B
166SXPS	7F4DT	GS-011	S332B
166SXPS	7F4H8	GS-011	S130
DHM	9R9R811	GS-011	S332C
DCTA	CVYMK81	GS-011	E124B
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DCTA	G6LJKK1	GS-011	E120
DCTA	5V60NM1	GS-011	HI-BAY
DCTA	BFT1BP1	GS-011	S232B
DCTA	1QCRBP1	GS-011	E114
WHL	GGLRY41	GS-011	E112
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ATXSTFP04700L	26375490	GS-011	S130
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NONE	FFT002	GS-011	S332E
NONE	NONE	GS-011	S332C
NONE	NONE	GS-011	S332E
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FM04QUA	2UA2310HB3	GS-011	S332E
FM04QUA	2UA2310HB5	GS-011	S332C
FM04QUA	2UA2310HB6	GS-011	S332E
FM04QUA	2UA2310HB8	GS-011	S332C
FM04QUA	2UA2310HB7	GS-011	S332E
FM040UA	2UA2310HB4	GS-011	S332E
FM040UA	2UA2321FFB	GS-011	S332E
FM040UA	2UA2321FF8	GS-011	S332E
FM040UA	2UA2321FF5	GS-011	S332E
FM040UA	2UA2321FF6	GS-011	S332C
FM040UA	2UA2321FF9	GS-011	S332C
FM040UA	2UA2321FF7	GS-011	S332HALL
LJ450AV	2UA3080699	GS-011	E130
TPCFO28CT	2UA250142Z	GS-011	S332D
FCLSA-1102	2UA40813VJ	GS-011	S218
8532RV	91073019	GS-011	S138
METCAL	19870	GS-011	E124
NONE	20424	GS-011	E124

D875PBZ	3879377-0001	GS-011	E124C
DCTA	7CXFDB1	GS-011	E124B
DCTA	2CXFDB1	GS-011	S332E
DCTA	6CXFDB1	GS-011	E112
11121-3U001-01	09033-180209-002	GS-LRLWHS	#
11121-3U001-01	09033-180209-001	GS-LRLWHS	1
IPC4ES2-0	3Z0911C8051055	GS-LRLWHS	#
MTEL-RM-SWTS-2	13070009	GS-011	E138
4U22EPS650	102078-1	GS-011	S332E
4U22EPS650	102078-2	GS-011	S332E
MM3000	1307	GS-011	S138C
PM6681R	SM767737	GS-011	S332C
DASH HF20	09H0075	GS-011	S332B
PP08L	27XPR61	GS-011	S122
FP855	04701813HD81WU	GS-011	S332
A1407	C02G9C3XDJGR	GS-022	344
2001FP	CN0C06464663348526VL	GS-011	S332C
2001FP	CN0C06464663353D2Y9L	GS-011	S332E
2000FP	TW09E2494663524H1043	GS-011	E124
1703FP	MX02Y31147605492AW14	GS-011	E112
1901FP	CN05Y232716183BIBDUT	GS-011	S232H
1901FP	CN05Y232716183BIBDQH	GS-011	S137A
1900FP	MX09J3674760535FA9AF	GS-034	S196A
1900FP	09J367	GS-011	S130
1801FP	MX0X11064832342B4QZL	GS-011	S332C
2001FP	CN0C0646466333C90FRL	GS-011	S332C
1905FP	CN0T6116716184B4BGF9	GS-011	S232F
1905FP	CN0T6116716184ATA909	GS-011	S137A
PDS4221W-H	3215956	GS-011	E124C
CS1572FSG	MH1525002430	GS-011	S121D
DX17S	MH2754131125	GS-011	E112A
FPD2185W	MRW5A50N04556	GS-011	S332C
NONE	AS108K0227	GS-023	E320
NONE	AS108K0229	GS-023	E320
2R30W	CN41210SY0	GS-011	S112
LCD1850E	203217057	GS-011	S332C
LCD1830	35011050YAR	GS-011	S130
997-2297-00	22N232600015	GS-011	E120
213T	NB21HCHY600014	GS-011	S232H
SDM-S81	4017423	GS-011	S332D
VS10139-1W	EOC040901264	GS-011	S332C

XEN-1810E	MAF00364M0E	GS-011	S332
XEN-1810E	MAF00797M0E	GS-011	S332
85-3.1A	S8002959	GS-011	E124A
CS4000	1318009403	GS-011	E114
9953	306658	GS-011	E112A
AWG2021	J310446	GS-019	N034
81104A	MY4B02754	GS-011	S332C
N5182B	SG53050002	GS-011	S220
8648C	3623A02617	GS-011	S332C
SML03	102357	GS-011	E114
SMIQ03B.1125.5555K03	102358	GS-011	S332C
SML03	102006	GS-011	S332C
SMR20	838503/021	GS-011	E138
SM1Q038	101069	GS-011	S332C
AWG7122C	B050220	GS-011	E130
STR 4500	2248	GS-011	S332C
STR 4500	STR 4500	GS-011	S332C
MIRU 1	NONE	GS-011	S137A
LAS200	4563836	GS-011	S130A
LAS210	8494007	GS-011	S130A
NONE	NONE	GS-011	S138C
9253B12U	1218182	GS-011	S138C
8541	B030306	GS-011	S138
VPI-XL	23	GS-011	E124
N4433A	10044	GS-011	S332C
E461	08000778NA	GS-011	S137A
MVC-15HS	CH900761R	GS-011	E124C
NONE	528	GS-LRLWHS	L4
OTEMA	634065	GS-011	S138C
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NONE	NONE	GS-LRLWHS	4
TSC5125A	AP455951330	GS-011	E114
TDS744A	3012161	GS-011	E124C
TDS640A	B020578	GS-011	S332B
TDS744A	B040144	GS-011	S332C
TDS 784D	B032960	GS-011	E112
TDS 3054	B021111	GS-011	E114
TDS 3054	B021109	GS-011	S232H
TDS784D	B041685	GS-011	E112
MS04104	C003179	GS-011	E120
MS04104	C003182	GS-005	W006G

MS04104	C003185	GS-011	E114
DP03054	C011359	GS-003	C156
DPO7354C	C140254	GS-011	E120
DPO7254	B069049	GS-011	HIGH-BAY
DPO7254	B069067	GS-029	160
TDS3054B	B034195	GS-011	S112
DP07254	B021666	GS-011	E125
DP07254	B055048	GS-011	S332C
DP0708004	B041338	GS-011	S332C
RO-06E	7226	GS-011	E124
AC120V	ML003629	GS-011	S130
PBX 40-10	LG003882	GS-011	E120
PBX4010	KA0022115	GS-011	E112
5T	1002	GS-011	S138
F1 F2 FLEX S	FA5018	GS-011	E124
C3917A	JPKK012958	GS-011	S112
C3982A	USBB101628	GS-011	E124C
C7058A	JPGCB61044	GS-011	S332E
P7260	B013807	GS-011	S332HALL
P7380A	B011100	GS-011	S332C
PS3900L	21014547	GS-011	E112
TD200/16UG	5552-200/16	GS-011	S138
3243050	8200104	GS-011	S332C
3243050	98120003	GS-011	S332C
NONE	NONE	GS-011	S332E
P2-C25P	7.2007E+12	GS-011	S130
AC200	111294097	GS-011	S332C
GNS743A	16	GS-011	S332HALL
TDS400	441008187	GS-GSFCDS3	#
RTX-113	A0502-1058S	GS-011	E124C
MK20-1 TQCM	4705	GS-011	S130
R720	46VSFZ1	GS-011	S232A
R720	46TTFZ1	GS-011	S232A
NIRMC-8354	C813MLC10MA0079	GS-011	E120
NONE	6728-11	GS-011	S138C
PIA16424-1000	NONE	GS-011	S332E
NTNE10AA	2141	GS-011	S332C
NTNE10AA	2142	GS-011	S332C
NTNE10AA	2091	GS-011	S332C
NTNE10AA	2092	GS-011	S332C
6700	2121192	GS-029	150

6700	1201193	GS-029	160
STR 4500	1095	GS-011	S332C
GSS8000	8915	GS-007	#
GSS8000	8916	GS-007	#
GSS8000	8918	GS-007	#
GSS8000	8919	GS-007	#
66003	449	GS-011	S138C
DPA10K	NONE	GS-011	S130A
V730-335B	S1680-001	GS-011	S130A
357L	NONE	GS-011	S130
TSC4145C	P45746	GS-019	N031
DT2/D20502	108718	GS-011	S138C
DT2	10588	GS-011	S138C
TIOC	27653-03	GS-011	E120
88898ASSY7397000009	1	GS-011	S103
88898ASSY7397000009	3	GS-011	S103
TCP121	S1297	GS-011	S130
149-11	61990	GS-LRLWHS	#
DIGITAL MPC	640715J	GS-011	S130
4900	706-512N	GS-011	E107
PPMA	11765	GS-011	S118
PPMA	11766	GS-011	S118
T7160HR	2232	GS-011	S138C
LDS-VECTOR	25611	GS-011	S138C
T160HR	2153	GS-MASS	#
STDD1201	NONE	GS-MASS	#
CNC-15	10700-04022	GS-011	LWHS
HBFO2520700-50	1505	GS-011	S138C
DM-GLIA	2080200027	GS-011	C116B
DXC107A	113728	GS-011	S140A
IV8420U	Y200845	GS-011	S138
23007802G1	1	GS-011	S126
947	DJA4003	WF-V45	BAY
HLT 560	40109685	GS-011	S138
ASM310	HLD1302909	GS-011	S126
NONE	3	GS-011	S126
0	A0-206LC	GS-011	S126
7702	99-25G431	GS-011	S138C
OPTIHOT 100S	660818	GS-011	S140
MK3	7201016	GS-011	S138B
T160	2153	GS-MASS	#

N/A	2232	GS-011	S138C
TDS5034B	B010271	GS-011	S292
DP63	B4100033	GS-011	S140
232B	3457	GS-011	S126
HOT-SHOT-5	1.06447E+13	GS-415	1
LPP02	1	GS-011	S126
LC-P45	1115210663	GS-011	S138C
3088800	A10641	GS-MASS	#
9698919	IT12126231	GS-011	S126
9698919	IT13016039	GS-011	S126
PTS06001UNIV	LP1102L004	GS-011	S126
PTS06001	US12400028	GS-011	S138
PTS06001	US123900039	GS-011	S126
NONESPECIAL	S348001	GS-MRYLD	#
77-1010-10	202	GS-011	E129
CCD-TR96	73407	GS-011	C116B
NONE	NONE	GS-011	S103
80263	2	GS-LRLWHS	L4
80315	Q001	GS-LRLWHS	L2
76RH	1403	GS-011	S138
EASYTOUCH 128PTS	6168-EZT	GS-011	S138B
969 9038	85019	GS-415	1
CM31	NONE	GS-MASS	#

End User Org. Code	Acquisition Value
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596	\$2,675.00
596	\$2,710.00
596	\$3,477.00
596	\$946.00
596	\$1,319.00
596	\$2,311.00
596	\$1,569.00
596	\$1,157.00
596	\$1,157.00
596	\$18,300.00
596	\$1,000.00
596	\$1,224.00
596	\$812.00
596	\$12,033.00
596	\$14,759.00
596	\$15,980.00
596	\$8,450.00
596	\$8,450.00
596	\$8,450.00
596	\$35,000.00
596	\$35,000.00
596	\$35,000.00
596	\$999.00
596	\$2,539.00
597	\$593.00
597	\$587.00
597	\$1,100.00
5910	\$9,154.00
5910	\$5,540.00
5910	\$11,676.00
5910	\$13,188.00
5910	\$3,008.00
5910	\$1,812.00
5910	\$2,263.00
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5910	\$120,800.00

5910	\$5,591.00
5910	\$10,892.00
5910	\$10,552.00
5960	\$18,185.00
5960	\$16,625.00
5960	\$16,670.00
5960	\$13,600.00
5960	\$18,349.00
5960	\$13,410.00
5960	\$55,242.00
5960	\$9,464.00
5960	\$12,078.00
5960	\$45,900.00
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5960	\$8,262.00
5960	\$30,151.00
5960	\$69,454.00
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5960	\$2,752.00
5960	\$1,250.00
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5960	\$1,875.00
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5960	\$10,000.00
5960	\$10,000.00
5960	\$34,995.00
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5960	\$16,241.00
5960	\$26,394.00
5960	\$9,295.00
5960	\$9,295.00
5960	\$21,128.00
5960	\$15,980.00
5960	\$15,980.00

5960	\$15,980.00
5960	\$11,020.00
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5960	\$100,000.00
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5970	\$5,435.00
5970	\$7,480.00
5970	\$6,250.00
5970	\$7,105.00
5970	\$19,255.00
5970	\$62,275.00
5970	\$17,710.00
5970	\$2,199.00
5970	\$1,393.00
5970	\$15,177.00
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5970	\$26,273.00
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5970	\$50,000.00
5970	\$27,060.00
5970	\$6,993.00
5970	\$10,029.00
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5970	\$499,720.00
5970	\$499,720.00
5970	\$12,867.00
5970	\$12,509.00
5970	\$5,903.00
5970	\$13,174.00

ATTACHMENT I

**PERSONAL IDENTITY VERIFICATION (PIV)
CARD ISSUANCE PROCEDURES**

JUNE 2014

**TECHNOLOGY AND INTERGRATED DISCIPLINE ENGINEERING SERVICES
(TIDES)**

CONTRACT NNG15CR65C

PIV Card Issuance Procedures in accordance with FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel

FIPS 201 Appendix A graphically displays the following procedure for the issuance of a PIV credential.

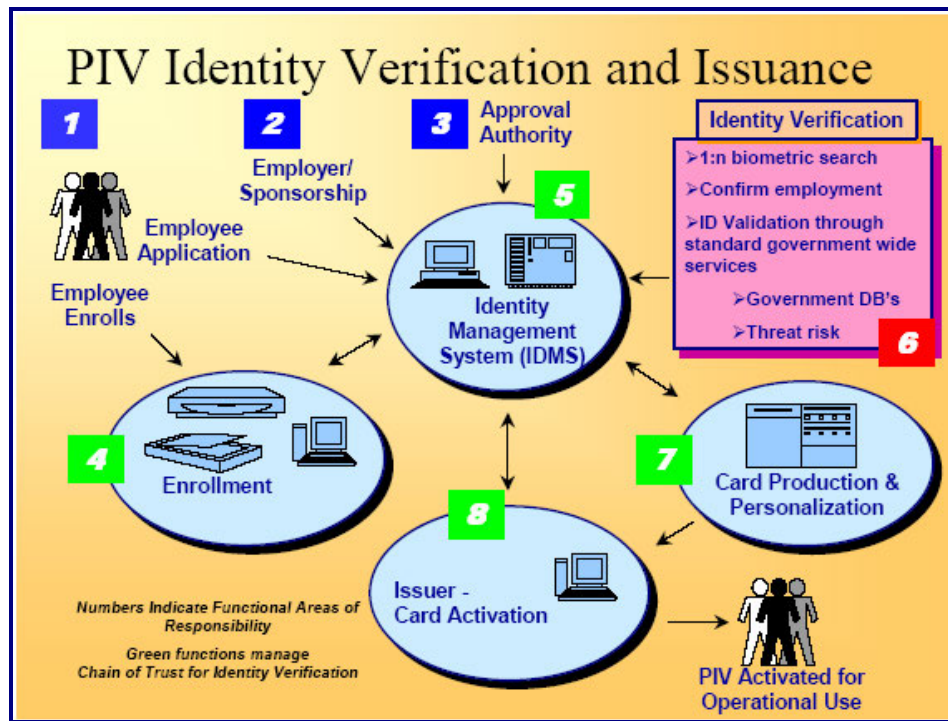


Figure A-1, FIPS 201, Appendix A

The following steps describe the procedures for the NASA Personal Identity Verification Card Issuance (PCI) of a PIV credential:

Step 1:

The Contractor's Corporate Security Officer (CSO), Program Manager (PM), or Facility Security Officer (FSO) submits a formal letter that provides a list of contract employees (applicant) names requesting access to the NASA Contracting Officer's Technical Representative (COTR). In the case of a foreign national applicant, approval through the NASA Foreign National Management System (NFMMS) must be obtained for the visit or assignment before any processing for a PIV credential can take place. Further, if the foreign national is not under a contract where a COTR has been officially designated, the foreign national will provide the information directly to their visit/assignment host, and the host sponsor will fulfill the duties of the COTR mentioned herein. In each case, the letter shall provide notification of the contract or foreign national employee's (hereafter the "applicant") full name (first, middle and last), social security number (SSN) or NASA Foreign National Management System Visitor Number if the foreign national does not have a SSN, and date of birth. If the contract employee has a current satisfactorily completed National Agency Check with Inquiries (NACI) or an equivalent or higher degree of background investigation, the letter shall indicate the type of investigation, the agency completing the investigation, and date the investigation was completed. Also, the letter must specify the risk/sensitivity level associated with the position in which each applicant will be working (NPR 1600.1, §4.5 is germane)

Further, the letter shall also acknowledge that contract employees may be denied access to NASA information or information systems based on an unsatisfactory background investigation/adjudication. .

After reviewing the letter for completeness and concurring with the risk/sensitivity levels, the COTR/host must forward the letter to the Center Chief of Security (CCS). The CCS shall review the OPM databases (e.g., DCII, PIP, et al.), and take appropriate steps to validate the applicant's investigation status. Requirements for a NACI or other investigation shall be initiated only if necessary.

Applicants who do not currently possess the required level of background investigation shall be directed to the e-QIP web site to complete the necessary background investigation forms online. The CCS shall provide to the COTR/host information and instructions on how to access the e-QIP for each contract or foreign national employee requiring access

Step 2:

Upon acceptance of the letter/background information, the applicant will be advised that in order to complete the investigative process, he or she must appear in-person before the authorized PIV registrar and submit two forms of identity source documents in original form. The identity source documents must come from the list of acceptable documents included in Form I-9, Employment Eligibility Verification, one which must be a Federal¹ or State issued picture identification. Fingerprints will be taken at this time. The applicant must appear **no later than** the entry on duty date.

When the applicant appears, the registrar will electronically scan the submitted documents; any document that appears invalid will be rejected by the registrar. The registrar will capture electronically both a facial image and fingerprints of the applicant. The information submitted by the applicant will be used to create or update the applicant identity record in the Identity Management System (IDMS).

Step 3:

Upon the applicant's completion of the investigative document, the CCS reviews the information, and resolves discrepancies with the applicant as necessary. When the applicant has appeared in person and completed fingerprints, the package is electronically submitted to initiate the NACI. The CCS includes a request for feedback on the NAC portion of the NACI at the time the request is submitted.

Step 4:

Prior to authorizing physical access of a contractor employee to a federally-controlled facility or access to a Federal information system, the CCS will ensure that a check has been performed with the National Crime Information Center (NCIC) and Interstate Identification Index. In the case of a foreign national, a national check of the Bureau of Immigration and Customs Enforcement (BICE) database will be performed for each applicant. If this process yields negative information, the CCS will immediately notify the COTR/host of the determination regarding access made by the CCS.

Step 5:

Upon receipt of the completed NAC, the CCS will update IDMS from the NAC portion of the NACI and indicate the result of the suitability determination. If an unsatisfactory suitability determination is

¹ A non-PIV government identification badge, including the NASA Photo Identification Badge, MAY NOT BE USED for the original issuance of a PIV vetted credential

rendered, the COTR will advise the contractor that the employee is being denied physical access to all federally-controlled facilities and Federal information systems.

Based on a favorable NAC and NCIC/III or BICE check, the CCS will authorize the issuance of a PIV federal credential in the Physical Access Control System (PACS) database. The CCS, based on information provided by the COTR/host, will determine what physical access the applicant should be granted once the PIV issues the credential.

Step 6:

Using the information provided by the applicant during his or her in-person appearance, the PIV card production facility creates and instantiates the approved PIV card for the applicant with an activation date commensurate with the applicant's start date.

Step 7:

The applicant proceeds to the credential issuance facility to begin processing for receipt of his/her federal credential.

The applicant provides to the credential issuing operator proof of identity with documentation that meets the requirements of FIPS 201 (DHS Employment Eligibility Verification (Form I-9) documents. These documents **must** be the same documents submitted for registration.

The credential issuing operator will verify that the facial image, and optionally reference finger print, matches the enrollment data used to produce the card. Upon verification of identity, the operator will locate the employee's record in the PACS database, and modify the record to indicate the PIV card has been issued. The applicant will select a PIN for use with his or her new PIV card. Although root data is inaccessible to the operator, certain fields (hair color, eye color, et al.) may be modified to more accurately record the employee's information.

The applicant proceeds to a kiosk or other workstation to complete activation of the PIV card using the initial PIN entered at card issuance.

**ALTERNATIVE FOR APPLICANTS WHO DO NOT HAVE A COMPLETED AND
ADJUDICATED NAC AT THE TIME OF ENTRANCE ON DUTY**

Steps 1 through 4 shall be accomplished for all applicants in accordance with the process described above. If the applicant is unable to appear in person until the time of entry on duty, or does not, for any other reason, have a completed and adjudicated NAC portion of the NACI at the time of entrance on duty, the following interim procedures shall apply.

1. If the documents required to submit the NACI have not been completed prior to EOD, the applicant will be instructed to complete all remaining requirements for submission of the investigation request. This includes presentation of I-9 documents and completion of fingerprints, if not already accomplished. If the applicant fails to complete these activities as prescribed in NPR 1600.1 (Chapters 3 & 4), it may be considered as failure to meet the conditions required for physical access to a federally-controlled facility or access to a Federal information system, and result in denial of such access.
2. Based on favorable results of the NCIC, the applicant shall be issued a temporary NASA identification card for a period not-to-exceed six months. If at the end of the six month period the NAC results have not been returned, the agency will at that time make a determination if an additional extension will be granted for the temporary identification card.
3. Upon return of the completed NAC, the process will continue from Step 5.

ATTACHMENT J

CONTRACT HISTORICAL DATA

JUNE 2014

CONTRACT NNG15CR65C

CONTRACT HISTORICAL DATA

As provided in the Section H clause entitled, ADVANCE AGREEMENT BETWEEN THE PARTIES: REQUIREMENT TO PROVIDE CONTRACT HISTORICAL DATA, and based on the written request from the Contracting Officer, the Contractor shall provide all of the following historical data from this contract:

- (1) Provide all labor resources employed under this contract in the last twelve months, by Company Labor Category. For each labor category, provide the number of full-time equivalents (FTEs), the current average wage rate (unburdened "straight time" rate), and the average seniority level;
- (2) For each labor category, identify the most recent date that wages were escalated and provide the percentage by which wages were escalated;
- (3) For each labor category, identify whether the category is "exempt," "non-exempt," or "union" as governed under the Service Contract Labor Standards;
- (4) For each labor category, provide a brief position description in sufficient detail to indicate the duties of each category and any minimum education and experience requirements.

Example Table of Requested Data

Labor Category	Number of *FTE by Company's Title	**Current Weighted Avg. Unburdened Hourly Rate for this Category	Average Seniority for this Category	Date and Amount of Last Rate Escalation	Identification "Exempt," "Non-Exempt," or "Union"
<i>Engineer 4</i>	<i>9</i>	<i>\$18.20</i>	<i>18 months</i>	<i>April 2005 (2.8%)</i>	<i>Exempt</i>

**1 FTE is defined as the work of a full time equivalent. Example: Four employees working 2 hours per day make up one FTE.*

***Straight time labor rates only, not bid rates or burdened rates*

- (5) Provide the actual non-labor (other direct costs) expenditures for the prior twelve months, delineated by each of the following cost elements: materials, equipment, travel, supplies, and any other non-labor expenditures (e.g. service centers, training, facilities, etc.);
- (6) Provide an estimate of the number of FTEs, including associated labor category titles/descriptions, for those personnel currently supporting this contract that are accounted for as indirect. This may include administrative employees (e.g., accounting or clerical personnel), management employees and/or technical employees (e.g. computer support personnel); and
- (7) The information required in (1) through (6) above shall be provided for the prime contractor and all significant subcontractors. Significant subcontractors are those subcontractors that have performed more than \$2 million in work over the life of this contract.

(End of Attachment)

**TECHNOLOGY AND INTEGRATED DISCIPLINE ENGINEERING SERVICES
(TIDES)**

ATTACHMENT K

**INFORMATION TECHNOLOGY (IT) SECURITY
APPLICABLE DOCUMENTS LIST**

JUNE 2014

CONTRACT NNG15CR65C

**Information Technology (IT) Security Applicable Documents List
June 2014**

NASA Policy Directives (NPD) and NASA Procedural Requirements (NPR)		
Document	Subject	Effective Date
NPR 1382.1	NASA Privacy Procedural Requirements	August 10, 2007
NPD 1382.17H	NASA Privacy Policy	June 24, 2009
NPD 1440.6H	NASA Records Management	March 24, 2008
NPR 1441.1D	NASA Records Retention Schedules (w/Change 5, 6/29/09)	February 24, 2003
NPD 2540.1G	Personal Use of Government Office Equipment Including Information Technology	June 08, 2010
NPD 2800.1B	Managing Information Technology	March 21, 2008
NPR 2800.1B	Managing Information Technology	March 20, 2009
NPD 2810.1D	NASA Information Security Policy	May 9, 2009
NPR 2810.1A	Security of Information Technology w/ Change 1, May 19, 2011)	May 16, 2006
NPD 2830.1A	NASA Enterprise Architecture	November 2, 2011
NPR 2830.1	NASA Enterprise Architecture Procedures	February 9, 2006
NPR 7120.7	NASA Information Technology and Institutional Infrastructure Program and Project Management Requirements	November 3, 2008
NPR 2841.1	Identity, Credential, and Access Management	January 6, 2011

NASA Interim Directive		
Document	Subject	Effective Date
NM2810-64	NASA Interim Directive: Information Technology Security and Efficiency Requirements	May 22, 2008

NASA Interim Technical Requirements (NITR)		
Document	Subject	Effective Date
NITR 2800_2	Email Services and Email Forwarding	September 18, 2009
NITR 2800_1	NASA Information Technology Waiver Requirements and Procedures	August 13, 2009
NITR 2830-1B	Networks in NASA Internet Protocol (IP) Space or NASA Physical Space	February 12, 2009

SOPs (ITS-SOP) and Handbooks (ITS-HBK)		
Document	Subject	Effective Date
ITS-HBK-2810.00-01A	Format and Procedures for an IT Security Handbook	March 29, 2011
ITS-HBK-2810.00-02A	Roles and Responsibilities Crosswalk	May 2, 2013
ITS-HBK-2810.02-01	Security Assessment and Authorization	May 6, 2011
ITS-HBK-2810.02-02	Security Assessment and Authorization: FIPS 199 Moderate & High Systems	October 24, 2012
ITS-HBK-2810.02-03	Security Assessment and Authorization: FIPS 199 Low Systems	October 24, 2012
ITS-HBK-2810.02-04	Security Assessment and Authorization: Continuous Monitoring – Annual Security Control Assessments	October 24, 2012
ITS-HBK-2810.02-05	Security Assessment and Authorization: External Information Systems	October 24, 2012
ITS-HBK-2810.02-06	Security Assessment and Authorization: Extending and Information Systems Authorization to Operate Process and Templates	October 24, 2012

SOPs (ITS-SOP) and Handbooks (ITS-HBK)		
Document	Subject	Effective Date
ITS-HBK-2810.02-07	Security Assessment and Authorization: Information System Security Plan Numbering Schema	February 27, 2012
ITS-HBK-2810.02-08A	Security Assessment and Authorization: Plan of Action and Milestones (POA&M)	December 11, 2013
ITS-HBK-2810.03-01	Planning	May 6, 2011
ITS-HBK-2810.03-02	Planning: Information System Security Plan Template, Requirements, Guidance and Examples	February 9, 2011
ITS-HBK-2810.04-01-A	Risk Assessment: Security Categorization, Risk Assessment, Vulnerability Scanning, Expedited Patching & Organizationally Defined Values	October 12, 2012
ITS-HBK-2810.04-02-A	Risk Assessment: Procedures for Information System Security Penetration Testing and Rules of Engagement	April 30, 2013
ITS-HBK-2810.04-03	Risk Assessment: Web Application Security Program	April 30, 2013
ITS-HBK-2810.05-01	Systems and Service Acquisition	November 21, 2011
ITS-HBK-2810.06-01	Awareness and Training	May 6, 2011
ITS-HBK-2810.07-01	Configuration Management	May 6, 2011
ITS-HBK-2810.08-01	Contingency Planning	April 26, 2012
ITS-HBK-2810.08-02	Contingency Planning: Guidance and Templates for Plan Development, Maintenance and Test	February 11, 2011
ITS-HBK-2810.09-01	Incident Response and Management	May 6, 2011
ITS-HBK-2810.09-02	Incident Response and Management: NASA Information Security Incident Management	August 24, 2011

SOPs (ITS-SOP) and Handbooks (ITS-HBK)		
Document	Subject	Effective Date
ITS-HBK-2810.09-03	Incident Response and Management: Targeted Collection of Electronic Data	August 24, 2011
ITS-HBK-2810.10-01	Maintenance	May 6, 2011
ITS-HBK-2810.11-01-A	Media Protection	July 13, 2012
ITS-HBK-2810.11-02	Media Protection: Digital Media Sanitization	July 13, 2012
ITS-HBK-2810.12-01	Physical and Environmental Protection	May 6, 2011
ITS-HBK-2810.13-01	Personnel Security	May 6, 2011
ITS-HBK-2810.14-01	System and Information Integrity	May 6, 2011
ITS-HBK-2810.15-01-A	Access Control	September 4, 2012
ITS-HBK-2810.15-02-A	Access Control: Elevated Privileges (EP)	September 20, 2012
ITS-HBK-2810.16-01	Audit and Accountability	May 6, 2011
ITS-HBK-2810.17-01	Identification and Authentication	May 6, 2011
ITS-HBK-2810.18-01	System and Communications Protection	May 6, 2011

Standards		
Document	Subject	Effective Date
EA-STD 0001.0	Standard for Integrating Applications into the NASA Access Management, Authentication, and Authorization Infrastructure	August 1, 2008
EA-SOP 0003.0	Procedures for Submitting a NASA Agency Forest (NAF) Deviation Request and Transition Plan	August 1, 2008
EA-SOP 0004.0	Procedures for Submitting an Application Integration Deviation Request and Transition Plan	August 1, 2008

Standards		
Document	Subject	Effective Date
NASA-STD-2804-P	Minimum Interoperability Software Suite	March 14, 2014
NASA-STD-2805-P	Minimum Hardware Configurations	March 14, 2014

Memoranda				
From	To	Subject	Effective Date	Posted Date
Associate Deputy Administrator	All NASA Employees	Breach of Personally Identifiable Information (PII) [Laptop DAR/Encryption]	11/13/12	11/13/12
Charles F. Bolden, Jr., NASA Administrator	All NASA Employees	Protection of Sensitive Agency Information	4/3/2012	4/3/2012
Chief Information Officer	All NASA Civil Service and Contractor Employees	Policy for Use of Removable Media, Such as USB Thumb Drives	11/21/2008	11/21/2008