

SOLICITATION, OFFER AND AWARD		1. THIS CONTRACT IS RATED ORDER UNDER DPAS (15 CFR 700)	RATING DO-C9	PAGE OF PAGES 1 73
2. CONTRACT NO.	3. SOLICITATION NO NNJ09301134R	4. TYPE OF SOLICITATION Negotiated (RFP)	5. DATE ISSUED 12-16-09	6. REQUISITION/PURCHASE NO. 4200301134
7. ISSUED BY NASA/Johnson Space Center Kathryn Haag, BH2 2101 NASA Parkway Houston, TX 77058		8. ADDRESS OFFER TO (If other than Item 7)		

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

SOLICITATION

9. Sealed offers in original and _____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until (Hour) 1630 local time on (Date) 01/08/2010
CAUTION — Late Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL: A. NAME **Adrian D. Clayton** B. TELEPHONE (& Ext.) **(281) 483-8498** FAX **(281) 244-5331** C. E-MAIL ADDRESS **adrian.d.clayton@nasa.gov**

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

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

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52-232-8)

10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)
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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

15B. TELEPHONE (& Ext)

15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.

16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER

17. SIGNATURE

18. OFFER DATE

AWARD (To be completed by Government)

19. ACCEPT ITEMS NUMBERED:

20. AMOUNT

21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
 10 U.S.C. 2304(c) () 41 U.S.C. 253(c) ()

23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)

24. ADMINISTERED BY (If other than item 7) CODE

25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER (Type or print)
Adrian D. Clayton

27. UNITED STATES OF AMERICA

28. AWARD DATE

Signature of Contracting Officer

IMPORTANT – Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

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SECTION B - SUPPLIES OR SERVICES AND PRICES

B.1 1852.216-78 Firm Fixed Price. (DEC 1988)

The total firm fixed price of this contract is \$TBD.

(End of clause)

B.2 SCOPE OF WORK

The Contractor shall provide all resources (except as may be expressly stated in the contract as furnished by the Government) necessary to perform the requirements set forth in the Umbilical Connectors and Backshells Statement of Work incorporated in Section C.

B.3 MILESTONES

Item	Item Description	Deliverables	Quantity	Expected Lead-time	Value
1.	Power connector, blind-mate, 120VDC with fault return	End-item Drawings	1 set	3 months ARO	To be filled out by offeror
		Design Review	1	3 months ARO	To be filled out by offeror
		Bench-top Demonstration*	1	2 months ARO	To be filled out by offeror
		ATP**	1	5 months ARO	To be filled out by offeror
		Prototype Hardware	7 pairs	7 months ARO	To be filled out by offeror
		Additional Power connector Hardware (Option 1)	5 pairs	4 months after confirmation	To be filled out by offeror
		End-item Drawings	1 set	3 months ARO	To be filled out by offeror
2.	Data connector, blind-mate, GbE, and 1553B	Design Review	1	3 months ARO	To be filled out by offeror
		Bench-top Demonstration*	1	2 months ARO	To be filled out by offeror
		ATP**	1	5 months ARO	To be filled out by offeror
		Hardware	7 pairs	7 months ARO	To be filled out by offeror
		Additional Data connector Hardware (Option 2)	5 pairs	4 months after confirmation	To be filled out by offeror
		End-item Drawings	1 set	3 months ARO	To be filled out by offeror
		Design Review	1	3 months ARO	To be filled out by offeror
3.	Backshell for power connector, 360 degree EMI shielding, with external bonding feature	ATP**	1	5 months ARO	To be filled out by offeror

		Hardware	7 pairs	7 months ARO	To be filled out by offeror
		Additional Backshell for power connector Hardware (Option 3)	5 pairs	4 months after confirmation	To be filled out by offeror
4.	Backshell for data connector, 360 degree EMI shielding, with external bonding feature	End-item Drawings	1 set	3 months ARO	To be filled out by offeror
		Design Review	1	3 months ARO	To be filled out by offeror
		ATP**	1	5 months ARO	To be filled out by offeror
		Hardware	7 pairs	7 months ARO	To be filled out by offeror
		Additional Backshell for data connector Hardware (Option 4)	5 pairs	4 months after confirmation	To be filled out by offeror

Notes:

* Mechanical conceptual demonstration on connectors only, in order to show blind mating/demating and cable crimping capabilities. No backshell is required to be involved.

** Acceptance Testing Procedure is subject to approve by NASA/JSC before any testing being conducted. See Section J.2 Acceptance Test Procedures.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

The Contractor shall provide the item or services specified in Section B in accordance with the following:

Umbilical Connectors and Backshells Statement of Work

C.1 STATEMENT OF WORK

1.0 SCOPE

The specifications listed in this document are for blind-mate, rectangular, polarized shell, Electromagnetic Interference (EMI) shielding connectors, and its corresponding EMI backshell, capable of continuous operation in a space environment as described in section 4.1 of this document.

The umbilical connectors are key hardware to be used in the new generation spacecraft to provide high reliable power and high speed data signal connections. Two types of connectors will be developed to accomplish the mission requirements: Power umbilical connector to transfer 120VDC power signals, and Data umbilical connector to transfer Gigabit Ethernet and 1553B signals (only one type of data signal will be active under any operational condition). One of the critical functions of the connectors is to maintain the reliable mechanical and electrical performances after multiple mating and demating cycles in-space during the life span of the hardware, up to 10 years.

2.0 REFERENCE DOCUMENTS

The following documents, to the extent they are referenced within this Statement of Work shall be contract requirements as if they were incorporated in full text.

DOCUMENT #	ISSUE DATE	DESCRIPTION
IEEE STD 802.3-2005	Dec 2005	<i>Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications</i>
MIL-STD-1553	B Oct 2008	<i>DoD Interface Standard for Digital Time Division Command/Response Multiplex Data Bus</i>
NASA-STD-6016	Baseline Jul 2008	<i>Standard Materials and Processes Requirements For Spacecraft</i>
NASA-STD-4003	Baseline Sep 2003	<i>ELECTRICAL BONDING FOR NASA LAUNCH VEHICLES, SPACECRAFT, PAYLOADS, AND FLIGHT EQUIPMENT</i>
AMS-QQ-A-200/8	Reaffirmed Apr 2007	<i>Aluminum Alloy 6061, Bar, Rod, Shapes, Tube, and Wire, Extruded</i>
AMS 4027	N Jul 2008	<i>Aluminum Alloy, Sheet and Plate 1.0Mg 0.60Si 0.28Cu 0.20Cr (6061; -T6 Sheet, -T651 Plate) Solution and Precipitation Heat Treated</i>
A-A-56032	D Mar 2003	<i>Epoxy Base Marking Ink (CID)</i>
ASTM B 194-08	Apr 2008	<i>Standard Specification for Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar</i>
AMS-C-26074	B Oct 2005	<i>Electroless Nickel Coatings</i>
MIL-DTL-45204	D Jun 2007	<i>DETAIL SPECIFICATION GOLD PLATING, ELECTRODEPOSITED</i>
EIA/ECA-364-21	D	<i>INSULATION RESISTANCE TEST PROCEDURE</i>

	Mar 2008	<i>FOR ELECTRICAL CONNECTORS, SOCKETS, AND COAXIAL CONTACTS</i>
AMS 2418	G Jan 2006	<i>Copper Plating</i>
ANSI/NEMA WC 27500	2005	<i>STANDARD FOR AEROSPACE AND INDUSTRIAL ELECTRICAL CABLE</i>
SAE-AS22759/11	Reaffirmed Nov 2007	<i>WIRE, ELECTRICAL, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, SILVER-COATED COPPER CONDUCTOR, 600 VOLT</i>
SAE-AS22759/87	B Aug 2007	<i>WIRE, ELECTRICAL, POLYTETRAFLUOROETHYLENE/POLYIMIDE INSULATED, NORMAL WEIGHT, NICKEL COATED, COPPER CONDUCTOR, 260 °C, 600 VOLTS</i>

2.1 **Order of precedence.** If there is any conflict between what is in this document versus what is in the above standard documents, this document takes precedence.

3.0 REQUIREMENTS ON DESIGN AND CONSTRUCTION

3.1 **Contacts.** Contacts shall be rear-insertion and rear-release, crimp-type, unless otherwise specified in the context.

3.1.1 **Contact type.** Contacts shall be designated P for pin and S for socket. Plug type connectors shall have socket contacts; receptacle type connectors shall have pin contacts.

3.1.2 **Quadrax contacts.** The quadrax pin and socket contacts in the data connector shall be designed such that when mated, a characteristic impedance of 150 ± 15 ohms is maintained end to end through both contacts, and meeting all Gigabit Ethernet specification per Section 3, Clause 39, *Physical Medium Dependent (PMD) sublayer and baseband medium, type 1000BASE-CX (short-haul copper)* of IEEE STD 802.3-2005. The quadrax contacts shall provide individual crimp type pins, crimp type sockets and crimp type single shield for connection of the conductors of high-speed data cable, with 24AWG wire. The crimp type shield shall provide 360 degree termination of the high-speed data cable shield after fully mated and accommodate the braid shield outside diameter (OD) range 0.225" +/- 0.005". Internal pins and sockets of the quadrax contacts shall be size 20 or larger.

3.1.3 **Spare contacts.** Contacts in the data connector other than the quadrax contacts described in 3.1.2 shall be designed to accommodate 1553B communication format per MIL-STD-1553 with pin-to-pin impedance from 70.0 ohms to 85.0 ohms.

3.2 **Materials, Processes, and Parts.** All materials used in the connectors and the backshells must comply with the requirements specified in NASA-STD-6016.

3.3 **Insert arrangements.** Insert arrangements shall be designed such that the electronic performances are met per section 4.0 of this document.

3.3.1 **Power insert arrangement.** The power insert arrangement shall be as shown in Figure 1.

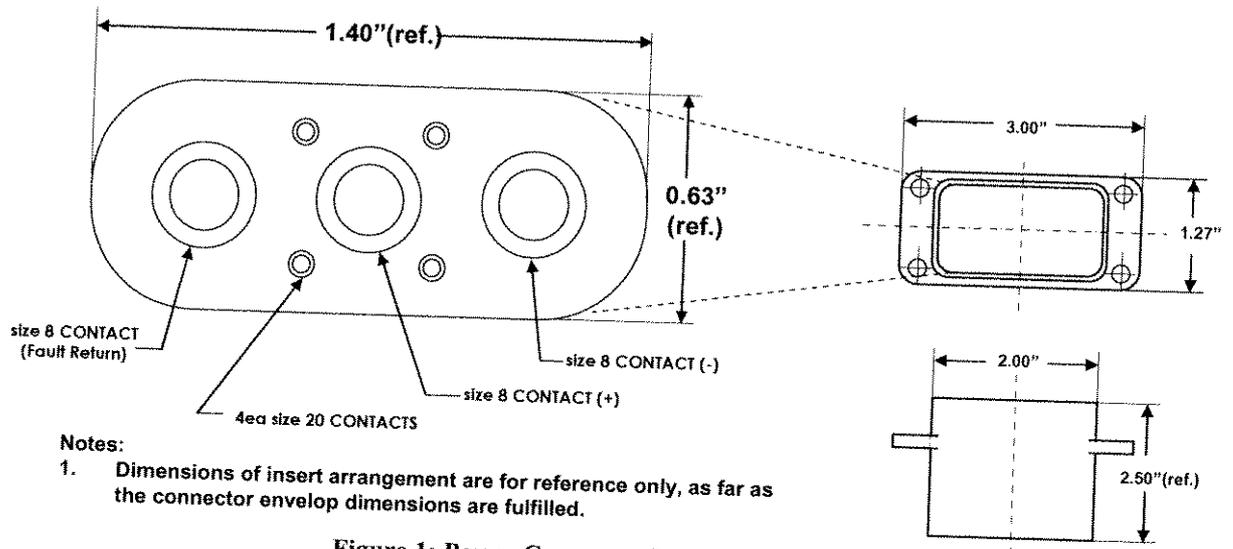


Figure 1: Power Connector Insert Arrangement

3.3.2 The power connector shall provide 1ea no. 8 positive contact, 1ea no. 8 negative contact, 1ea no. 8 fault return contact, and 4ea no. 20 contacts. The fault return contact shall provide a dedicated fault return feature that grounds to the shell of the connector as shown in Figure 2.

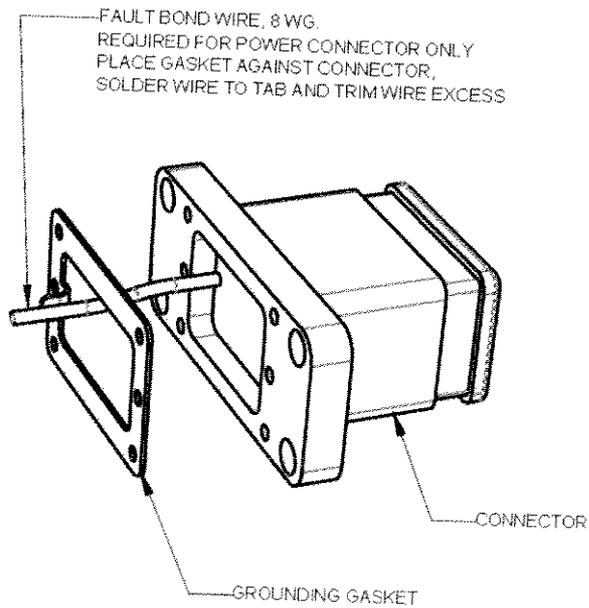
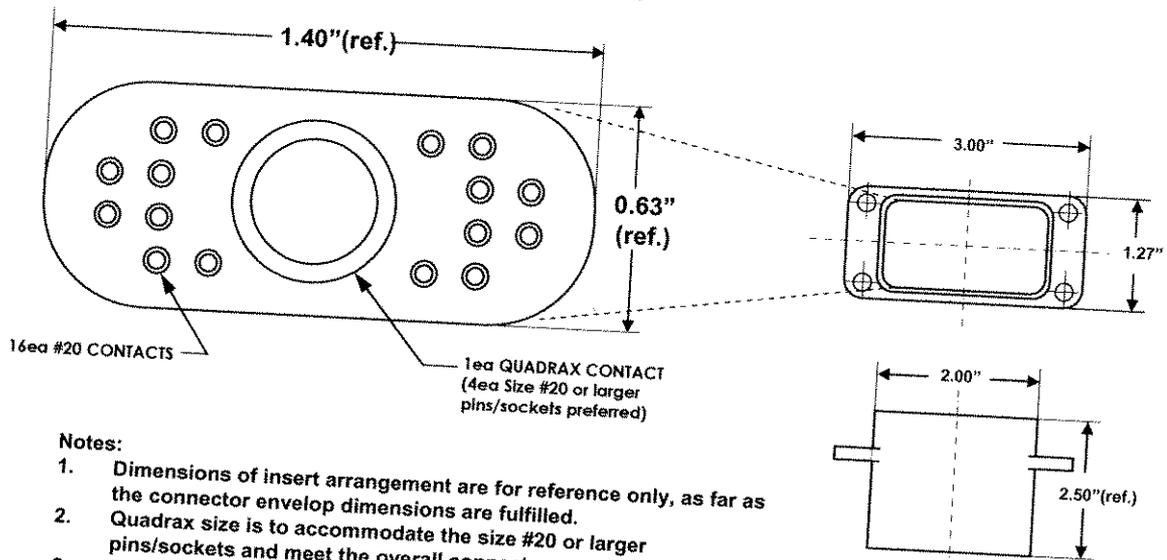


Figure 2: Fault Return Feature

3.3.3 **Data insert arrangement.** The data insert arrangement shall provide for 1ea 150 ohm quadrax contact (size 20 or larger pins/sockets within the quadrax contact are preferred) for GbE data transfer, and 16 ea no. 20 contacts to accommodate 1553B communication and for spare use. The data insert arrangement shall be as shown in Figure 3.

Figure 3: Data Insert Arrangement



Notes:

1. Dimensions of insert arrangement are for reference only, as far as the connector envelop dimensions are fulfilled.
2. Quadrax size is to accommodate the size #20 or larger pins/sockets and meet the overall connector envelop dimensions.
3. #20 contacts need to accommodate 1553B standard.

3.4 **Cabling/Wiring interface.** Connectors shall be designed to connect by crimping with the cables/wires per Table 1 below.

Connector Type	Contact Size	Specification	Cable/Wire Part Number
Power	#20	SAE-AS22759/11	M22759/11-20
	#8	NEMA WC27500	M27500-8RC2S06
Data	Quadrax(1)	WL Gore ACN 1003	WL Gore ACN 1003
	#20	SAE-AS22759/11	M22759/11-20

- (1) Quadrax size is determined by its internal contact size (size 20 or larger) and overall connector envelop dimensions (see Figure 3)
- (2) 150 ohms impedance Quadrax high speed data cable with 4ea 24AWG conductors

Table 1: Cable/Wiring

3.5 **Backshells.** Connectors shall be designed for use with EMI backshells. The backshells shall provide 360 degree EMI shield termination after fully mated and wire bundle strain relief.

3.5.1 **External Bonding Feature.** Backshell of the connectors shall provide external bonding feature to be able to mount a standard barrel lug (P/N LCA8-10-L from Panduit or equivalent) in order to meet Class R bonding requirements per section 4.3 of NASA-STD-4003. Refer to Figure 4.

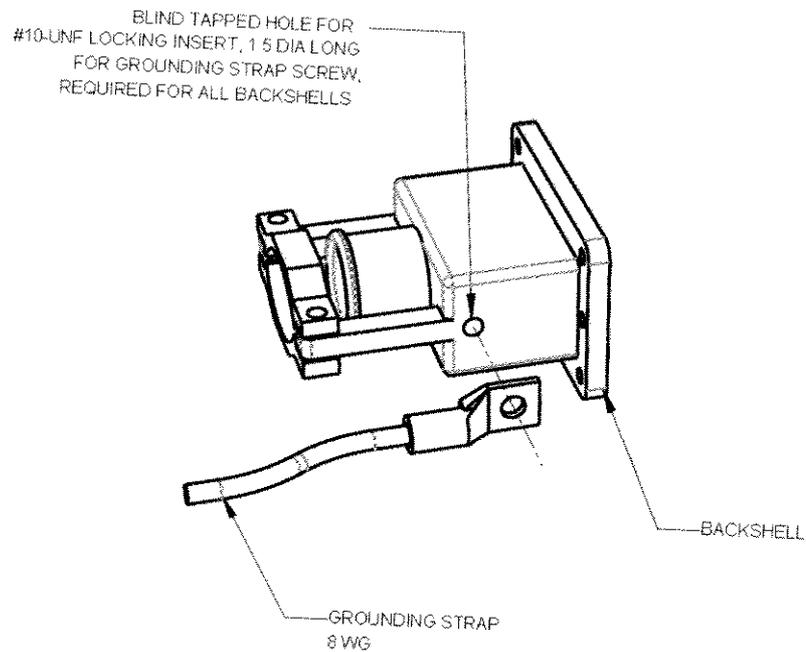
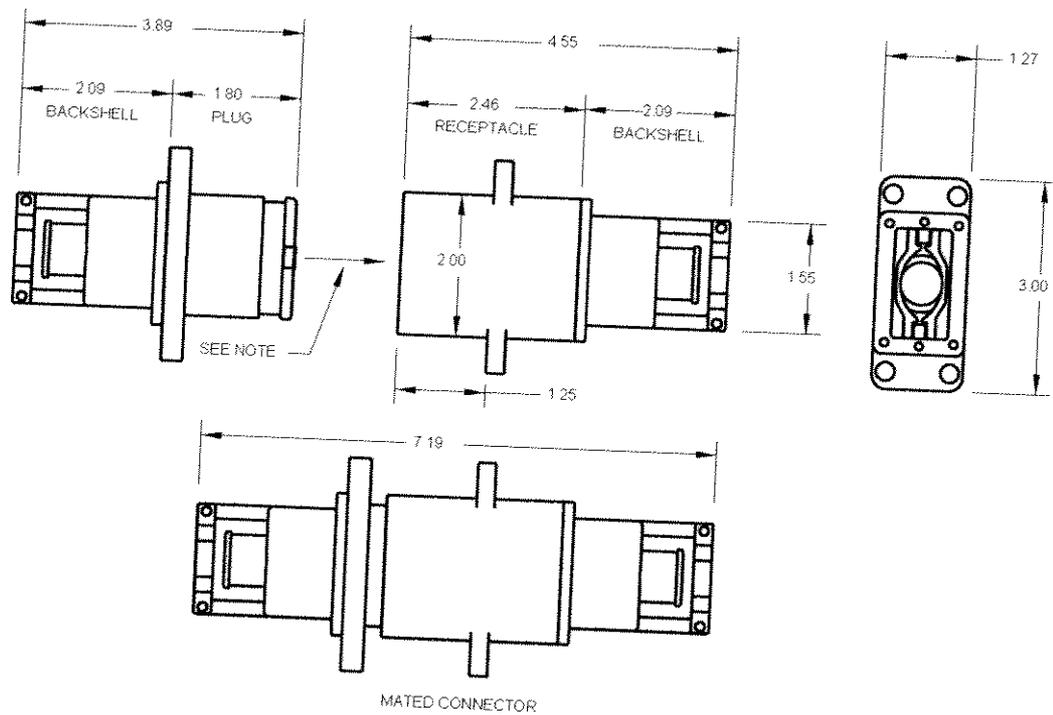


Figure 4: External Bonding Feature

- 3.5.2 **Backshell material and finish** The shells shall be made of aluminum alloy 6061-T6511 or 6061-T651 in accordance with AMS-QQ-A-200/8, or AMS 4027. The shell surfaces shall be nickel plated per AMS-C-26074, Class 4, Grade B. The shells shall be marked with a painted mating indicator. The paint shall be per A-A-56032, Epoxy Base Marking Ink (CID) and shall meet the toxic offgassing/outgassing requirements per NASA-STD-6016.
- 3.5.3 **Potting compatibility.** The backshells shall be designed in conjunction with the connector shell to allow potting for connector and cable assembly.



NOTE:
 CONNECTOR SHELL INSERTION SHALL ACCOMMODATE INITIAL MISALIGNMENTS AS FOLLOWS:
 LATERAL MISALIGNMENT $\pm .125$ INCHES IN ALL DIRECTIONS
 ROTATIONAL MISALIGNMENT ABOUT CONNECTOR CENTERLINE $\pm 3^\circ$
 PITCH ANGLE BETWEEN MOUNTING FLANGES $\pm 1^\circ$
 A NASA PROVIDED SPRING LOADED SELF-CENTERING PASSIVE MECHANISM WILL ALLOW
 THE CONNECTORS TO ALIGN PRIOR TO THE FINAL ELECTRICAL PIN INSERTION.

Figure 5: Envelop and Critical Dimensions

- 3.6 **Envelope dimensions.** The overall dimensions for the backshells shall not exceed 2.00" x 1.27" x 2.00". The overall dimensions for the connectors shall not exceed 3.00" x 1.27" x 2.46". When fully engaged, overall length of the mated pair shall not exceed 7.19". Refer to Figure 5 for details on critical dimensions.
- 3.7 **Materials, design, and construction.** All materials used in the connectors and the backshells must comply with the requirements specified in NASA-STD-6016. Connectors shall be constructed to accommodate removable crimp-type power and quadax contacts.
- 3.7.1 **Power Rating.** The power contacts shall be designed to achieve a maximum millivolt drop across mated contact pairs at a specified contact current and temperature. The millivolt drop times the contact current is the minimum power rating for the contact pair that the connector shall be designed to withstand.
- 3.7.1.1 **Contact Millivolt Drop** With the specified current applied, the millivolt drop across individual mated contact pairs, without connectors, including crimp joints made to nickel-plated wire, shall not exceed the values shown in Table 2 when exposed to an ambient temperature of +25°C (+77°F) and a high ambient temperature of +200°C (+392°F).

Contact Size	Wire AWG	Current (A)	Maximum Millivolt Drop	
			+25°C	+200°C
20	20	8.8	56	76
8	8	56	44	49

Table 2: Contact Millivolt Drop

- 3.7.1.2 **Fault current: 100Amp (MAX.) for minimum of 500 millisecond.**
- 3.7.2 **Toxic Offgassing (habitable environment).** Connector and backshell materials used shall meet the toxic offgassing requirements per section 4.2.1.2 of NASA-STD-6016, *Standard Materials and Processes Requirements for Spacecraft* can be met.
- 3.7.3 **Total Mass Loss (thermal vacuum stability).** Nonmetallic connector and backshell materials, such as dielectric coatings and EMI gasket, that are exposed to space vacuum shall meet the outgassing requirements per section 4.2.3.6 of NASA-STD-6016, *Standard Materials and Processes Requirements for Spacecraft* (the acceptance criterion of ≤ 0.01 percent collected volatile condensable materials (CVCMM) shall apply because of the possibility of nearby contamination-sensitive devices; however, the outgassing requirements are not applicable for nonmetallic materials in hermetically sealed device).
- 3.7.4 **Contact designation.** Contact numerals shall appear on the front and rear faces of the inserts to identify the contacts. The socket identification shall correspond to the mating-pin contact identification.
- 3.7.5 **Connector shell design.** The connector shell shall be designed to positively retain the insert and be so constructed that the insert cannot be removed without the use of tools. Connector shells shall be scoop-proof and shall be chamfered at the mating surfaces. The connector shall be so designed that a single shell configuration pair will accommodate either insert arrangement (Figures 1 and 3). Flange locations shall be as indicated in Figure 5.
 - 3.7.5.1 **Shell polarization.** Polarization shall be accomplished by a shaped-shell design. Polarization shall be accomplished before engagement of the contacts.
 - 3.7.5.2 **Shell material and finish.** The shells shall be made of aluminum alloy 6061-T6511 or 6061-T651 in accordance with AMS-QQ-A-200/8, or AMS 4027. The connector's shell surface shall be nickel plated per AMS-C-26074B, Class 4, Grade B. The shells shall be marked with a painted mating indicator. The paint shall be per A-A-56032, Epoxy Base Marking Ink (CID) and shall meet the toxic offgassing / outgassing requirements per NASA-STD-6016.
 - 3.7.5.3 **Potting compatibility.** The shells shall be designed in conjunction with the backshells to allow potting for connector and cable assembly.
 - 3.7.5.4 **Shell EMI Spring Fingers.** Spring fingers for shell EMI shall be designed to make electrical contact with the mating shell without interfering with proper engagement. The fingers shall be positively retained about the shell periphery. Spring fingers shall be made from beryllium copper alloy in accordance with ASTM B 194-08. Finger plating shall be gold plated per MIL-DTL-45204D, Type II, Class 2, Grade C, over Type 1 copper flash per AMS 2418G, Copper Plating.
- 3.7.6 **Pin and socket surface coating.** All pin and socket contacts shall be gold plated, 45 to 90 micro-inches in thickness, per MIL-G-45204, Type II, Grade C, over a nickel underplate, 20 micro-inches minimum in thickness, per QQ-N-290, over a copper subplate. The plating shall be free of porosity and shall not peel, blister, or flake during crimping or when exposed to the

environmental and mechanical requirements of this document. Process and testing procedures are per MIL-G-45204.

3.7.7 **Interfacial seal.** All pin contact inserts shall have a resilient interface seal bonded to the front face, with individual pin barriers. The pin barrier projections shall seal in their respective lead-in chamfers of the hard face socket insert. The resilient interfacial seal shall provide individual contact seals in the mated condition to ensure circuit isolation between each contact and contact to shell.

3.7.8 **Wire sealing rear grommet.** A wire sealing grommet shall be provided on the rear of both the plug and the receptacle (see Table 3); it shall not be removed from the connector. It shall be designed to provide sealing to meet environmental requirements when using wire of the outer diameters within the range shown below.

Contact Cavity	Wire Size	Wire O.D. Min. (in.)	Wire O.D. Max. (in.)
20	20-22 (1)	0.050	0.072
8	8 (1)	0.175	0.200
Quadrax	4ea 24AWG(2)	0.202(2)	0.248(2)

(1) SAE-AS22759/11

(2) Per WL Gore ACN 1003 (TBR)

Table 3: Sealing Grommet Dimension

3.7.9 **Weight:**

3.7.9.1 **Connector weight.** The maximum weight of each connector half, including all contacts, minus the backshell, shall be less than one (1) pound.

3.7.9.2 **Backshell weight.** The maximum weight of each backshell shall be less than 0.5 pound.

4.0 REQUIREMENTS FOR PERFORMANCE

4.1 **Environmental.** At minimum, the connectors shall meet all their functional and performance requirements during and after exposure to all major environmental conditions:

4.1.1 **Temperature Range**

4.1.1.1 **Non-operational (survival):** -75°C to +125°C (-103°F to +257°F).

4.1.1.2 **Operational:** -50°C to +75°C (-58°F to +167°F).

4.1.2 **Humidity Range:** 25% to 75% relative humidity (RH) while fully mated and exposing to the pressurized flight compartments (Intravehicluar (IVA) environment), and up to 98% RH while depressing in pressurized flight compartments.

Assumption: Connectors are dry before mating; and only energized after fully mated, as well de-energized before demating process.

4.1.3 **Electromagnetic Interferences (EMI):** The shielding effectiveness of properly assembled and mated connectors shall not be less than that specified in Table 4 at the specified frequencies.

Frequency (MHz)	Leakage Attenuation (db minimum)
100	90
200	88
300	88
400	87
800	85
1000	85

Table 4: EMI Shielding Effectiveness

4.1.4 **Other spacecraft external environmental conditions:** such as atomic oxygen, solar ultraviolet (UV) radiation, etc per section 4.2.3.7 of NASA-STD-6016, *Standard Materials and Processes Requirements for Spacecraft*.

4.1.5 **Vibration: 60 Grms (MAX).**

4.1.6 **Acoustic Noise Level**

4.1.6.1 **Launch stage: 142.9 dB OASPL at liftoff.**

4.1.6.2 **Abort stage:** 154.4 dB at abort. The connector shall withstand the abort load without structural failure that may create hazard to nearby equipment; however, maintaining function performance is not required after exposure to abort.

4.2 **Dielectric withstanding voltage.** The minimum applicable dielectric withstanding voltage shall be in accordance with Table 5.

	Vac (rms) 60 Hz	
	Sea Level	70,000 ft.
Size 8, or 20 contact-to-contact and contact-to-shell	1000	350
Quadrax outer contact-to-shell; quadrax outer contact-to-nearest size 8 or 24 contact	1000	350
Quadrax outer contact-to-quadrax center contacts	1000	350

Table 5: Dielectric withstanding voltage

4.3 **Insert retention in shell.** The applicable minimum load pressure shall be 60 lbs per square in. (psi).

4.4 **Insulation Resistance.** The Insulation Resistance between any cavity/pin and all other cavities/pins and the shell, electrically connected and stabilized at ambient temperature, shall not be less than 5000 megohms measured at 500 VDC at + 25°C (+ 77°F) or not be less than 1000 megohms measured at 500 VDC at + 150°C (+ 302°F). Refer to EIA/ECS-364-21 for process and test procedures.

4.5 **Contact Resistance.** The low signal level contact resistance across individual mated contact pairs, including crimp joints made to nickel plated wire, shall not exceed the values shown in Table 6 when exposed to an ambient temperature of + 25°C (+ 77°F). Measurements shall be made with a 1 milliamper test current per EIA/ECS-364-21.

Wire Size (AWG)	Maximum Contact Resistance (milliohms)	
	Initial	After Conditioning
24	20	23
20	9	11
8	N/A	N/A

Table 6: Low Signal Level Contact Resistance

4.6 **Contact Retention in Insert.** The applicable axial load shall be in accordance with Table 7.

Contact Type	Force min. (lbs)
Size 20	15
Size 8	35
Quadrax	50

Table 7: Contact Retention

4.7 **Misalignment tolerance.** Connectors will be used in a NASA assembled spring loaded self-centering passive mechanism that will allow the connectors to align prior to the final electrical pin insertion. The minimum misalignment tolerances during mating shall be met in respective directions as called out in sections 4.7.1, 4.7.2, and 4.7.3. Refer to Figure 5.

4.7.1 **Rotational (about connector centerline):** Rotational misalignment tolerance about connector centerline shall be -3° to $+3^\circ$.

4.7.2 **Pitch Angle (between mounting flanges):** Pitch angle misalignment tolerance between mounting flanges shall be -1° to $+1^\circ$.

4.7.3 **Lateral (in all directions):** Lateral misalignment tolerance in all directions shall be $-0.125''$ to $+0.125''$.

4.8 **Connector Mating and Demating Forces.** The connectors shall not exceed the forces listed in Table 8.

Insert Arrangement	Force max. (lbs)	
	Mating	Demating
Power connector	50	50
Data connector	50	50

Table 8: Connector Mating and Demating Forces

4.9 **High Speed Data Communication.** The data connector shall meet the performance criteria while being tested in minimum for the following. Test setup and measurement methodologies are subject to NASA/JSC approval prior to the testing.

4.9.1 **Gigabit Ethernet Data Communication (for Quadrax contact only).**

4.9.1.1 **End to End Impedance:** 150 ± 15 ohms

4.9.1.2 **Data Transfer Rate:** > 1 Gb/s (WL Gore ACN 1003 cable) per Section 3, Clause 39 of IEEE STD 802.3-2005.

4.9.1.3 **Time Domain Reflectometer (TDR):** TDR testing with WL Gore ACN 1003 cable per Section 3, Clause 39 of IEEE STD 802.3-2005.

4.9.1.4 **Eye Pattern:** Eye pattern testing with WL Gore ACN 1003 cable per Section 3, Clause 39 of IEEE STD 802.3-2005.

4.9.2 **Data Bus 1553B Communication (for spare #20 contacts only).**

4.9.2.1 **Pin to Pin Impedance:** 70.0 ohms to 85.0 ohms at a sinusoidal frequency of 1.0 MHz.

4.10 **Durability.**

4.10.1 **Mating and Demating:** The connectors are subject to 250 mating and demating cycles in operational conditions; excluding acceptance cycling counts.

5.0 DELIVERABLES AND SCHEDULES

See B.3 in Section B - Supplies Or Services and Prices.

SECTION D - PACKAGING AND MARKING

D.1 1852.211-70 Packaging, Handling, and Transportation.(SEP 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)

SECTION E - INSPECTION AND ACCEPTANCE

E.1 52.246-2 Inspection of Supplies - Fixed-Price. (AUG 1996)

52.246-16 Responsibility for Supplies. (APR 1984)

1852.246-72 Material Inspection and Receiving Report. (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 3 copies, an original and 2 copies (Insert number of copies).

(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 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.2 Quality Assurance

The Supplier shall have a quality program that complies with International Supplier for Standardization document SAE, AS9100 - Model for Quality Assurance in Design/Development, Production, Installation, and Servicing."

Third party certification / registration is not required.

E.3 Government Source Inspection (GSI)

A. All work on this Purchase Contract is subject to inspection and test by the Government at any time and any place. Government inspection is required on this order prior to shipment from Supplier's facility. Government inspections performed will be determined by the delegated Government inspection representative and may be conducted during processing, fabrication, or final inspection. Upon receipt of this Purchase Contract, promptly notify the Government representative who normally services your plant so that appropriate Government inspection planning can be accomplished. If your facility is not serviced by Government inspection and/or the area Government inspection representative or agency cannot be located, immediately notify Customer.

The Government representative will be notified 48 hours in advance of the time articles are ready for test or inspection.

B. The Government has the right to inspect any or all of the work included in this order at the supplier's facility.

[END OF SECTION]

SECTION F - DELIVERIES OR PERFORMANCE

F.1 52.211-8 Time of Delivery. (JUN 1997)

(a) The Government requires delivery to be made according to the following schedule in part 5 of Section C, Statement of Work.

The Government will evaluate equally, as regards time of delivery, offers that propose delivery of each quantity within the applicable delivery period specified above. Offers that propose delivery that will not clearly fall within the applicable required delivery period specified above, will be considered nonresponsive and rejected. The Government reserves the right to award under either the required delivery schedule or the proposed delivery schedule, when an offeror offers an earlier delivery schedule than required above. If the offeror proposes no other delivery schedule, the required delivery schedule above will apply.

(b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed, or otherwise furnished to the successful offeror, results in a binding contract. The Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day award is dated. Therefore, the offeror should compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding (1) five calendar days for delivery of the award through the ordinary mails, or (2) one working day if the solicitation states that the contract or notice of award will be transmitted electronically. (The term working day excludes weekends and U.S. Federal holidays.) If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

(End of clause)

52.211-17 Delivery of Excess Quantities. (SEP 1989)

52.242-15 Stop-Work Order. (AUG 1989)

52.242-17 Government Delay of Work. (APR 1984)

52.247-34 F.o.b. Destination. (NOV 1991)

52.217-7 Option for Increased Quantity—Separately Priced Line Item.

OPTION FOR INCREASED QUANTITY—SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

F.2 SHIPPING INSTRUCTIONS

All documentation shall be shipped to the addresses cited in [see address below].
Shipment of all other items shall be as follows:

Parcel Post Shipments and Freight Shipments

Ship to: NASA Johnson Space Center,
Building 421
2101 NASA Parkway
Houston, TX 77058-3696

Mark for: Accountable Property Officer
Contract Number: _____

(End of clause)

F.3 DELIVERABLES

All deliverables should be in accordance with Section B.3, Milestones.

(End of clause)

[END OF SECTION]

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 1852.245-74 Identification and Marking of Government Equipment. (DEVIATION) (SEP 2007)

(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". This includes deliverable equipment listed in the schedule and other equipment when 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) Property shall be marked in a location that will be human readable, without disassembly or movement of the property, 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.

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

(d) For items physically transferred under paragraph (a) the following additional data is required:

(1) Date originally placed in service.

(2) Item condition.

(3) Date last serviced.

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

(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)

G.2 1852.227-70 New Technology (MAY 2002)

a) Definitions.

"Administrator," as used in this clause, means the Administrator of the National Aeronautics and Space Administration (NASA) or duly authorized representative.

"Contract," as used in this clause, means any actual or proposed contract, agreement, understanding, or other arrangement, and includes any assignment, substitution of parties, or subcontract executed or entered into thereunder.

"Made," as used in this clause, means conception or first actual reduction to practice; provided, that in the case of a variety of plant, the date of determination (as defined in Section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of contract performance.

"Nonprofit organization," as used in this clause, means a domestic university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)), or any domestic nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

"Practical application," as used in this clause, means to manufacture, in the case of a composition or product; to practice, in the case of a process or method; or to operate, in case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

"Reportable item," as used in this clause, means any invention, discovery, improvement, or innovation of the contractor, whether or not patentable or otherwise protectible under Title 35 of the United States Code, made in the performance of any work under any NASA contract or in the performance of any work that is reimbursable under any clause in any NASA contract providing for reimbursement of costs incurred before the effective date of the contract. Reportable items include, but are not limited to, new processes, machines, manufactures, and compositions of matter, and improvements to, or new applications of, existing processes, machines, manufactures, and compositions of matter. Reportable items also include new computer programs, and improvements to, or new applications of, existing computer programs, whether or not copyrightable or otherwise protectible under Title 17 of the United States Code.

"Small business firm," as used in this clause, means a domestic small business concern as defined at 15 U.S.C. 632 and implementing regulations of the Administrator of the Small Business Administration. (For the purpose of this definition, the size standard contained in 13 CFR 121.3-8 for small business contractors and in 13 CFR 121.3-12 for small business subcontractors will be used.)

"Subject invention," as used in this clause, means any reportable item which is or may be patentable or otherwise protectible under Title 35 of the United States Code, or any novel variety of plant that is or may be protectible under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.).

(b) Allocation of principal rights.

(1) Presumption of title.

(i) Any reportable item that the Administrator considers to be a subject invention shall be presumed to have been made in the manner specified in paragraph (1) or (2) of Section 305(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457(a)) (hereinafter called "the Act"), and the above presumption shall be conclusive unless at the time of reporting the reportable item the Contractor submits to the Contracting Officer a written statement, containing supporting details, demonstrating that the reportable item was not made in the manner specified in paragraph (1) or (2) of Section 305(a) of the Act.

(ii) Regardless of whether title to a given subject invention would otherwise be subject to an advance waiver or is the subject of a petition for waiver, the Contractor may nevertheless file the statement described in paragraph (b)(1)(i) of this clause. The Administrator will review the information furnished by the Contractor

in any such statement and any other available information relating to the circumstances surrounding the making of the subject invention and will notify the Contractor whether the Administrator has determined that the subject invention was made in the manner specified in paragraph (1) or (2) of Section 305(a) of the Act.

(2) **Property rights in subject inventions.** Each subject invention for which the presumption of paragraph (b)(1)(i) of this clause is conclusive or for which there has been a determination that it was made in the manner specified in paragraph (1) or (2) of Section 305(a) of the Act shall be the exclusive property of the United States as represented by NASA unless the Administrator waives all or any part of the rights of the United States, as provided in paragraph (b)(3) of this clause.

(3) **Waiver of rights.**

(i) Section 305(f) of the Act provides for the promulgation of regulations by which the Administrator may waive the rights of the United States with respect to any invention or class of inventions made or that may be made under conditions specified in paragraph (1) or (2) of Section 305(a) of the Act. The promulgated NASA Patent Waiver Regulations, 14 CFR Section 1245, Subpart 1, have adopted the Presidential Memorandum on Government Patent Policy of February 18, 1983, as a guide in acting on petitions (requests) for such waiver of rights.

(ii) As provided in 14 CFR 1245, Subpart 1, Contractors may petition, either prior to execution of the contract or within 30 days after execution of the contract, for advance waiver of rights to any or all of the inventions that may be made under a contract. If such a petition is not submitted, or if after submission it is denied, the Contractor (or an employee inventor of the Contractor) may petition for waiver of rights to an identified subject invention within eight months of first disclosure of invention in accordance with paragraph (e)(2) of this clause, or within such longer period as may be authorized in accordance with 14 CFR 1245.105.

(c) **Minimum rights reserved by the Government.**

(1) With respect to each subject invention for which a waiver of rights is applicable in accordance with 14 CFR Section 1245, Subpart 1, the Government reserves--

(i) An irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of such invention throughout the world by or on behalf of the United States or any foreign government in accordance with any treaty or agreement with the United States; and

(ii) Such other rights as stated in 14 CFR 1245.107.

(2) Nothing contained in this paragraph (c) shall be considered to grant to the Government any rights with respect to any invention other than a subject invention.

(d) **Minimum rights to the Contractor.**

(1) The Contractor is hereby granted a revocable, nonexclusive, royalty-free license in each patent application filed in any country on a subject invention and any resulting patent in which the Government acquires title, unless the Contractor fails to disclose the subject invention within the times specified in paragraph (e)(2) of this clause. The Contractor's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Contractor is a party and includes the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of the Administrator except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(2) The Contractor's domestic license may be revoked or modified by the Administrator to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with 37 CFR Part 404, Licensing of Government Owned Inventions. This license will not be revoked in that field of use or the geographical areas in which the Contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the Administrator to the extent the Contractor, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the Contractor will be provided a written notice of the Administrator's intention to revoke or modify the license, and the Contractor will be allowed 30 days (or such other time as may be authorized by the Administrator for good cause shown by the Contractor) after the notice to show cause why the license should not be revoked or modified. The Contractor has the right to appeal to the Administrator any decision concerning the revocation or modification of its license.

(e) Invention identification, disclosures, and reports.

(1) The Contractor shall establish and maintain active and effective procedures to assure that reportable items are promptly identified and disclosed to Contractor personnel responsible for the administration of this New Technology clause within six months of conception and/or first actual reduction to practice, whichever occurs first in the performance of work under this contract. These procedures shall include the maintenance of laboratory notebooks or equivalent records and other records as are reasonably necessary to document the conception and/or the first actual reduction to practice of the reportable items, and records that show that the procedures for identifying and disclosing reportable items are followed. Upon request, the Contractor shall furnish the Contracting Officer a description of such procedures for evaluation and for determination as to their effectiveness.

(2) The Contractor will disclose each reportable item to the Contracting Officer within two months after the inventor discloses it in writing to Contractor personnel responsible for the administration of this New Technology clause or, if earlier, within six months after the Contractor becomes aware that a reportable item has been made, but in any event for subject inventions before any on sale, public use, or publication of such invention known to the Contractor. The disclosure to the agency shall be in the form of a written report and shall identify the contract under which the reportable item was made and the inventor(s) or innovator(s). It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and physical, chemical, biological, or electrical characteristics of the reportable item. The disclosure shall also identify any publication, on sale, or public use of any subject invention and whether a manuscript describing such invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the agency, the Contractor will promptly notify the agency of the acceptance of any manuscript describing a subject invention for publication or of any on sale or public use planned by the Contractor for such invention.

(3) The Contractor may use whatever format is convenient to disclose reportable items required in subparagraph (e)(2). NASA prefers that the Contractor use either the electronic or paper version of NASA Form 1679, Disclosure of Invention and New Technology (Including Software) to disclose reportable items. Both the electronic and paper versions of NASA Form 1679 may be accessed at the electronic New Technology Reporting Web site <http://invention.nasa.gov>.

(4) The Contractor shall furnish the Contracting Officer the following:

(i) Interim reports every 12 months (or such longer period as may be specified by the Contracting Officer) from the date of the contract, listing reportable items during that period, and certifying that all reportable

items have been disclosed (or that there are no such inventions) and that the procedures required by paragraph (e)(1) of this clause have been followed.

(ii) A final report, within 3 months after completion of the contracted work, listing all reportable items or certifying that there were no such reportable items, and listing all subcontracts at any tier containing a patent rights clause or certifying that there were no such subcontracts.

(5) The Contractor agrees, upon written request of the Contracting Officer, to furnish additional technical and other information available to the Contractor as is necessary for the preparation of a patent application on a subject invention and for the prosecution of the patent application, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions.

(6) The Contractor agrees, subject to paragraph 27.302(i), of the Federal Acquisition Regulation (FAR), that the Government may duplicate and disclose subject invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause.

(f) Examination of records relating to inventions.

(1) The Contracting Officer or any authorized representative shall, until 3 years after final payment under this contract, have the right to examine any books (including laboratory notebooks), records, and documents of the Contractor relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this contract to determine whether--

(i) Any such inventions are subject inventions;

(ii) The Contractor has established and maintained the procedures required by paragraph (e)(1) of this clause; and

(iii) The Contractor and its inventors have complied with the procedures.

(2) If the Contracting Officer learns of an unreported Contractor invention that the Contracting Officer believes may be a subject invention, the Contractor may be required to disclose the invention to the agency for a determination of ownership rights.

(3) Any examination of records under this paragraph will be subject to appropriate conditions to protect the confidentiality of the information involved.

(g) Withholding of payment (this paragraph does not apply to subcontracts).

(1) Any time before final payment under this contract, the Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of this contract, whichever is less, shall have been set aside if, in the Contracting Officer's opinion, the Contractor fails to--

(i) Establish, maintain, and follow effective procedures for identifying and disclosing reportable items pursuant to paragraph (e)(1) of this clause;

(ii) Disclose any reportable items pursuant to paragraph (e)(2) of this clause;

(iii) Deliver acceptable interim reports pursuant to paragraph (e)(3)(i) of this clause; or

(iv) Provide the information regarding subcontracts pursuant to paragraph (h)(4) of this clause.

(2) Such reserve or balance shall be withheld until the Contracting Officer has determined that the Contractor has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(3) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer all disclosures of reportable items required by paragraph (e)(2) of this clause, and an acceptable final report pursuant to paragraph (e)(3)(ii) of this clause.

(4) The Contracting Officer may decrease or increase the sums withheld up to the maximum authorized above. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the contract. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government rights.

(h) Subcontracts.

(1) Unless otherwise authorized or directed by the Contracting Officer, the Contractor shall--

(i) Include this clause (suitably modified to identify the parties) in any subcontract hereunder (regardless of tier) with other than a small business firm or nonprofit organization for the performance of experimental, developmental, or research work; and

(ii) Include the clause at FAR 52.227-11 (suitably modified to identify the parties) in any subcontract hereunder (regardless of tier) with a small business firm or nonprofit organization for the performance of experimental, developmental, or research work.

(2) In the event of a refusal by a prospective subcontractor to accept such a clause the Contractor--

(i) Shall promptly submit a written notice to the Contracting Officer setting forth the subcontractor's reasons for such refusal and other pertinent information that may expedite disposition of the matter; and

(ii) Shall not proceed with such subcontract without the written authorization of the Contracting Officer.

(3) In the case of subcontracts at any tier, the agency, subcontractor, and Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and NASA with respect to those matters covered by this clause.

(4) The Contractor shall promptly notify the Contracting Officer in writing upon the award of any subcontract at any tier containing a patent rights clause by identifying the subcontractor, the applicable patent rights clause, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of the Contracting Officer, the Contractor shall furnish a copy of such subcontract, and, no more frequently than annually, a listing of the subcontracts that have been awarded.

(5) The subcontractor will retain all rights provided for the Contractor in the clause of subparagraph (h)(1)(i) or (ii) of this clause, whichever is included in the subcontract, and the Contractor will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(i) **Preference for United States industry.** Unless provided otherwise, no Contractor that receives title to any subject invention and no assignee of any such Contractor shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement may be waived by the Administrator upon a showing by the Contractor or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees

that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(End of clause)

G.3 SUBMISSION OF INVOICES

Invoices shall be prepared and submitted in quadruplicate unless otherwise specified. Invoices shall contain the following information as applicable: contract number, task order number, item numbers, description of supplies or services according to the schedule, sizes, quantities, unit prices, and extended totals. Invoices shall be submitted to:

NSSC- FMD Accounts Payable
Bldg. 1111, C. Road
Stennis Space Center, MS 39529
Phone: 1-877-677-2123
Fax: 1-866-209-5415
E-mail: NSSC-AccountsPayable@nasa.gov

In the event that amounts are withheld from payment in accordance with the New Technology Clause or other provisions of this contract, a separate invoice for the amount withheld will be required before payment for that amount may be made.

(End of clause)

[END OF SECTION]

SECTION H - SPECIAL CONTRACT REQUIREMENTS**H.1 1852.223-72 Safety and Health (Short Form). (APR 2002)**

- (a) Safety is the freedom from those conditions that can cause death, injury, occupational illness; damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: (1) the public, (2) astronauts and pilots, (3) the NASA workforce (including contractor employees working on NASA contracts), and (4) high-value equipment and property.
- (b) The Contractor shall take all reasonable safety and occupational health measures consistent with standard industry practice in performing this contract. The Contractor shall comply with all Federal, State, and local laws applicable to safety and occupational health and with the safety and occupational health standards, specifications, reporting requirements, and any other relevant requirements of this contract.
- (c) The Contractor shall take, or cause to be taken, any other safety, and occupational health measures the Contracting Officer may reasonably direct. To the extent that the Contractor may be entitled to an equitable adjustment for those measures under the terms and conditions of this contract, the equitable adjustment shall be determined pursuant to the procedures of the Changes clause of this contract; provided, that no adjustment shall be made under this Safety and Health clause for any change for which an equitable adjustment is expressly provided under any other clause of the contract.
- (d) The Contracting Officer may notify the Contractor in writing of any noncompliance with this clause and specify corrective actions to be taken. In situations where the Contracting Officer becomes aware of noncompliance that may pose a serious or imminent danger to safety and health of the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value mission critical equipment or property, the Contracting Officer shall notify the Contractor orally, with written confirmation. The Contractor shall promptly take and report any necessary corrective action. The Government may pursue appropriate remedies in the event the Contractor fails to promptly take the necessary corrective action.
- (e) The Contractor (or subcontractor or supplier) shall insert the substance of this clause, including this paragraph (e) and any applicable Schedule provisions, with appropriate changes of designations of the parties, in subcontracts of every tier that exceed the micro-purchase threshold.

(End of clause)

[END OF SECTION]

SECTION I - CONTRACT CLAUSES

L1 CLAUSES INCORPORATED BY REFERENCE

- 52.202-1 Definitions. (JUL 2004)
- 52.203-3 Gratuities. (APR 1984)
- 52.203-5 Covenant Against Contingent Fees. (APR 1984)
- 52.203-6 Restrictions on Subcontractor Sales to the Government. (SEP 2006)
- 52.203-7 Anti-Kickback Procedures. (JUL 1995)
- 52.203-8 Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity. (JAN 1997)
- 52.203-10 Price or Fee Adjustment for Illegal or Improper Activity. (JAN 1997)
- 52.203-12 Limitation on Payments to Influence Certain Federal Transactions. (SEP 2007)
- 52.204-4 Printed or Copied Double-Sided on Recycled Paper. (AUG 2000)
- 52.204-7 Central Contractor Registration. (APR 2008)
- 52.209-6 Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment. (SEP 2006)
- 52.211-5 Material Requirements. (AUG 2000)
- 52.211-15 Defense Priority and Allocation Requirements. (APR 2008)
- 52.215-2 Audit and Records - Negotiation. (MAR 2009)
- 52.215-8 Order of Precedence - Uniform Contract Format. (OCT 1997)
- 52.215-14 Integrity of Unit Prices. (OCT 1997)
- 52.215-17 Waiver of Facilities Capital Cost of Money. (OCT 1997)
- 52.219-8 Utilization of Small Business Concerns. (MAY 2004)
- 52.222-1 Notice to the Government of Labor Disputes. (FEB 1997)
- 52.222-3 Convict Labor. (JUN 2003)
- 52.222-19 Child Labor - Cooperation with Authorities and Remedies. (AUG 2009)
- 52.222-20 Walsh-Healey Public Contracts Act. (DEC 1996)
- 52.222-21 Prohibition of Segregated Facilities. (FEB 1999)

- 52.222-26 Equal Opportunity. (MAR 2007)
- 52.222-35 Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans. (SEP 2006)
- 52.222-36 Affirmative Action for Workers with Disabilities. (JUN 1998)
- 52.222-37 Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans. (SEP 2006)
- 52.222-50 Combating Trafficking in Persons. (FEB 2009)
- 52.223-6 Drug-Free Workplace. (MAY 2001)
- 52.223-14 Toxic Chemical Release Reporting. (AUG 2003)
- 52.225-1 Buy American Act - Supplies. (FEB 2009)
- 52.225-13 Restrictions on Certain Foreign Purchases. (JUN 2008)
- 52.227-1 Authorization and Consent. (DEC 2007)
- 52.229-4 Federal, State, and Local Taxes (State and Local Adjustments). (APR 2003)
- 52.232-1 Payments. (APR 1984)
- 52.232-8 Discounts for Prompt Payment. (FEB 2002)
- 52.232-11 Extras. (APR 1984)
- 52.232-17 Interest. (OCT 2008)
- 52.232-23 Assignment of Claims. (JAN 1986)
- 52.232-25 Prompt payment. (OCT 2008)
- 52.233-1 Disputes. (JUL 2002) - Alternate I (DEC 1991)
- 52.233-3 Protest after Award. (AUG 1996)
- 52.233-4 Applicable Law for Breach of Contract Claim. (OCT 2004)
- 52.242-13 Bankruptcy. (JUL 1995)
- 52.243-1 Changes - Fixed-Price. (AUG 1987)
- 52.244-6 Subcontracts for Commercial Items. (AUG 2009)
- 52.246-23 Limitation of Liability. (FEB 1997)
- 52.247-63 Preference for U.S.-Flag Air Carriers. (JUN 2003)
- 52.247-64 Preference for Privately Owned U.S.-Flag Commercial Vessels. (FEB 2006)
- 52.249-2 Termination for Convenience of the Government (Fixed-Price). (MAY 2004)

52.249-8 Default (Fixed-Price Supply and Service). (APR 1984)

52.253-1 Computer Generated Forms. (JAN 1991)

I.2 52.222-39 Notification of Employee Rights Concerning Payment of Union Dues or Fees. (DEC 2004)

(a) Definition. As used in this clause--

United States means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) Except as provided in paragraph (e) of this clause, during the term of this contract, the Contractor shall post a notice, in the form of a poster, informing employees of their rights concerning union membership and payment of union dues and fees, in conspicuous places in and about all its plants and offices, including all places where notices to employees are customarily posted. The notice shall include the following information (except that the information pertaining to National Labor Relations Board shall not be included in notices posted in the plants or offices of carriers subject to the Railway Labor Act, as amended (45 U.S.C. 151-188)).

Notice to Employees

Under Federal law, employees cannot be required to join a union or maintain membership in a union in order to retain their jobs.

Under certain conditions, the law permits a union and an employer to enter into a union-security agreement requiring employees to pay uniform periodic dues and initiation fees. However, employees who are not union members can object to the use of their payments for certain purposes and can only be required to pay their share of union costs relating to collective bargaining, contract administration, and grievance adjustment.

If you do not want to pay that portion of dues or fees used to support activities not related to collective bargaining, contract administration, or grievance adjustment, you are entitled to an appropriate reduction in your payment. If you believe that you have been required to pay dues or fees used in part to support activities not related to collective bargaining, contract administration, or grievance adjustment, you may be entitled to a refund and to an appropriate reduction in future payments.

For further information concerning your rights, you may wish to contact the National Labor Relations Board (NLRB) either at one of its Regional offices or at the following address or toll free number:

National Labor Relations Board
Division of Information
1099 14th Street, N.W.
Washington, DC 20570
1-866-667-6572
1-866-316-6572 (TTY)

To locate the nearest NLRB office, see NLRB's website at <http://www.nlr.gov>.

(c) The Contractor shall comply with all provisions of Executive Order 13201 of February 17, 2001, and related implementing regulations at 29 CFR part 470, and orders of the Secretary of Labor.

(d) In the event that the Contractor does not comply with any of the requirements set forth in

paragraphs (b), (c), or (g), the Secretary may direct that this contract be cancelled, terminated, or suspended in whole or in part, and declare the Contractor ineligible for further Government contracts in accordance with procedures at 29 CFR part 470, Subpart B--Compliance Evaluations, Complaint Investigations and Enforcement Procedures. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 470, which implements Executive Order 13201, or as are otherwise provided by law.

(e) The requirement to post the employee notice in paragraph (b) does not apply to--

(1) Contractors and subcontractors that employ fewer than 15 persons;

(2) Contractor establishments or construction work sites where no union has been formally recognized by the Contractor or certified as the exclusive bargaining representative of the Contractor's employees;

(3) Contractor establishments or construction work sites located in a jurisdiction named in the definition of the United States in which the law of that jurisdiction forbids enforcement of union-security agreements;

(4) Contractor facilities where upon the written request of the Contractor, the Department of Labor Deputy Assistant Secretary for Labor-Management Programs has waived the posting requirements with respect to any of the Contractor's facilities if the Deputy Assistant Secretary finds that the Contractor has demonstrated that--

(i) The facility is in all respects separate and distinct from activities of the Contractor related to the performance of a contract; and

(ii) Such a waiver will not interfere with or impede the effectuation of the Executive order; or

(5) Work outside the United States that does not involve the recruitment or employment of workers within the United States.

(f) The Department of Labor publishes the official employee notice in two variations; one for contractors covered by the Railway Labor Act and a second for all other contractors. The Contractor shall--

(1) Obtain the required employee notice poster from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW, Room N-5605, Washington, DC 20210, or from any field office of the Department's Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Download a copy of the poster from the Office of Labor-Management Standards website at <http://www.olms.dol.gov>; or

(3) Reproduce and use exact duplicate copies of the Department of Labor's official poster.

(g) The Contractor shall include the substance of this clause in every subcontract or purchase order that exceeds the simplified acquisition threshold, entered into in connection with this contract, unless exempted by the Department of Labor Deputy Assistant Secretary for Labor-Management Programs on account of special circumstances in the national interest under authority of 29 CFR 470.3(c). For indefinite quantity subcontracts, the Contractor shall include the substance of this clause if the value of orders in any calendar year of the subcontract is expected to exceed the simplified acquisition threshold. Pursuant to 29 CFR part 470, Subpart B--Compliance Evaluations,

Complaint Investigations and Enforcement Procedures, the Secretary of Labor may direct the Contractor to take such action in the enforcement of these regulations, including the imposition of sanctions for noncompliance with respect to any such subcontract or purchase order. If the Contractor becomes involved in litigation with a subcontractor or vendor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of clause)

I.3 52.227-11 Patent Rights—Ownership by the Contractor (DEC 2007)

(a) As used in this clause—

“Invention” means any invention or discovery that is or may be patentable or otherwise protectable under title 35 of the U.S. Code, or any variety of plant that is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.)

“Made” means—

(1) When used in relation to any invention other than a plant variety, the conception or first actual reduction to practice of the invention; or

(2) When used in relation to a plant variety, that the Contractor has at least tentatively determined that the variety has been reproduced with recognized characteristics.

“Nonprofit organization” means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)), or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

“Practical application” means to manufacture, in the case of a composition of product; to practice, in the case of a process or method; or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

“Subject invention” means any invention of the Contractor made in the performance of work under this contract.

(b) *Contractor’s rights.*

(1) *Ownership.* The Contractor may retain ownership of each subject invention throughout the world in accordance with the provisions of this clause.

(2) *License.*

(i) The Contractor shall retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, unless the Contractor fails to disclose the invention within the times specified in paragraph (c) of this clause. The Contractor’s license extends to any domestic subsidiaries and affiliates within the corporate structure of which the Contractor is a part, and includes the right to grant sublicenses to the extent the Contractor was legally obligated to do so at contract award. The license is transferable only with the written approval of the agency, except when transferred to the successor of that part of the Contractor’s business to which the invention pertains.

(ii) The Contractor’s license may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the subject invention in a particular country in accordance with the procedures in FAR 27.302(i)(2) and 27.304-1(f).

(c) *Contractor’s obligations.*

(1) The Contractor shall disclose in writing each subject invention to the Contracting Officer within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure shall identify the inventor(s) and this contract under which the subject invention was made. It shall

be sufficiently complete in technical detail to convey a clear understanding of the subject invention. The disclosure shall also identify any publication, on sale (*i.e.*, sale or offer for sale), or public use of the subject invention, or whether a manuscript describing the subject invention has been submitted for publication and, if so, whether it has been accepted for publication. In addition, after disclosure to the agency, the Contractor shall promptly notify the Contracting Officer of the acceptance of any manuscript describing the subject invention for publication and any on sale or public use.

(2) The Contractor shall elect in writing whether or not to retain ownership of any subject invention by notifying the Contracting Officer within 2 years of disclosure to the agency. However, in any case where publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor shall file either a provisional or a nonprovisional patent application or a Plant Variety Protection Application on an elected subject invention within 1 year after election. However, in any case where a publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the Contractor shall file the application prior to the end of that statutory period. If the Contractor files a provisional application, it shall file a nonprovisional application within 10 months of the filing of the provisional application. The Contractor shall file patent applications in additional countries or international patent offices within either 10 months of the first filed patent application (whether provisional or nonprovisional) or 6 months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) The Contractor may request extensions of time for disclosure, election, or filing under paragraphs (c)(1), (c)(2), and (c)(3) of this clause.

(d) *Government's rights*—

(1) *Ownership*. The Contractor shall assign to the agency, on written request, title to any subject invention—

(i) If the Contractor fails to disclose or elect ownership to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain ownership; provided, that the agency may request title only within 60 days after learning of the Contractor's failure to disclose or elect within the specified times.

(ii) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the agency, the Contractor shall continue to retain ownership in that country.

(iii) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

(2) *License*. If the Contractor retains ownership of any subject invention, the Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, the subject invention throughout the world.

(e) *Contractor action to protect the Government's interest*.

(1) The Contractor shall execute or have executed and promptly deliver to the agency all instruments necessary to—

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions in which the Contractor elects to retain ownership; and

(ii) Assign title to the agency when requested under paragraph (d) of this clause and to enable the Government to obtain patent protection and plant variety protection for that subject invention in any country.

(2) The Contractor shall require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in the Contractor's format, each subject invention in order that the Contractor can comply with the disclosure provisions of paragraph (c) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Contractor shall instruct such employees, through employee agreements or other suitable educational programs, as to the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The Contractor shall notify the Contracting Officer of any decisions not to file a nonprovisional patent application, continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response or filing period required by the relevant patent office.

(4) The Contractor shall include, within the specification of any United States nonprovisional patent or plant variety protection application and any patent or plant variety protection certificate issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by (identify the agency). The Government has certain rights in the invention."

(f) *Reporting on utilization of subject inventions.* The Contractor shall submit, on request, periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining utilization of the subject invention that are being made by the Contractor or its licensees or assignees. The reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and other data and information as the agency may reasonably specify. The Contractor also shall provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (h) of this clause. The Contractor also shall mark any utilization report as confidential/proprietary to help prevent inadvertent release outside the Government. As required by 35 U.S.C. 202(c)(5), the agency will not disclose that information to persons outside the Government without the Contractor's permission.

(g) *Preference for United States industry.* Notwithstanding any other provision of this clause, neither the Contractor nor any assignee shall grant to any person the exclusive right to use or sell any subject invention in the United States unless the person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for an agreement may be waived by the agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States, or that under the circumstances domestic manufacture is not commercially feasible.

(h) *March-in rights.* The Contractor acknowledges that, with respect to any subject invention in which it has retained ownership, the agency has the right to require licensing pursuant to 35 U.S.C. 203 and 210(c), and in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency in effect on the date of contract award.

(i) Special provisions for contracts with nonprofit organizations. If the Contractor is a nonprofit organization, it shall—

(1) Not assign rights to a subject invention in the United States without the written approval of the agency, except where an assignment is made to an organization that has as one of its primary functions the

management of inventions, *provided*, that the assignee shall be subject to the same provisions as the Contractor;

(2) Share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (but through their agency if the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) Use the balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions for the support of scientific research or education; and

(4) Make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business concerns, and give a preference to a small business concern when licensing a subject invention if the Contractor determines that the small business concern has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business concerns; *provided*, that the Contractor is also satisfied that the small business concern has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Contractor.

(5) Allow the Secretary of Commerce to review the Contractor's licensing program and decisions regarding small business applicants, and negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the Contractor could take reasonable steps to more effectively implement the requirements of paragraph (i)(4) of this clause.

(j) *Communications.* [Complete according to agency instructions.]

(k) *Subcontracts.*

(1) The Contractor shall include the substance of this clause, including this paragraph (k), in all subcontracts for experimental, developmental, or research work to be performed by a small business concern or nonprofit organization.

(2) The Contractor shall include in all other subcontracts for experimental, developmental, or research work the substance of the patent rights clause required by FAR Subpart 27.3.

(3) At all tiers, the patent rights clause must be modified to identify the parties as follows: references to the Government are not changed, and the subcontractor has all rights and obligations of the Contractor in the clause. The Contractor shall not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(4) In subcontracts, at any tier, the agency, the subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the agency with respect to the matters covered by the clause; *provided*, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (h) of this clause.

(End of clause)

I.4 52.232-34 Payment by Electronic Funds Transfer - Other than Central Contractor Registration. (MAY 1999)

(a) *Method of payment.* (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT) except as provided in paragraph (a)(2) of this clause. As used in this clause, the term EFT refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either -

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend payment due dates until such time as the Government makes payment by EFT (but see paragraph (d) of this clause).

(b) *Mandatory submission of Contractor's EFT information.* (1) The Contractor is required to provide the Government with the information required to make payment by EFT (see paragraph (j) of this clause). The Contractor shall provide this information directly to the office designated in this contract to receive that information (hereafter: designated office) by no later than 15 days prior to submission of the first request for payment. If not otherwise specified in this contract, the payment office is the designated office for receipt of the Contractor's EFT information. If more than one designated office is named for the contract, the Contractor shall provide a separate notice to each office. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the designated office(s).

(2) If the Contractor provides EFT information applicable to multiple contracts, the Contractor shall specifically state the applicability of this EFT information in terms acceptable to the designated office. However, EFT information supplied to a designated office shall be applicable only to contracts that identify that designated office as the office to receive EFT information for that contract.

(c) *Mechanisms for EFT payment.* The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) *Suspension of payment.* (1) The Government is not required to make any payment under this contract until after receipt, by the designated office, of the correct EFT payment information from the Contractor. Until receipt of the correct EFT information, any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(2) If the EFT information changes after submission of correct EFT information, the Government shall begin using the changed EFT information no later than 30 days after its receipt by the designated office to the extent payment is made by EFT. However, the Contractor may request that no further payments be made until the updated EFT information is implemented by the payment office. If such suspension would result in a late payment under the prompt payment terms of this contract, the Contractor's request for suspension shall extend the due date for payment by the number of days of the suspension.

(e) *Liability for uncompleted or erroneous transfers.* (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for -

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and -

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment and the provisions of paragraph (d) shall apply.

(f) *EFT and prompt payment.* A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) *EFT and assignment of claims.* If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall provide the EFT information required by paragraph (j) of this clause to the designated office, and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) *Liability for change of EFT information by financial agent.* The Government is not liable for errors resulting from changes to EFT information provided by the Contractor's financial agent.

(i) *Payment information.* The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address in the contract.

(j) *EFT information.* The Contractor shall provide the following information to the designated office. The Contractor may supply this data for this or multiple contracts (see paragraph (b) of this clause). The Contractor shall designate a single financial agent per contract capable of receiving and processing the EFT information using the EFT methods described in paragraph (c) of this clause.

- (1) The contract number (or other procurement identification number).
- (2) The Contractor's name and remittance address, as stated in the contract(s).
- (3) The signature (manual or electronic, as appropriate), title, and telephone number of the Contractor official authorized to provide this information.
- (4) The name, address, and 9-digit Routing Transit Number of the Contractor's financial

agent.

(5) The Contractor's account number and the type of account (checking, saving, or lockbox).

(6) If applicable, the Fedwire Transfer System telegraphic abbreviation of the Contractor's financial agent.

(7) If applicable, the Contractor shall also provide the name, address, telegraphic abbreviation, and 9-digit Routing Transit Number of the correspondent financial institution receiving the wire transfer payment if the Contractor's financial agent is not directly on-line to the Fedwire Transfer System; and, therefore, not the receiver of the wire transfer payment.

(End of clause)

I.5 52.252-2 Clauses Incorporated by Reference. (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es): Federal Acquisition Regulation (FAR) clauses:

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

NASA FAR Supplement (NFS) clauses:

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

(End of clause)

I.6 1852.204-76 Security Requirements For Unclassified Information Technology Resources (May 2007)

(a) The Contractor shall be responsible for information and information technology (IT) security when –
 (1) The Contractor or its subcontractors must obtain physical or electronic (i.e., authentication level 2 and above as defined in National Institute of Standards and Technology (NIST) Special Publication (SP) 800-63, Electronic Authentication Guideline) access to NASA's computer systems, networks, or IT infrastructure; or

(2) Information categorized as low, moderate, or high by the Federal Information Processing Standards (FIPS) 199, Standards for Security Categorization of Federal Information and Information Systems is stored, generated, processed, or exchanged by NASA or on behalf of NASA by a contractor or subcontractor, regardless of whether the information resides on a NASA or a contractor/subcontractor's information system.

(b) IT Security Requirements.

(1) Within 30 days after contract award, a Contractor shall submit to the Contracting Officer for NASA approval an IT Security Plan, Risk Assessment, and FIPS 199, Standards for Security Categorization of Federal Information and Information Systems, Assessment. These plans and assessments, including annual updates shall be incorporated into the contract as compliance documents.

(i) The IT system security plan shall be prepared consistent, in form and content, with NIST SP 800-18, Guide for Developing Security Plans for Federal Information Systems, and any additions/augmentations described in NASA Procedural Requirements (NPR) 2810, Security of Information Technology. The security plan shall identify and document appropriate IT security controls consistent with the sensitivity of the information and the requirements of Federal Information Processing Standards (FIPS)

200, Recommended Security Controls for Federal Information Systems. The plan shall be reviewed and updated in accordance with NIST SP 800-26, Security Self-Assessment Guide for Information Technology Systems, and FIPS 200, on a yearly basis.

(ii) The risk assessment shall be prepared consistent, in form and content, with NIST SP 800-30, Risk Management Guide for Information Technology Systems, and any additions/augmentations described in NPR 2810. The risk assessment shall be updated on a yearly basis.

(iii) The FIPS 199 assessment shall identify all information types as well as the "high water mark," as defined in FIPS 199, of the processed, stored, or transmitted information necessary to fulfill the contractual requirements.

(2) The Contractor shall produce contingency plans consistent, in form and content, with NIST SP 800-34, Contingency Planning Guide for Information Technology Systems, and any additions/augmentations described in NPR 2810. The Contractor shall perform yearly "Classroom Exercises." "Functional Exercises," shall be coordinated with the Center CIOs and be conducted once every three years, with the first conducted within the first two years of contract award. These exercises are defined and described in NIST SP 800-34.

(3) The Contractor shall ensure coordination of its incident response team with the NASA Incident Response Center (NASIRC) and the NASA Security Operations Center, ensuring that incidents are reported consistent with NIST SP 800-61, Computer Security Incident Reporting Guide, and the United States Computer Emergency Readiness Team's (US-CERT) Concept of Operations for reporting security incidents. Specifically, any confirmed incident of a system containing NASA data or controlling NASA assets shall be reported to NASIRC within one hour that results in unauthorized access, loss or modification of NASA data, or denial of service affecting the availability of NASA data.

(4) The Contractor shall ensure that its employees, in performance of the contract, receive annual IT security training in NASA IT Security policies, procedures, computer ethics, and best practices in accordance with NPR 2810 requirements. The Contractor may use web-based training available from NASA to meet this requirement.

(5) The Contractor shall provide NASA, including the NASA Office of Inspector General, access to the Contractor's and subcontractors' facilities, installations, operations, documentation, databases, and personnel used in performance of the contract. Access shall be provided to the extent required to carry out IT security inspection, investigation, and/or audits to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA information or to the function of computer systems operated on behalf of NASA, and to preserve evidence of computer crime. To facilitate mandatory reviews, the Contractor shall ensure appropriate compartmentalization of NASA information, stored and/or processed, either by information systems in direct support of the contract or that are incidental to the contract.

(6) The Contractor shall ensure that system administrators who perform tasks that have a material impact on IT security and operations demonstrate knowledge appropriate to those tasks. Knowledge is demonstrated through the NASA System Administrator Security Certification Program. A system administrator is one who provides IT services (including network services, file storage, and/or web services) to someone other than themselves and takes or assumes the responsibility for the security and administrative controls of that service. Within 30 days after contract award, the Contractor shall provide to the Contracting Officer a list of all system administrator positions and personnel filling those positions, along with a schedule that ensures certification of all personnel within 90 days after contract award. Additionally, the Contractor should report all personnel changes which impact system administrator positions within 5 days of the personnel change and ensure these individuals obtain System Administrator certification within 90 days after the change.

(7) The Contractor shall ensure that NASA's Sensitive But Unclassified (SBU) information as defined in NPR 1600.1, NASA Security Program Procedural Requirements, which includes privacy information, is encrypted in storage and transmission.

(8) When the Contractor is located at a NASA Center or installation or is using NASA IP address space, the Contractor shall --

(i) Submit requests for non-NASA provided external Internet connections to the Contracting Officer for approval by the Network Security Configuration Control Board (NSCCB);

(ii) Comply with the NASA CIO metrics including patch management, operating systems and application configuration guidelines, vulnerability scanning, incident reporting, system administrator certification, and security training; and

(iii) Utilize the NASA Public Key Infrastructure (PKI) for all encrypted communication or non-repudiation requirements within NASA when secure email capability is required.

(c) Physical and Logical Access Requirements.

(1) Contractor personnel requiring access to IT systems operated by the Contractor for NASA or interconnected to a NASA network shall be screened at an appropriate level in accordance with NPR 2810 and Chapter 4, NPR 1600.1, NASA Security Program Procedural Requirements. NASA shall provide screening, appropriate to the highest risk level, of the IT systems and information accessed, using, as a minimum, National Agency Check with Inquiries (NACI). The Contractor shall submit the required forms to the NASA Center Chief of Security (CCS) within fourteen (14) days after contract award or assignment of an individual to a position requiring screening. The forms may be obtained from the CCS. At the option of NASA, interim access may be granted pending completion of the required investigation and final access determination. For Contractors who will reside on a NASA Center or installation, the security screening required for all required access (e.g., installation, facility, IT, information, etc.) is consolidated to ensure only one investigation is conducted based on the highest risk level. Contractors not residing on a NASA installation will be screened based on their IT access risk level determination only. See NPR 1600.1, Chapter 4.

(2) Guidance for selecting the appropriate level of screening is based on the risk of adverse impact to NASA missions. NASA defines three levels of risk for which screening is required (IT-1 has the highest level of risk).

(i) IT-1 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause very serious adverse impact to NASA missions. These systems include, for example, those that can transmit commands directly modifying the behavior of spacecraft, satellites or aircraft.

(ii) IT-2 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause serious adverse impact to NASA missions. These systems include, for example, those that can transmit commands directly modifying the behavior of payloads on spacecraft, satellites or aircraft; and those that contain the primary copy of "level 1" information whose cost to replace exceeds one million dollars.

(iii) IT-3 -- Individuals having privileged access or limited privileged access to systems whose misuse can cause significant adverse impact to NASA missions. These systems include, for example, those that interconnect with a NASA network in a way that exceeds access by the general public, such as bypassing firewalls; and systems operated by the Contractor for NASA whose function or information has substantial cost to replace, even if these systems are not interconnected with a NASA network.

(3) Screening for individuals shall employ forms appropriate for the level of risk as established in Chapter 4, NPR 1600.1.

(4) The Contractor may conduct its own screening of individuals requiring privileged access or limited privileged access provided the Contractor can demonstrate to the Contracting Officer that the procedures used by the Contractor are equivalent to NASA's personnel screening procedures for the risk level assigned for the IT position.

(5) Subject to approval of the Contracting Officer, the Contractor may forgo screening of Contractor personnel for those individuals who have proof of a --

(i) Current or recent national security clearances (within last three years);

(ii) Screening conducted by NASA within the last three years that meets or exceeds the screening requirements of the IT position; or

(iii) Screening conducted by the Contractor, within the last three years, that is equivalent to the NASA personnel screening procedures as approved by the Contracting Officer and concurred on by the CCS.

(d) The Contracting Officer may waive the requirements of paragraphs (b) and (c)(1) through (c)(3) upon request of the Contractor. The Contractor shall provide all relevant information requested by the Contracting Officer to support the waiver request.

(e) The Contractor shall contact the Contracting Officer for any documents, information, or forms necessary to comply with the requirements of this clause.

(f) At the completion of the contract, the contractor shall return all NASA information and IT resources provided to the contractor during the performance of the contract and certify that all NASA information has been purged from contractor-owned systems used in the performance of the contract.

(g) The Contractor shall insert this clause, including this paragraph (g), in all subcontracts

(1) Have physical or electronic access to NASA's computer systems, networks, or IT infrastructure; or

(2) Use information systems to generate, store, process, or exchange data with NASA or on behalf of NASA, regardless of whether the data resides on a NASA or a contractor's information system.
 (End of clause)

I.7 1852.215-84 Ombudsman. (OCT 2003)

(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, Melanie Saunders

2101 NASA Parkway
 Houston, TX 77058
 Office - (281) 483-0490
 Fax - (281) 483-2200

melanie.saunders-1@nasa.gov. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Director of the Contract Management Division, at 202-358-0445, facsimile 202-358-3083, e-mail james.a.balinskas@nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(End of clause)

I.8 1852.219-76 NASA 8 Percent Goal. (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 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.9 1852.237-73 Release of Sensitive Information. (JUN 2005)

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

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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)

[END OF SECTION]

SECTION J - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

LIST OF ATTACHMENTS

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

- J.1** Data Requirements List (DRL)
- J.2** DRD 1 - Acceptance Test Procedures
- J.3** DRD 2 - Acceptance Test Data Package
- J.4** DRD 3 - End-Item Drawings
- J.5** DRD 4 - End-Item Development Plan Schedule and Status

(End of Clause)

[END OF SECTION]

JSC DATA REQUIREMENTS LIST (DRL)

(Based on JSC-STD-123)

a. Title of Contract, Project, SOW, etc.		b. Contract/RFP No.			c. DRL Date/Mod Date	
1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies	7. Date
1	Acceptance Test Procedures	AR		See block 9	REPRO	n/a
7. Data type:						
<input type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal 8. Distribution (Continue on a blank sheet if needed)		9. Remarks 3. Drafting and Final as required receiving NASA signature. 5. Prior to Acceptance Testing of each end item.				
1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies	7. Date
2	Acceptance Test Data Package	AR		See block 9	REPRO	n/a
7. Data type:						
<input type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal 8. Distribution (Continue on a blank sheet if needed)		9. Remarks 5. Prior to delivery of each end item.				
1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies	7. Date
3	End-item Drawings	See block 9		See block 9	REPRO	n/a
7. Data type:						
<input type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal 8. Distribution (Continue on a blank sheet if needed)		9. Remarks 3. Drafting required at Design Review, and final as required for each end item prior to end item fabrication start. Fabrication start requires NASA concurrence. 5. Drafting prior to Design Review, and final prior to fabrication.				
1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies	7. Date
4	End-item Development Plan Schedule and Status	AR		See block 9	REPRO	n/a
7. Data type:						
<input type="checkbox"/> (1) Written approval <input checked="" type="checkbox"/> (2) Mandatory Submittal 8. Distribution (Continue on a blank sheet if needed)		9. Remarks 5. Summary development tasks and schedule to be provided for each end item NLT 30 days after each end item purchase order execution.				

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title Acceptance Test Procedures	2. Current Version Date	3. DRL Line Item No. 1	RFP/Contract No. (Procurement completes) —
4. Use (Define need for, intended use of, and/or anticipated results of data) To provide a description of the Contractor's approach for verifying that the end item satisfies the requirements			
5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional)		7. Interrelationships (e.g., with other DRDs) (Optional)	
8. Preparation Information (Include complete instructions for document preparation)			

Scope

This DRD establishes the requirements for the preparation and maintenance of the Acceptance Test Procedures (ATP).

Content

The ATP shall include the following as a minimum:

- a. Descriptions of inspection and test requirements and procedures for each contract line item. The Contractor may utilize the sample matrix format included in this DRD or utilize an existing format.
- b. Tabulation of any verification requirements identified by the Contractor in addition to those already provided in the End Item Specification. These shall be incorporated in the matrix and appropriate cross references provided.
- c. Plan for acceptance checkout of the end item including a description of proposed checkout.
- d. Proposed schedules for the development, acceptance and demonstration programs.
- e. Description of type, quantity and format of data to be acquired in the verification process.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

Performance and Design Verification Matrix

Nomenclature

T = TEST
A = ANALYSIS

I = INSPECTION N/A = NOT APPLICABLE
S = SIMILARITY

Section 3 - Requirements

Section 4 - Verification

Paragraph
Number

Section
Title

Method

Paragraph
Number

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title Acceptance Test Data Package	2. Current Version Date	3. DRL Line Item No. 2	RFP/Contract No. (Procurement completes) —
4. Use (Define need for, intended use of, and/or anticipated results of data) The Acceptance Test Data Package will provide verifications of all test and inspection prior to the time of delivery of the end item			
5. DRD Category: (check one) <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional)		7. Interrelationships (e.g., with other DRDs) (Optional)	
8. Preparation Information (Include complete instructions for document preparation)			

The purpose of this instruction is to provide guidance and establish the minimum requirements for the Acceptance Test Data Package (ATDP). The ATDP shall be delivered and approved by NASA prior to delivery of each functional end item.

The ATDP shall be documented to contain information necessary to assist the using organization in controlling, verifying, status, and using the equipment. The Contractor can use its own standard format or utilize the sample format below.

A. Title Page - The cover page of the deliverable data package will identify the item being delivered as follows:

1. Deliverable end item name, number and serial number.
2. Model number (if applicable).
3. Contract number (if applicable).
4. Contractor/supplier name (if applicable).

B. Test records, verification / inspection result and failure reports.

C. Waiver/Deviation Record - NASA approved waivers and deviations to the contract authorizing hardware delivery with existing variations, as applicable to the physical/functional parameters of the item being delivered (i.e. form, fit, function).

1. Deliverable end item part number/serial number.
2. Waiver/deviation number and, if applicable, affected part number and serial number.
3. A copy of actual waiver/deviation document with detailed description and contract authority

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title End-item Drawings	2. Current Version Date	3. DRL Line Item No. 3	RFP/Contract No. (Procurement completes) —
4. Use (Define need for, intended use of, and/or anticipated results of data) To provide detailed documentation of hardware designs developed for specific requirements and applications			
5. DRD Category: <i>(check one)</i> <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References <i>(Optional)</i>		7. Interrelationships <i>(e.g., with other DRDs) (Optional)</i>	
8. Preparation Information (Include complete instructions for document preparation)			

Content and Format

The end-item drawings shall include the following as a minimum prior to start of manufacturing:

- a. Engineering drawings shall be prepared in accordance with the requirements of ASME Y14.5M-1994 (or equivalent requirements) with the following exceptions:
 1. Formal signoff by the government on engineering drawings shall not be required.
 2. Information required by these specifications on drawings or associated lists shall not be duplicated if identified or required by other deliverable documentation, but appropriate reference shall be provided for the information.
- b. Drawings prepared for development and/or non-flight items (not including ground support equipment) shall be prepared to a lesser design disclosure level of detail.
- c. Top level drawings shall depict the following
 - Electrical interface specification (if applicable) such as connector pin assignment, or wiring assignment.
 - Mechanical interface specification such as mounting holes, or fastener inserts.
 - Power output specification (if applicable) such as speed-torque curve and stall torque
 - Environment limitations (if applicable) such as operating and non-operating temperature ranges.

The Contractor may use any software package for the development and maintenance of engineering drawings. However, any copies of engineering drawings delivered to the government shall be submitted in an electronic format in addition to the required hard copies. Each assembly or part drawing shall be accompanied by a 3 dimensional CAD model in a universal format like IGES to provide a solid representation of the overall dimensions of each procured item along with any interface features such as mounting holes.

Maintenance

The Contractor shall establish and maintain the following:

- a. A drawing change revision history file that provides the following data elements as a minimum:
 1. Applicable drawing number

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

2. All authorized released ancillary change documents
 3. All drawing change revisions (letters)
- b. Changes and/or updating of drawings for the end item shall be accomplished by the Contractor's internal system or procedures and approved configuration management plan. Ancillary change documents shall be incorporated into the drawings prior to delivery of the baseline drawing set.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123)

1. DRD Title	2. Current Version Date	3. DRL Line Item No. 4	RFP/Contract No. (Procurement completes)
End-item Development Plan Schedule and Status			—
4. Use (Define need for, intended use of, and/or anticipated results of data) To identify and document the Primary and Secondary Development Plan items and associated development schedule for each end item.			
5. DRD Category: (check one) <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA			
6. References (Optional)		7. Interrelationships (e.g., with other DRDs) (Optional)	
8. Preparation Information (Include complete instructions for document preparation)			

Scope

To provide a summary of End Item Development tasks and an associated tasks development schedule with at least once monthly updates.

Contents

The schedules shall identify, as a minimum, the following applicable information:

1. Specified End Item
2. Summary WBS for major development tasks with estimated start and completion dates

Format

Reporting format should be in an industry standard task based scheduling format, like MS Project or other compatible file type.

SECTION K - REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS

K.1 CLAUSES INCORPORATED BY REFERENCE

52.222-38 Compliance with Veterans' Employment Reporting Requirements. (DEC 2001)

52.203-11 Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. (SEP 2007)

K.2 52.203-2 Certificate of Independent Price Determination. (APR 1985)

(a) The offeror certifies that -

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to -

(i) Those prices;

(ii) The intention to submit an offer; or

(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision [*insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization*];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) of this provision have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

K.3 52.204-5 Women-Owned Business (Other Than Small Business). (MAY 1999)

(a) *Definition.* "Women-owned business concern," as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) *Representation.* [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it * is a women-owned business concern.

(End of provision)

K.4 52.204-8 Annual Representations and Certifications. (FEB 2009)

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

(2) The small business size standard is [insert size standard].

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

(b)(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

(i) Paragraph (d) applies.

(ii) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c)(1) The following representations or certifications in ORCA are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless--

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

- (C) The solicitation is for utility services for which rates are set by law or regulation.
- (ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed \$100,000.
- (iii) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the clause at 52.204-7, Central Contractor Registration.
- (iv) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that--
- (A) Are not set aside for small business concerns;
 - (B) Exceed the simplified acquisition threshold; and
 - (C) Are for contracts that will be performed in the United States or its outlying areas.
- (v) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.
- (vi) 52.214-14, Place of Performance--Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.
- (vii) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.
- (viii) 52.219-1, Small Business Program Representations (Basic & Alternate I). This provision applies to solicitations when the contract will be performed in the United States or its outlying areas.
- (A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.
 - (B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.
- (ix) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract will be performed in the United States or its outlying areas.
- (x) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.
- (xi) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.
- (xii) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the

contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial items.

(xiii) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xiv) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA-designated items.

(xv) 52.225-2, Buy American Act Certificate. This provision applies to solicitations containing the clause at 52.225-1.

(xvi) 52.225-4, Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate. (Basic, Alternate I, and Alternate II) This provision applies to solicitations containing the clause at 52.225-3.

(A) If the acquisition value is less than \$25,000, the basic provision applies.

(B) If the acquisition value is \$25,000 or more but is less than \$50,000, the provision with its Alternate I applies.

(C) If the acquisition value is \$50,000 or more but is less than \$67,826, the provision with its Alternate II applies.

(xvii) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xviii) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan--Certification.

(xix) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to--

(A) Solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions; and

(B) For DoD, NASA, and Coast Guard acquisitions, solicitations that contain the clause at 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns.

(2) The following certifications are applicable as indicated by the Contracting Officer:

(Contracting Officer check as appropriate.)

(i) 52.219-19, Small Business Concern Representation for the Small Business Competitiveness Demonstration Program.

(ii) 52.219-21, Small Business Size Representation for Targeted Industry Categories Under the Small Business Competitiveness Demonstration Program.

(iii) 52.219-22, Small Disadvantaged Business Status.

(A) Basic.

(B) Alternate I.

(iv) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

(v) 52.222-48, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment Certification.

(vi) 52.222-52 Exemption from Application of the Service Contract Act to Contracts for Certain Services--Certification.

(vii) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

(viii) 52.223-13, Certification of Toxic Chemical Release Reporting.

(ix) 52.227-6, Royalty Information.

(A) Basic.

(B) Alternate I.

(x) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below (offeror to insert changes, identifying change by clause number, title, date). These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change
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Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of Provision)

K.5 52.207-4 Economic Purchase Quantity - Supplies. (AUG 1987)

(a) Offerors are invited to state an opinion on whether the quantity(ies) of supplies on which bids, proposals or quotes are requested in this solicitation is (are) economically advantageous to the Government.

(b) Each offeror who believes that acquisitions in different quantities would be more advantageous is invited to recommend an economic purchase quantity. If different quantities are recommended, a total and a unit price must be quoted for applicable items. An economic purchase quantity is that quantity at which a significant price break occurs. If there are significant price breaks at different quantity points, this information is desired as well.

Offeror Recommendations

Item	Quantity	Price	Total Quotation
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(c) The information requested in this provision is being solicited to avoid acquisitions in disadvantageous quantities and to assist the Government in developing a data base for future acquisitions of these items. However, the Government reserves the right to amend or cancel the solicitation and resolicit with respect to any individual item in the event quotations received and the Government's requirements indicate that different quantities should be acquired.

(End of provision)

K.6 52.209-5 Certification Regarding Responsibility Matters. (DEC 2008)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that -

(i) The Offeror and/or any of its Principals -

(A) Are are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have have not , within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating Federal criminal tax laws, or receiving stolen property;

(C) Are are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision; and

(D) Have , have not , within a three-year period preceding this offer, been notified of any delinquent Federal taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied.

(1) Federal taxes are considered delinquent if both of the following criteria apply:

(i) The tax liability is finally determined. The liability is finally determined if it has been assessed. A liability is not finally determined if there is a pending administrative or judicial challenge. In the case of a judicial challenge to the liability, the liability is not finally determined until all judicial appeal rights have been

exhausted.

(ii) The taxpayer is delinquent in making payment. A taxpayer is delinquent if the taxpayer has failed to pay the tax liability when full payment was due and required. A taxpayer is not delinquent in cases where enforced collection action is precluded.

(2) Examples. (i) The taxpayer has received a statutory notice of deficiency, under I.R.C. Sec. 6212, which entitles the taxpayer to seek Tax Court review of a proposed tax deficiency. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek Tax Court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(ii) The IRS has filed a notice of Federal tax lien with respect to an assessed tax liability, and the taxpayer has been issued a notice under I.R.C. Sec. 6320 entitling the taxpayer to request a hearing with the IRS Office of Appeals contesting the lien filing, and to further appeal to the Tax Court if the IRS determines to sustain the lien filing. In the course of the hearing, the taxpayer is entitled to contest the underlying tax liability because the taxpayer has had no prior opportunity to contest the liability. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek tax court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(iii) The taxpayer has entered into an installment agreement pursuant to I.R.C. Sec. 6159. The taxpayer is making timely payments and is in full compliance with the agreement terms. The taxpayer is not delinquent because the taxpayer is not currently required to make full payment.

(iv) The taxpayer has filed for bankruptcy protection. The taxpayer is not delinquent because enforced collection action is stayed under 11 U.S.C. 362 (the Bankruptcy Code).

(ii) The Offeror has [] has not [], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principal," for the purposes of this certification, means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment; and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the

Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

K.7 52.215-6 Place of Performance. (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, [] intends, [] does not intend [*check applicable block*] to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks intends in paragraph (a) of this provision, it shall insert in the following spaces the required information:

Place of Performance (Street Address, City, State, County, Zip Code) Offeror or Respondent	Name and Address of Owner and Operator of the Plant or Facility if Other than Offeror or Respondent
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(End of provision)

K.8 52.219-1 Small Business Program Representations. (MAY 2004) - Alternate I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 334417.

(2) The small business size standard is 500 respectively.

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

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

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

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

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

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

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

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

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

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

_____ Black American.

_____ Hispanic American.

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

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

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

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

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

Service-disabled veteran-owned small business concern -

(1) Means a small business concern -

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(End of provision)

K.9 52.222-22 Previous Contracts and Compliance Reports. (FEB 1999)

The offeror represents that -

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

(b) It [] has, [] has not filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed

subcontractors, will be obtained before subcontract awards.

(End of provision)

K.10 52.222-25 Affirmative Action Compliance. (APR 1984)

The offeror represents that -

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

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

(End of provision)

K.11 52.223-13 Certification of Toxic Chemical Release Reporting. (AUG 2003)

(a) Executive Order 13148, of April 21, 2000, Greening the Government through Leadership in Environmental Management, requires submission of this certification as a prerequisite for contract award.

(b) By signing this offer, the offeror certifies that -

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: *(Check each block that is applicable.)*

___ (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

___ (ii) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

___ (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

___ (iv) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(A) Major group code 10 (except 1011, 1081, and 1094.

(B) Major group code 12 (except 1241).

(C) Major group codes 20 through 39.

(D) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(E) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

___ (v) The facility is not located in the United States or its outlying areas.

(End of provision)

K.12 52.225-2 Buy American Act - Certificate. (FEB 2009)

(a) The offeror certifies that each end product, except those listed in paragraph (b) of this provision, is a domestic end product and that for other than COTS items, the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products, i.e., an end product that is not a COTS item and does not meet the component test in paragraph (2) of the definition of "domestic end product." The terms "commercially available off-the-shelf (COTS) item," "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American Act--Supplies."

(b) Foreign End Products:

Line Item No	Country of Origin
_____	_____
_____	_____
_____	_____

(List as necessary)

(c) The Government will evaluate offers in accordance with the policies and procedures of Part 25 of the Federal Acquisition Regulation.

(End of provision)

K.13 52.225-20 Prohibition on Conducting Restricted Business Operations in Sudan--Certification. (AUG 2009)

(a) Definitions. As used in this provision--

"Business operations" means engaging in commerce in any form, including by acquiring, developing, maintaining, owning, selling, possessing, leasing, or operating equipment, facilities, personnel, products, services, personal property, real property, or any other apparatus of business or commerce.

"Marginalized populations of Sudan" means--

(1) Adversely affected groups in regions authorized to receive assistance under section 8(c)

of the Darfur Peace and Accountability Act (Pub. L. 109-344) (50 U.S.C. 1701 note); and

(2) Marginalized areas in Northern Sudan described in section 4(9) of such Act.

"Restricted business operations" means business operations in Sudan that include power production activities, mineral extraction activities, oil-related activities, or the production of military equipment, as those terms are defined in the Sudan Accountability and Divestment Act of 2007 (Pub. L. 110-174). Restricted business operations do not include business operations that the person (as that term is defined in Section 2 of the Sudan Accountability and Divestment Act of 2007) conducting the business can demonstrate--

(1) Are conducted under contract directly and exclusively with the regional government of southern Sudan;

(2) Are conducted pursuant to specific authorization from the Office of Foreign Assets Control in the Department of the Treasury, or are expressly exempted under Federal law from the requirement to be conducted under such authorization;

(3) Consist of providing goods or services to marginalized populations of Sudan;

(4) Consist of providing goods or services to an internationally recognized peacekeeping force or humanitarian organization;

(5) Consist of providing goods or services that are used only to promote health or education; or

(6) Have been voluntarily suspended.

(b) Certification. By submission of its offer, the offeror certifies that the offeror does not conduct any restricted business operations in Sudan.

(End of provision)

K.14 52.227-15 Representation of Limited Rights Data and Restricted Computer Software. (DEC 2007)

(a) This solicitation sets forth the Government's known delivery requirements for data (as defined in the clause at 52.227-14, Rights in Data--General). Any resulting contract may also provide the Government the option to order additional data under the Additional Data Requirements clause at 52.227-16, if included in the contract. Any data delivered under the resulting contract will be subject to the Rights in Data--General clause at 52.227-14 included in this contract. Under the latter clause, a Contractor may withhold from delivery data that qualify as limited rights data or restricted computer software, and deliver form, fit, and function data instead. The latter clause also may be used with its Alternates II and/or III to obtain delivery of limited rights data or restricted computer software, marked with limited rights or restricted rights notices, as appropriate. In addition, use of Alternate V with this latter clause provides the Government the right to inspect such data at the Contractor's facility.

(b) By completing the remainder of this paragraph, the offeror represents that it has reviewed the requirements for the delivery of technical data or computer software and states (offeror check appropriate block)--

None of the data proposed for fulfilling the data delivery requirements qualifies as limited rights data or restricted computer software; or

Data proposed for fulfilling the data delivery requirements qualify as limited rights data or restricted

computer software and are identified as follows:

(c) Any identification of limited rights data or restricted computer software in the offeror's response is not determinative of the status of the data should a contract be awarded to the offeror.

(End of provision)
[END OF SECTION]

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

L.1 52.214-34 Submission of Offers in the English Language. (APR 1991)

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

(End of provision)

L.2 52.215-1 Instructions to Offerors - Competitive Acquisition. (JAN 2004)

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

Discussions are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

In writing, writing, or written means any worded or numbered expression that can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

Proposal modification is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

Proposal revision is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

Time, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) *Amendments to solicitations.* If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) *Submission, modification, revision, and withdrawal of proposals.* (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show -

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses

if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) *Submission, modification, revision, and withdrawal of proposals.* (i) Offerors are responsible for submitting proposals, and any modifications or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is late and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and -

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) *Offer expiration date.* Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) *Restriction on disclosure and use of data.* Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall -

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed - in whole or in part - for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of - or in connection with - the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets (*insert numbers or other identification of sheets*); and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) *Contract award.* (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting

Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:

(i) The agency's evaluation of the significant weak or deficient factors in the debriefed offeror's offer.

(ii) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.

(iii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.

(iv) A summary of the rationale for award.

(v) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(vi) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

(End of provision)

L.3 52.216-1 Type of Contract. (APR 1984)

The Government contemplates award of a Firm Fixed Price Contract resulting from this solicitation.

(End of provision)

L.4 52.232-38 Submission of Electronic Funds Transfer Information with Offer. (MAY 1999)

The offeror shall provide, with its offer, the following information that is required to make payment by electronic funds transfer (EFT) under any contract that results from this solicitation. This submission satisfies the requirement to provide EFT information under paragraphs (b)(1) and (j) of the clause at 52.232-34, Payment by Electronic Funds Transfer - Other than Central Contractor Registration.

- (1) The solicitation number (or other procurement identification number).
- (2) The offeror's name and remittance address, as stated in the offer.
- (3) The signature (manual or electronic, as appropriate), title, and telephone number of the offeror's official authorized to provide this information.
- (4) The name, address, and 9-digit Routing Transit Number of the offeror's financial agent.
- (5) The offeror's account number and the type of account (checking, savings, or lockbox).
- (6) If applicable, the Fedwire Transfer System telegraphic abbreviation of the offeror's financial agent.
- (7) If applicable, the offeror shall also provide the name, address, telegraphic abbreviation, and 9-digit Routing Transit Number of the correspondent financial institution receiving the wire transfer payment if the offeror's financial agent is not directly on-line to the Fedwire and, therefore, not the receiver of the wire transfer payment.

(End of provision)

L.5 52.233-2 Service of Protest. (SEP 2006)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Adrian D. Clayton, 1100 NASA Parkway, Ste 600, Houston, TX 77058

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

(End of provision)

L.6 52.252-1 Solicitation Provisions Incorporated by Reference. (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es): Federal Acquisition Regulation (FAR) clauses:

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

NASA FAR Supplement (NFS) clauses:

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

(End of provision)

L.7 1852.227-84 Patent Rights Clauses (DECEMBER 1989)

This solicitation contains the patent rights clauses of FAR 52.227-11 (as modified by the NFS) and NFS 1852.227-70. If the contract resulting from this solicitation is awarded to a small business or nonprofit organization, the clause at NFS 1852.227-70 shall not apply. If the award is to other than a small business or nonprofit organization, the clause at FAR 52.227-11 shall not apply.

(End of provision)

L.8 1852.233-70 Protests to NASA. (OCT 2002)

Potential bidders or offerors may submit a protest under 48 CFR Part 33 (FAR Part 33) directly to the Contracting Officer. As an alternative to the Contracting Officer's consideration of a protest, a potential bidder or offeror may submit the protest to the Assistant Administrator for Procurement, who will serve as or designate the official responsible for conducting an independent review. Protests requesting an independent review shall be addressed to Assistant Administrator for Procurement, NASA Code H, Washington, DC 20546-0001.

(End of provision)

L.9 COMMUNICATIONS REGARDING THIS SOLICITATION

(a) Questions or comments regarding this solicitation must be submitted in writing, cite the solicitation number, and be directed to the following Government representative:

Name: Adrian D. Clayton

FAX: (281) 244-5331

Email: adrian.d.clayton@nasa.gov

Address: 2101 NASA Parkway
Houston, TX 77058

Oral questions will not be answered due to the possibility of misunderstanding or misinterpretation.

(b) Questions or comments should be submitted to adrian.d.clayton@nasa.gov by COB September 16, 2009, to allow for analysis and dissemination of responses in advance of the proposal due date. Late questions or comments are not guaranteed a response prior to the proposal due date.

(c) Questions or comments shall not be directed to the technical activity personnel.

(End of provision)

L.10 SOLICITATION SPECIFIC ADDITIONAL PROVISION ONE

52.215-109 Proposal Marking and Delivery (JUN 2007) (JSC Procurement Instruction)

(a) Methods of Proposal Delivery

Proposals shall be delivered to the designated proposal receiving office by one of the following methods:

- U.S. Postal Service
- Commercial Delivery Service
- Delivery by company employee or other individual agent

Regardless of the method of delivery chosen, the offeror is responsible for delivery of the proposal to the designated receiving office no later than the date and time stated on the Standard Form 26, 33, 1442 etc. of the solicitation.

(b) External Marking of Proposal Package(s)

All proposal packages must be closed, sealed, and marked in large letters PROPOSAL DELIVER UNOPENED. Proposals packages must include the solicitation number, the contracting officers name, mail code/stop, and the offerors name and address clearly marked on the outside of the package.

The offeror shall include a notice on the cover of the proposal package as follows:

NOTICE: THIS PROPOSAL MUST BE DELIVERED TO THE SPECIFIED ADDRESS NO LATER THAN (OFFEROR ENTER DATE AND TIME).

(c) Delivery Address

Proposals must be delivered to the address/location specified on the Standard form 26, 33, 1442, etc. of the solicitation.

Proposals submitted by commercial delivery service or hand carried packages must be delivered to:

NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77050-3696
Central Receiving, Bldg 421

JSC Central Receiving can only be accessed through JSC Gate 4, which is located off Space Center Boulevard. Offerors are cautioned that the delivery process may require an hour or more for packages to be screened through security and subsequently transported and delivered by the Offeror at the designated building while being accompanied by an employee of the U.S. Government. After 1:30 p.m., local time, incoming packages cannot be screened until the following business day. Any attempt by an Offeror to deliver a proposal on a weekend or a Federal holiday shall be coordinated through the Contracting Officer at least 48 hours prior to the planned delivery date. The Offeror is encouraged to notify the Contracting Officer one day in advance of the proposal submission.

(End of provision)

(End of provision)

L.11 SOLICITATION SPECIFIC ADDITIONAL PROVISION TWO

52.215-112 COMBINATION OF LOWEST PRICED TECHNICALLY ACCEPTABLE AND TRADE-OFF OF OTHER NON-COST RELATED FACTORS AND COST OR PRICE PROPOSAL INSTRUCTIONS. (OCT 2006)

This procurement shall be conducted utilizing a combination of technically acceptable baseline requirements and tradeoff of predefined qualitative value characteristics; past performance; and cost/price. The Government seeks to select an offeror whose proposal represents the best value after evaluation. The Government requirements are stated as baseline requirements (minimum government needs). Predefined qualitative characteristics beyond the baseline will serve as the discriminators among technically acceptable offers. All offers will be evaluated against the specifications/statement of work included in Section C of the RFP. All technically acceptable offerors will be evaluated against past performance and the qualitative characteristics.

An initial review will be conducted to determine acceptability of the proposals. All unacceptable proposals will be eliminated from further evaluation. The Government has the option, depending on the specific circumstances of the offers received, to utilize one of the following methods: (1) make selection and award without discussions (Offerors may be contacted only for clarification purposes); or (2) after discussions with all acceptable offerors in the competitive range, afford each offeror an opportunity to revise its offer, and then make selection.

Technical acceptability, past performance, and predefined qualitative value characteristics are discussed in detail below.

1. Technical Acceptability

The proposal must demonstrate that the offered items(s)/services(s) meet the baseline requirement. The Government baseline requirement is made up of the specification/statement of work included in this solicitation.

- When addressing the SOW, offerors shall submit information in their proposals in response to the items set forth below. In addition to responding to these items, offerors should include in their proposals:
 - any additional information that demonstrates their understanding of the work and their ability to perform it.
 - information which demonstrates your understanding of the work to be performed. Your discussion should include identification and proposed resolution of any potential problems likely to be encountered during contract performance
 - information showing that your proposed approach is likely to result in products which will satisfy the requirements of the statement of work. Such information should include, by way of example and as appropriate, charts, graphs, and other pictorial or graphic information; and other supporting data.

2. Past Performance

The offeror shall provide information on a minimum of 3 past contracts, preferably with the Government and recent, listing contract number, contract value, agency name and point of contact (including address, telephone and fax numbers, and e-mail address, if available), what the contract was for, and status of the contract (current, terminated (if so, why), successfully completed). Offerors with no past performance shall state so. Offerors with no previous Government contracts shall so state.

3. Predefined Qualitative Value Characteristics

Offerors are required to meet the baseline requirements in their proposal. Furthermore, offerors must address the predefined qualitative value characteristic in their proposals. If a predefined qualitative value characteristic is not applicable to the offerors proposal, the offeror shall state so. Refer to Section M to see how the predefined qualitative value characteristic will be evaluated.
The following predefined qualitative value characteristics are applicable to this procurement:

- Contact size: The ability to maximize the contact size within the quadrax contact in the data connector beyond the baseline requirement as stated in parts (3.1.2) and (3.3.2) of Section C, Statement of Work.
- Impedance Tolerance: The ability to minimize the end to end impedance tolerance in the data connector below the baseline requirement as stated in parts (3.1.2) and (4.9.1.1) of Section C, Statement of Work.
- Data Transfer Rate: The ability to maximize the data transfer rate for the data connector beyond baseline requirement as stated in part (4.9.1.2) of Section C, Statement of Work.
- Demating force: the ability to minimize the demating force below baseline requirement as stated in part (4.8) of Section C, Statement of Work.
- Dimensions: The ability to minimize the overall volume of the connectors and back shells below the envelope dimensions as stated in part (3.6) of Section C, Statement of Work.
- Weight: The ability to minimize weight below the baseline requirement as stated in part (3.7.9) of Section C, Statement of Work.

4. Cost/Price:

The offeror shall provide a price to perform the work. This should include a cost estimate as part of the planned bill of materials for the delivery of the Umbilical Connectors and Backshells.

(End of provision)
[END OF SECTION]

SECTION M - EVALUATION FACTORS FOR AWARD

M.1 SOLICITATION SPECIFIC ADDITIONAL PROVISION ONE

Contract Evaluation Factors

EVALUATION FACTORS: Combination of Lowest Priced, Technically Acceptable, and Trade-off of Other Non-Cost Related Factors and Cost or Price Evaluation Criteria.

The Government will award a contract resulting from this solicitation to the offeror whose proposal represents the best value after evaluation. This procurement shall be conducted utilizing a combination of technically acceptable baseline requirements and a tradeoff of past performance, predefined qualitative value characteristics, and cost/price.

The following factors shall be used to evaluate offers:

1. Technical Acceptability
2. Past Performance
3. Predefined Qualitative Value Characteristics
4. Cost/Price

1. Technical Acceptability

The baseline shall be evaluated for the complete and adequate response to the SOW and the ability of the proposal design to meet the requirements. Technical acceptability will be rated as either meets requirements or does not meet requirements. Lack of clarity in a proposal or failure to provide adequate rationale or detail to support the approaches being proposed may be construed as a lack of understanding on the part of the offeror.

2. Past Performance

Past Performance indicates how well an Offeror performed on earlier work and can be a significant indicator of how well it can be expected to perform the work at hand. The Offeror's past performance including recent and relevant experience will be evaluated by the buying team as stated in Section IV, Provision 12, Part III. The evaluation will be based on information provided by Offerors in their proposals, information obtained by the buying team based on communications with listed references as well as any other information obtained independently by the buying team. If an Offeror has no past performance experience, it will be given a neutral rating.

Past Performance for the Offeror and major subcontractors will be evaluated using the following levels of confidence ratings:

Very High Level of Confidence

The Offeror's relevant past performance is of exceptional merit and is very highly pertinent to this acquisition; indicating exemplary performance in a timely, efficient, and economical manner; very minor (if any) problems with no adverse effect on overall performance. Based on the Offeror's performance record, there is a very high level of confidence that the Offeror will successfully perform the required effort.

High Level of Confidence

The Offeror's relevant past performance is highly pertinent to this acquisition; demonstrating very effective performance that would be fully responsive to contract requirements with contract requirements accomplished in a timely, efficient, and economical manner for the most part with only minor problems with

little identifiable effect on overall performance. Based on the Offeror's performance record, there is a high level of confidence that the Offeror will successfully perform the required effort

Moderate Level of Confidence

The Offeror's relevant past performance is pertinent to this acquisition, and it demonstrates effective performance; fully responsive to contract requirements; reportable problems, but with little identifiable effect on overall performance. Based on the Offeror's performance record, there is a moderate level of confidence that the Offeror will successfully perform the required effort.

Low Level of Confidence

The Offeror's relevant past performance is at least somewhat pertinent to this acquisition, and it meets or slightly exceeds minimum acceptable standards; adequate results; reportable problems with identifiable, but not substantial, effects on overall performance. Based on the Offeror's performance record, there is a low level of confidence that the Offeror will successfully perform the required effort. Changes to the Offeror's existing processes may be necessary in order to achieve contract requirements.

Very Low Level of Confidence

The Offeror's relevant past performance does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; problems in one or more areas which adversely affect overall performance. Based on the Offeror's performance record, there is a very low level of confidence that the Offeror will successfully perform the required effort.

Neutral

In the case of an Offeror without a record of relevant past performance or for whom information on past performance is not available, the Offeror may not be evaluated favorably or unfavorably on past performance [see FAR 15.305(a) (2) (ii) and (iv)].

3. Predefined Qualitative Value Characteristics (VC)

All technically acceptable offers will be judged against the qualitative characteristics. Only items specifically proposed as Qualitative Value Characteristics will be evaluated as such. The following Predefined Qualitative Value Characteristics are applicable to this procurement and will be evaluated and rated as Significant Value Added, Minimal Value Added, and No Value Added.

- Contact size: The ability to maximize the contact size within the quadrax contact in the data connector beyond the baseline requirement as stated in parts (3.1.2) and (3.3.3) of Section C, Statement of Work, the more value will be given.

- Impedance Tolerance: The ability to minimize the end to end impedance tolerance in the data connector below the baseline requirement as stated in parts (3.1.2) and (4.9.1.1) of Section C, Statement of Work, the more value will be given.

- Data Transfer Rate: The ability to maximize the data transfer rate for the data connector beyond baseline requirement as stated in part (4.9.1.2) of Section C, Statement of Work, the more value will be given.

- Demating Force: the ability to minimize the demating force below baseline requirement as stated in part (4.8) of Section C, Statement of Work, the more value will be given.

- Dimensions: The ability to minimize the overall volume of the connectors and back shells below the envelope dimensions as stated in part (3.6) of Section C, Statement of Work, the more value will be given.

- Weight: The ability to minimize weight below the baseline requirement as stated in parts (3.7.9.1) and (3.7.9.2) of Section C, Statement of Work, the more value will be given.

4. Cost/Price:

An evaluation of the proposed prices shall be performed.

Tradeoff Process

1. If all offers are of approximately equal merit, award will be made to the offeror with the lowest evaluated price.
2. The Government will consider awarding to an offeror with higher merit if the difference in price is commensurate with added value.
3. The Government will consider awarding to an offeror whose offer has lower merit if the price differential between it and other offers warrant doing so.

For those Offerors who are determined to be technically acceptable, tradeoffs will be made between predefined qualitative value characteristics, past performance, and price. Individually the predefined qualitative value characteristics are more important than past performance. Past performance is more important than price.

(End of provision)

[END OF SECTION]