

<b>Solicitation: NNM13449167Q</b> <b>Firm Fixed Price</b>	<b>Contract Administrator:</b> Betsy Anderson/ARCS
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**TERMS AND CONDITIONS OF SOLICITATION.**

**I. Delivery and Performance Requirements.**

**ADDITIONAL ITEM DESCRIPTION, SPECIFICATION, OR STATEMENT OF WORK:**

See Attachments:

1. Combined Synopsis/Solicitation: pages 1-5
2. Contract Clauses/Terms and Conditions: pages 6-17
3. Structural Aerospace Testing Load Control System Specification: pages J-1-1 thru J-1-15
4. Appendix A, Technical Hardware Specifications: pages A-1 thru A-4
5. Data Procurement Document (DPD): pages J-2-1 thru J-2-15
6. Solicitation Provisions: pages B1-B22

This order is a rated order under DPAS (15 CFR 700). The Rating for this order is DO-C9

Delivery Date – To Be Determined

Partial Delivery/Partial payment acceptable.\*

\*The contractor shall be paid upon acceptance of all deliverables described in the delivery schedule.

**II. Invoicing and Payment Information.**

The Contractor shall submit invoices as follows:

- (a) The original and two (2) copies of all invoices, with the exception of the final invoice, shall be sent directly to the payment office designated on the contract cover page at the address listed below. The last invoice, clearly marked "FINAL" on its face, shall be sent to the Contract Administration official designated on the contract cover page that will coordinate review and approval with the NASA Contracting Officer and assure transmission to the payment office once a determination has been made that all requirements of the contract have been met.
- (b) Payment on this contract will be made upon receipt and acceptance of deliverables.

**Invoices shall be submitted in triplicate to:**

NASA Shared Services Center (NSSC)  
 Financial Management Division (FMD) – Accounts Payable  
 Bldg 1111, C. Road  
 Stennis Space Center, MS 39529  
 Email: NSSC-AccountsPayable@nasa.gov  
 Fax: 866-209-5415  
 Fed Tax Exempt #: 63-0422638

TAX IDENTIFICATION NUMBER (TIN) MUST BE PROVIDED WITH THE INVOICE FOR PAYMENT

**III. Applicable Commercial Item (CI) Solicitation and Contract Clauses:**

This order is for a commercial item subject to the terms and conditions of FAR 52.212-4, Contract Terms and Conditions – Commercial Items (Feb 2012), incorporated by reference; FAR 52.212-5, Contract Terms and Conditions Required to Implement Statutes and Executive Orders, Commercial Items (Jan 2013) attached to this order; and any additional terms and conditions checked below or included as a Center specific requirement as addenda to 52.212-4.

**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 address: <http://procurement.nasa.gov/far/>.

**A. Federal Acquisition Regulation (48 CFR Chapter1) Clauses Incorporated by Reference:**

- 52.204-4 Printed or Copied Double-Sided on Postconsumer Fiber Content Paper. (May 2011)
- 52.247-34 FOB Destination (Nov 1991)

**B. NASA Federal Acquisition Regulation Supplement (48 CFR Chapter18) Clauses Incorporated by Reference:**

- 1852.223-75 Major Breach of Safety or Security (Feb 2002) with Alternate I. (Feb 2006)
- 1852.225-70 Export License (Feb 2000)

**C. Additional Commercial Item (CI) Solicitation/Contract Clauses in Full Text:**

**1852.215-84 Ombudsman (Nov 2011)**

- (a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the contracting officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the contracting officer for resolution.
- (b) If resolution cannot be made by the contracting officer, interested parties may contact the installation ombudsman, whose name, address, telephone number, facsimile number, and email address may be found at:  
[http://prod.nais.nasa.gov/pub/pub\\_library/Omb.html](http://prod.nais.nasa.gov/pub/pub_library/Omb.html). Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the Agency ombudsman identified at the above URL. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(End of Clause)

**1852.216-78 Firm Fixed Price (Dec 1988)**

The total firm fixed price of this contract is \$ **TO BE DETERMINED.**

(End of Clause)

**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)

### **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)

**1852.237-73 Release of Sensitive Information (June 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: N/A

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 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)

### **52.212-3 Offeror Representations and Certifications-Commercial Items (Apr 2012)**

Offeror Representations and Certifications, as completed by the Contractor are hereby Incorporated in their entirety by reference, with the same force and effect as if they were given in Full text. Vendors are required to register their company's information into the SAM data base through the CCR web-site at <https://www.sam.gov/portal/public/SAM/> prior to any award by NASA.

(End of Clause)

### **52.212-5 Contract Terms and Conditions Required to Implement Statutes or Executive Orders-Commercial Items (Jan 2013)**

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

(1) 52.222-50, Combating Trafficking in Persons (Feb 2009) 22 U.S.C 7104(g)).

Alternate I (Aug 2007) of 52.222-50 (22 U.S.C. 7104(g)).

(2) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(3) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004)

(Pub. L. 108-77, 108-78)

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (Sep 2006), with Alternate I (Oct 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).

- (2) 52.203-13, Contract Code of Business Ethics and Conduct (Apr 2010) (Pub. L. 110-252, Title VI, Chapter 1 (41 U.S.C. 251 note))
- (3) 52.203-15, Whistleblower Protections Under the American Recovery and Reinvestment Act of 2009(June 2010) (Section 1553 of Pub. L. 111-5).
- (4) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (Aug 2012) (Pub. L. 109-282) (31 U.S.C. 6101 note).
- (5) 52.204-11, American Recovery and Reinvestment Act—Reporting Requirements (Jul 2010) (Pub. L. 111-5).
- (6) 52.209-6, Protecting the Government’s Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (Dec 2010) (31 U.S.C. 6101 note).
- (7) 52. 209-9, Updates of Publicly Available Information Regarding Responsibility Matters (Feb 2012) (41 U.S.C. 2313).
- (9) 52.219-3, Notice of Total HUBZone Set-Aside (Nov 2011) (15 U.S.C. 657a).
- (10) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 2011) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).
- (11) [Reserved]
- (12) (i) 52.219-6, Notice of Total Small Business Set-Aside (Nov 2011) (15 U.S.C. 644).
- (ii) Alternate I (Nov 2011) of 52.219-6.
- (iii) Alternate II (Nov 2011) of 52.219-6.
- (13)(i) 52.219-7, Notice of Partial Small Business Set-Aside (June 2003) (15 U.S.C. 644).
- (ii) Alternate I (Oct 1995) of 52.219-7.
- (iii) Alternate II (Mar 2004) of 52.219-7.
- (14) 52.219-8, Utilization of Small Business Concerns (Jan 2011) (15 U.S.C. 637(d)(2) and (3)).
- (15)(i) 52.219-9, Small Business Subcontracting Plan (Jan 2011) (15 U.S.C. 637(d)(4)).
- (ii) Alternate I (Oct 2001) of 52.219-9.
- (iii) Alternate II (Oct 2001) of 52.219-9.
- (iv) Alternate III (Jul 2010) of 52.219-9
- (16) 52.219-13, Notice of Set-Aside of Orders (Nov 2011) (15 U.S.C. 644 (r))
- (17) 52.219-14, Limitations on Subcontracting (Nov 2011) (15 U.S.C. 637(a)(14)).
- (18) 52.219-16, Liquidated Damages—Subcontracting Plan (Jan 1999) (15 U.S.C. 637(d)(4)(F)(i))
- (19) (i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (Oct 2008) (10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).
- (ii) Alternate I (June 2003) of 52.219-23
- (20) 52.219-25, Small Disadvantaged Business Participation Program—Disadvantaged Status and Reporting (Dec 2010) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

- (21) 52.219-26, Small Disadvantaged Business Participation Program—Incentive Subcontracting (Oct 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (22) 52.219-27, Notice of Service-Disabled Veteran-Owned Small Business Set-Aside (Nov 2011) (15 U.S.C. 657 f).
- (23) 52.219-28, Post Award Small Business Program Re-representation (Apr 2012) (15 U.S.C. 632(a)(2)).
- (24) 52.219-29 Notice of Set-Aside for Economically Disadvantage Women-Owned Small Business(EDWOSB) Concerns (Nov 2012)
- (25) 52.219-30, Notice of Set-Aside for Women-Owned Small Business(WOSB) Concerns Eligible Under the Woman Owned Small Business Program (Apr 2012)
- (26) 52.222-3, Convict Labor (June 2003) (E.O. 11755).
- (27) 52.222-19, Child Labor—Cooperation with Authorities and Remedies (Mar 2012) (E.O. 13126).
- (28) 52.222-21, Prohibition of Segregated Facilities (Feb 1999).
- (29) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).
- (30) 52.222-35, Equal Opportunity for Veterans (Sept 2010) (38 U.S.C. 4212).
- (31) 52.222-36, Affirmative Action for Workers with Disabilities (Oct 2010) (29 U.S.C. 793).
- (32) 52.222-37, Employment Reports on Veterans, (Sept 2010) (38 U.S.C. 4212).
- (33) 52.222-40 Notification of Employee Rights Under the National Labor Relations Act (Dec 2010) (E.O. 13496).
- (34) 52.222-54, Employment Eligibility Verification (July 2012). (Executive Order 12989). (Not applicable to the acquisition of commercially available off-the-shelf items or certain other types of commercial items as prescribed in 22.1803.)
- (35)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA–Designated Items (May 2008) (42 U.S.C. 6962(c)(3)(A)(ii)). (Not applicable to the acquisition of commercially available off-the-shelf items.)
- (ii) Alternate I (May 2008) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)). (Not applicable to the acquisition of commercially available off-the-shelf items.)
- (36) 52.223-15, Energy Efficiency in Energy-Consuming Products (Dec 2007) (42 U.S.C. 8259b).
- (37)(i) 52.223-16, IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products (DEC 2007) (E.O. 13423).
- (ii) Alternate I (Dec 2007) of 52.223-16.
- (38) 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving (Aug 2011) (E.O. 13513).
- (39) 52.225-1, Buy American Act—Supplies (Feb 2009) (41 U.S.C. 10a-10d).
- (40)(i) 52.225-3, Buy American Act—Free Trade Agreements—Israeli Trade Act (Nov 2012) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, 19 U.S.C. 3805 note, Pub. L. 108-77, 108-78, 108-286, 108-302, 109-53, 109-169, 109-283, and 110-138).
- (ii) Alternate I (Mar 2012) of 52.225-3.
- (iii) Alternate II (Mar 2012) of 52.225-3
- (iv) Alternate III (Nov 2012) of 52.225-3

- (41) 52.225-5, Trade Agreements (Nov 2012) (19 U.S.C. 2501, *et seq.*, 19 U.S.C. 3301 note).
- (42) 52.225-13, Restrictions on Certain Foreign Purchases (June 2008) (E.O.'s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).
- (43) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (Nov 2007) (42 U.S.C. 5150).
- (44) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (Nov 2007) (42 U.S.C. 5150).
- (45) 52.232-29, Terms for Financing of Purchases of Commercial Items (Feb 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
- (46) 52.232-30, Installment Payments for Commercial Items (Oct 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
- (47) 52.232-33, Payment by Electronic Funds Transfer—Central Contractor Registration (Oct 2003) (31 U.S.C. 3332).
- (48) 52.232-34, Payment by Electronic Funds Transfer—Other than Central Contractor Registration (May 1999) (31 U.S.C. 3332).
- (49) 52.232-36, Payment by Third Party (Feb 2010) (31 U.S.C. 3332).
- (50) 52.239-1, Privacy or Security Safeguards (Aug 1996) (5 U.S.C. 552a).
- (51) (i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631).
- (ii) Alternate I (Apr 2003) of 52.247-64.

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

- (1) 52.222-41, Service Contract Act of 1965, as Amended (Nov 2007) (41 U.S.C. 351, *et seq.*).
- (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (May 1989) (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).
- (3) 52.222-43, Fair Labor Standards Act and Service Contract Act-Price Adjustment (Multiple Year and Option Contracts) (Sep 2009) (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).
- (4) 52.222-44, Fair Labor Standards Act and Service Contract Act-Price Adjustment (SEP 2009) (29 U.S.C. 206 and 41 U.S.C. 351, *et seq.*).
- (5) 52.222-51, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment--Requirements (Nov 2007) (41 U.S.C. 351, *et seq.*).
- (6) 52.222-53, Exemption from Application of the Service Contract Act to Contracts for Certain Services--Requirements (Feb 2009) (41 U.S.C. 351, *et seq.*).
- (7) 52.222-17, Nondisplacement of Qualified Workers (Jan 2013) (E.O. 13495).
- (8) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (Mar 2009) (Pub. L. 110-247).
- (9) 52.237-11, Accepting and Dispensing of \$1 Coin (Sept 2008) (31 U.S.C. 5112(p)(1)).

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

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

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

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

(e)(1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vii) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause—

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (Apr 2010) (Pub. L. 110-252, Title VI, Chapter 1 (41 U.S.C. 251 note)).

(ii) 52.219-8, Utilization of Small Business Concerns (Dec 2010) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(iii) 52.222-17, Nondisplacement of Qualified Workers (Jan 2013) (E.O. 13495). Flow down required in accordance with paragraph (l) of FAR clause 52.222-17.

(iv) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).(v) 52.222-35, Equal Opportunity for Veterans, (Sept 2010) (38 U.S.C. 4212).(vi) 52.222-36, Affirmative Action for Workers with Disabilities (Oct 2010) (29 U.S.C. 793).(vii) 52.222-40 Notification of Employee Rights Under the National Labor Relations Act

(Dec 2010)(E.O. 13496). Flow down required in accordance with paragraph (f) of FAR clause 52.222-40.

(viii) 52.222-41, Service Contract Act of 1965 (Nov 2007) (41 U.S.C. 351, *et seq.*).

(ix) 52.222-50, Combating Trafficking in Persons (Feb 2009) (22 U.S.C. 7104(g)).

\_\_\_\_ Alternate I (Aug 2007) of 52.222-50 (22 U.S.C. 7104(g)).

(x) 52.222-51, Exemption from Application of the Service Contract Act to Contracts for Maintenance,

Calibration, or Repair of Certain Equipment-Requirements (Nov 2007) (41 U.S.C. 351, *et seq.*).

(xi) 52.222-53, Exemption from Application of the Service Contract Act to Contracts for Certain Services-Requirements (Feb 2009) (41 U.S.C. 351, *et seq.*).

(xii) 52.222-54, Employment Eligibility Verification (Jan 2009).

(xiii) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (Mar 2009) (Pub. L. 110-247). Flow down required in accordance with paragraph (e) of FAR clause 52.226-6.

(xiv) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the contractor may include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(End of Clause)

**Representations, Certifications, and other Statements of Offerors or Quoters Incorporated by Reference**

The Representations, Certifications, and Other Statements of Offerors or Quoters (FAR 52.212-3 of the solicitation document) as completed by the Contractor are hereby incorporated in their entirety by reference, with the same force and effect as if they were given in full text.

(End of Clause)

## Structural Aerospace Testing Load Control System Specification

This specification outlines the Structural Aerospace Testing Load Control System hardware required to support the Structural Qualification Tests for SLS Core Stage.

### 1. Procurement

#### 1.1 The following Load Control System hardware is required to support SLS Core Stage Structural Qualification Testing:

##### 1.1.1 Six Multi-Channel Hydraulic Load Control Systems

1.1.1.1 Two 32-Ch. Control Systems

1.1.1.2 Two 64-Ch. Control Systems

1.1.1.3 Two 96-Ch. Control Systems

1.1.1.4 Each System shall contain the following:

- Operator PC, Window Compatible, two 24" LCD monitors
- Structural Aerospace Load Control Software
- Two Station Control
- One Remote Emergency Stop Panel
- Integrated Hydraulic Power Unit (HPU) and Hydraulic Service Manifold (HSM) Interface

1.1.1.5 Detailed specifications for Multi-channel systems listed in section 2

##### 1.1.2 Eighteen Silent Hydraulic Power Units

1.1.2.1 Twelve Silent Hydraulic pumps, 20 GPM, 90 gallon capacity reservoir

1.1.2.2 Six Silent Hydraulic pumps, 30 GPM, 250 gallon capacity reservoir

1.1.2.3 Remote Control Panel per pump

1.1.2.4 Four displays to view the status of hydraulic pumps via LAN Network

1.1.2.5 Detailed specifications for Hydraulic Power Units listed in section 3

##### 1.1.3 Five Air-Cooler Units for Hydraulic Pumps

1.1.3.1 Five stand-alone Air-cooler units to be used with any of the 20 GPM hydraulic pumps

1.1.3.2 Detailed specifications listed in section 3.3

##### 1.1.4 Seventeen Hydraulic Service Manifolds

1.1.4.1 Seventeen Single-channel hydraulic service manifolds

1.1.4.2 Detailed specifications listed in section 4

1.1.5 Three Single Channel system controllers with Operator Station

Each Single-Channel Control System shall include the following:

- 1.1.5.1 Operator PC, Window Compatible, one 24" LCD Monitor
- 1.1.5.2 Structural Load Control Software
- 1.1.5.3 Single Station Control
- 1.1.5.4 One Remote Emergency Stop Panel
- 1.1.5.5 Integrated HPU and HSM Interface
- 1.1.5.6 One Valve Driver Output
- 1.1.5.7 Twelve Universal Conditioner Inputs
- 1.1.5.8 Detailed specifications for Single Channel Controller listed in section 5

1.1.6 One Full Spare Parts Kit

- 1.1.6.1 One Full set of spare parts to support all hardware in Multi-Channel and Single-Channel systems
- 1.1.6.2 Detailed specifications for Spare Parts Kit listed in section 6

1.2 All systems shall be of a proven Aerospace Structural Testing design with a history of satisfactory performance within the aerospace industry.

1.3 Hardware from all systems and racks shall be completely compatible and interchangeable down to the circuit card level, to support moving any number of signal conditioners, valve drivers, analog-to-digital inputs, digital-to-analog outputs, digital inputs, digital outputs, HPU and HSM Interfaces, and control channels from one system to another to support changes in SLS Test Requirements.

1.4 MSFC Structural Strength Test Group currently owns Load Control Hardware that could be used to support the SLS Core Stage Qualification Testing. Due to the strict requirement in 1.3 for all hardware to be completely compatible and interchangeable, proposals shall be submitted in one of the following two competing options:

1.4.1 Option 1: Provide all new hardware required to support SLS Core Stage Qualification Testing.

1.4.1.1 Proposal shall include all hardware outlined in section 1.1

1.4.1.2 Proposal shall not plan to include any existing MSFC hardware to satisfy SLS Core Stage Qualification Testing requirements.

1.4.2 Option 2: Supplement existing MSFC Structural Strength Test Group Load Control Hardware to support SLS Core Stage Qualification Testing.

- 1.4.2.1 MSFC Currently owns the following Load Control hardware:
- Two MTS FlexTest 200 32-Ch. Control Systems
  - Two MTS 505.20 Silent Hydraulic Power Units, 20GPM, 90gal. reservoir
  - Two MTS FlexTest 40 Single Ch. Control Systems
  - One Full Spare Parts Kit for MTS FlexTest Control Systems

1.4.2.2 Proposal to supplement existing hardware shall include the following compatible hardware.

- Two 64-Ch. Control Systems
- Two 96-Ch. Control Systems
- Four Operator workstations with Structural Aerospace Load Control Software
- Integrated HPU and HSM Interface per System
- Ten Silent Hydraulic Power Units, 20GPM, 90gal. reservoir
- Six Silent Hydraulic Power Units, 30GPM, 250gal. reservoir
- Sixteen Remote Control Panels
- Four displays to view status of hydraulic pumps via LAN Network
- Five stand-alone Air-cooler units to be used with the 20GPM pumps
- Seventeen Single-channel hydraulic service manifolds
- One Single Ch. Control Systems
- Operator computer with Structural Aerospace Load Control software

1.4.3 The following table includes a summary of the competing options:

<b>Required Deliverables</b>	<b>Required</b>	<b>Option 1</b>	<b>On-Hand</b>	<b>Option 2</b>
32-Channel Control Systems	2	2	2	
64-Channel Control Systems	2	2		2
96-Channel Control Systems	2	2		2
Operator Workstation Computer	6	6	2	4
Structural Aerospace Load Control Software	6	6	2	4
Hydraulic Power Units, 20GPM, 90 gal Resv	12	12	2	10
Hydraulic Power Units, 30GPM, 250 gal Resv	6	6		6
HPU Remote Control Panels	18	18	2	16
Displays to view status of HPUs via LAN Network	4	4		4
HPU Stand-alone Air-cooler units	5	5		5
Single-Channel Hydraulic Service Manifolds	17	17		17
Single-Channel Control System	3	3	2	1
Operator Workstation Computer	3	3	2	1
Structural Aerospace Load Control Software	3	3	2	1
Full Spare Parts Kit	1	1	1	

1.4.4 Proposal shall include all shipping costs for delivery of hardware to MSFC.

## 2. Multi-channel Hydraulic Load Control Systems

### 2.1 System Requirements

2.1.1 Procurement is for stand-alone Multi-Channel Hydraulic Load Control Systems to support SLS Structural Tests at separate locations.

2.1.2 Systems shall be comprised of separate 32-channel racks connected together to provide synchronized multi-channel control of hydraulic load lines.

2.1.2.1 32-Ch. systems shall include one rack each for total of 32 channels.

2.1.2.2 64-Ch. systems shall include two racks each for total of 64 channels.

2.1.2.3 96-Ch. systems shall include three racks each for total of 96 channels.

2.1.2.4 Total SLS requirement includes 12 racks.

2.1.3 Each system shall be capable of providing independent control for at least two multi-channel tests at the same time.

2.1.4 Each system shall provide one PC workstation, with operator Control Station and Display software for conducting a single static structural test.

- Each system shall support the addition of a second PC workstation with Control Station software for independent control of second simultaneous test
- Each system shall support the addition of multiple PC workstations with Display software
- Additional PC workstations are not required to be provided as part of this procurement

2.1.5 Each system shall provide Remote Emergency Stop to allow Operator to safe the entire system independent of PC workstation and associated software.

2.1.6 Each system shall provide direct interface to Hydraulic Power Units

2.1.7 Each system shall provide direct interface to Hydraulic Service Manifolds for software control of low pressure and high pressure.

2.1.8 Each system shall be capable of driving up to eight Hydraulic Service Manifolds in parallel.

2.1.9 Control System workstations and software shall satisfy all operational specifications listed in Section 7.

### 2.2 Rack Requirements

2.2.1 Each rack shall include full-height cabinet enclosure

- Standard 19" rack mount
- 28" D x 72" H x 40" D

2.2.2 Each rack shall contain 32 control channels

2.2.3 Each control channel shall contain the following:

- 2 universal conditioner feedback inputs (AC or DC)

- 1 servo valve output driver
- 2.2.4 Valve driver outputs shall be capable of controlling  $\pm 10\text{VDC}$  Direct Drive Valve and  $\pm 50\text{mA}$  Two-Stage Servo Valve.
- 2.2.5 Universal Conditioner Inputs shall provide 0-10V (AC and DC) excitation and measure signal from 2mV/V, 3mV/V, and 4mV/V 350 $\Omega$  full bridge load cells.
- 2.2.6 Universal Conditioner Inputs shall measure signal from Temposonic deflection transducer (0-10VDC)
- 2.2.7 Each rack shall provide 8 high level Analog Output channels for sending signals to external resources.
- 2.2.8 Each rack shall provide 32 General Purpose Analog Inputs for measuring high level signals from external resources.
- 2.2.9 Each rack shall provide 16 Digital Inputs and 16 Digital Outputs, with terminal connection for interface to external devices.
- 2.2.10 Each rack shall include capability to add or remove Valve Driver outputs, Transducer Conditioner Inputs, General Purpose A/D input channels, D/A output channels, and Digital I/O as required for each structural strength test.
- 2.2.11 Each rack shall include Powerware 9130 Rack Mount 3kVA UPS with one (1) extended battery drawer, 120VAC input power.
- 2.2.12 Control System hardware shall satisfy all technical specifications listed in Appendix A.

### 3. Hydraulic Power Units

- 3.1 Hydraulic power units shall meet the following requirements
  - 3.1.1 Specification for 20GPM HPU
    - 3.1.1.1 Flow: 20 GPM
    - 3.1.1.2 Reservoir: 90 gallons
  - 3.1.2 Specification for 30GPM HPU
    - 3.1.2.1 Flow: 30 GPM
    - 3.1.2.2 Reservoir: 250 gallons
  - 3.1.3 Operation Pressure: Operator adjustable to 3000 psi
  - 3.1.4 Power: 480 VAC, 3 Phase, 60 Hz
  - 3.1.5 Full Load Electrical Current: not to exceed 100 Amps at 480 VAC, 3 Phase, 60 Hz
  - 3.1.6 Noise: not to exceed 65 db(A) within 3 ft. of unit
  - 3.1.7 High Pressure Outlet Filter: 3 micron
  - 3.1.8 Return Filter: 3 micron
  - 3.1.9 Accumulator: 0.5 Gallon on pump outlet
  - 3.1.10 Spare parts kit with filters, fuses, and fluid sampling kits (1 per pump)

- 3.1.11 Cooling: Standard configuration water cooled. 20 GPM pumps only shall include quick disconnect for air-cooler unit
  - 3.1.12 Transport and Handling
    - 3.1.10.1 HPU shall include casters
    - 3.1.10.2 HPU shall support transport by forklift
    - 3.1.10.3 HPU shall provide lifting points for crane rigging
  - 3.1.13 Hydraulic Power Units shall be compatible with the HPU interface provided in the Load Control Systems, to provide automated control of hydraulic pressure to High, Low, and Off.
- 3.2 Remote Control Panel
- 3.2.1 Remote control panel for each pump (operates up to 100m away)
  - 3.2.2 Control shall include E-Stop, Reset, Off, Low Pressure, High Pressure
  - 3.2.3 Display monitoring shall include Power On, Over-Temp, Low Level, Check Filter
  - 3.2.4 Provide 4 displays to view the status of all hydraulic pumps via LAN Network
- 3.3 Air Cooling Unit
- 3.3.1 Provide stand-alone unit to reconfigure 20 GPM pumps only for air cooling instead of water
  - 3.3.2 Unit shall include quick disconnects for easy re-configure between water and air cooling
  - 3.3.3 Power: 480VAC, 3 Phase, 60 Hz
  - 3.3.4 Environmental Protection: suitable for outdoor use
  - 3.3.5 Unit shall be supplied with all hoses and fittings required to connect to pump
- 3.4 Hydraulic Oil
- 3.4.1 Pump shall be compatible with 5606A Hydraulic Oil
  - 3.4.2 Vendor is not required to provide 5606A hydraulic oil with pump(s) for this procurement
  - 3.4.3 All pumps shall be delivered with no oil in reservoir.

#### 4. Hydraulic Service Manifolds

- 4.1 Hydraulic Service Manifolds shall meet the following requirements
  - 4.1.1 Flow: 30GPM minimum capacity
  - 4.1.2 Operating Pressure: 3,000 psi minimum capacity

- 4.1.3 Provide 3 levels of hydraulic pressure
  - Off ( 0 psig )
  - Low ( 200 - 3,000 psig adjustable )
  - High ( 3,000 psig )
- 4.1.4 Ramp Hydraulic Pressure between Off/Low/High (at least 5 seconds)
- 4.1.5 Accumulator
  - Pressure Port: 1 Gallon
  - Return Port: 1 Quart
- 4.1.6 Filtration: 10 Micron Filter
- 4.2 Loss of electrical power shall cause the Hydraulic Service Manifold to fail in OFF (no pressure) condition
- 4.3 Hydraulic Service Manifold shall be compatible with 5606A hydraulic oil
- 4.4 Cables shall be provided to connect all HSM units to Load Control System

## 5. Single-channel Hydraulic Load Control System

### 5.1 System Requirements

- 5.1.1 System shall be capable of providing control for one control channel only.
- 5.1.2 System shall provide one PC workstation, with operator Control Station and Display software for conducting a single static structural test.
  - System shall support the addition of multiple PC workstations with Display software
  - Additional PC workstations are not required to be provided as part of this procurement
- 5.1.3 System shall be comprised of hardware that is completely compatible and interchangeable with hardware from the multi-channel systems described in section 2.
- 5.1.4 System shall provide Remote Emergency Stop to allow Operator to safe the entire system independent of PC workstation and associated software.
- 5.1.5 System shall provide direct interface to Hydraulic Power Unit
- 5.1.6 System shall provide direct interface to Hydraulic Service Manifold for software control of low pressure and high pressure
- 5.1.7 System workstations and software shall satisfy all operational specifications listed in Section 7.

### 5.2 Enclosure Requirements

- 5.2.1 Single-channel controller shall be contained in one 19" rack mountable chassis

- 5.2.2 Chassis shall contain 1 control channel
- 5.2.3 Control channel shall contain the following:
  - 2 universal conditioner feedback inputs (AC or DC)
  - 1 servo valve output driver
- 5.2.4 Valve driver outputs shall be capable of controlling direct drive valve and two-stage servo valve.
- 5.2.5 Universal Conditioner Inputs shall provide excitation and measure signal from 2mV/V, 3mV/V, and 4mV/V 350Ω full bridge load cells.
- 5.2.6 Universal Conditioner Inputs shall measure signal from Temposonic deflection transducer (0-10VDC)
- 5.2.7 Chassis shall support addition of high level Analog Output channels for sending signals to external resources. Analog outputs not required for this procurement.
- 5.2.8 Chassis shall support addition of General Purpose Analog Inputs for measuring high level signals from external resources. General Purpose Analog Inputs not required for this procurement.
- 5.2.9 Chassis shall support addition of Digital Inputs and Digital Outputs. Digital I/P not required for this procurement.

## 6. Spare Parts Requirement

- 6.1 Spare parts kit shall include at least one of every electronic module that is common to both single channel controller and multi-channel control system.
- 6.2 Spare parts kit shall include at least one of each electronic module that is unique to the 32 channel control system rack.
- 6.2 Spare parts kit shall include at least one of each electronic module that is unique to the single channel control system unit.

## 7. System Operational Specifications

- 7.1. Operator Control Station
  - Workstation PC
  - Windows Compatible
  - Microsoft Office (Word, Excel)
  - Two 24" LCD Monitors, 1920x1200 resolution each monitor
- 7.2. Control Station Software
  - 7.2.1 Hardware Configuration
    - 7.2.1.1 Identify all system hardware
      - Detect all hardware in the system
      - Perform self-check to determine health of hardware

- Provide indication to user that hardware is operating properly
- 7.2.1.2 Configure parameters for all system hardware
  - Provide user interface to view and edit hardware parameters
  - Required Valve Driver parameters
  - Required Conditioner Input parameters
- 7.2.1.3 Export hardware configuration to a file for test configuration archiving
- 7.2.2 Test Configuration
  - 7.2.2.1 Configuration Test File
    - Create a unique configuration file for each test
    - Each test shall be saved as a separate file (or collection of files)
    - Open any previously saved configuration for a test
    - Test file shall include all user defined parameters defined with the Test Configuration below
  - 7.2.2.2 User Defined Variables
    - Create user defined variables for use in calculated channels
    - Identify units and full scale values for user-defined variables
  - 7.2.2.3 Calculated Channels
    - Create user defined calculated channels using analog input signals
    - Software shall include equations for axial and rosette strain
    - Software shall provide for entry of user-provided equations
    - Identify units and full scale values
  - 7.2.2.4 Digital Inputs
    - Identify the Digital Inputs from the list of available hardware to be used for this test
  - 7.2.2.5 Digital Outputs
    - Identify the Digital Outputs from the list of available hardware to be used for this test
  - 7.2.2.6 Data Acquisition Channels
    - Identify any input channels that shall be used to monitor only
    - Identify units and full scale values
  - 7.2.2.7 Create Control Channels for Static Structural Test
    - Create control channels required for structural test
    - Add output valve driver from list of available hardware
    - Add up to 2 feedback inputs from list of available hardware or defined calculations
    - Control channels shall be fully configurable, allowing the user to select from the list of all available system input and output hardware
    - The system shall be capable of driving and controlling from any combination of load cells, position transducers (AC and DC powered), strain gages and pressure transducers.

#### 7.2.2.8 Detectors

- Create detectors to monitor input signals levels
- Configure detectors to trigger events

#### 7.2.2.9 Events

- Create Events
- Configure events to notify operator, pause test, and/or execute predetermined shutdown routine

#### 7.2.2.10 Load Tables

- Create Load Tables
- Each step of the load table shall include user defined load for every control channel in the test
- Load Tables shall support at least 20,000 rows
- Load Table Editor shall support the following features
  - import/export load tables to tab delimited text file
  - verify load table values, based on previously defined control channel parameters (conditioner limit levels, etc.)
  - provide auto-build feature
- Load Tables shall be editable while test is active (Hydraulics enabled) but in a hold state

#### 7.2.2.11 Profiles

- Create Profiles
- Profile steps shall specify the following
  - row from previously defined Load Table
  - Ramp time duration in seconds
  - Ramp shape (Sine, Ramp, Step, etc.)
  - Description
  - End of Segment Action
- Profiles shall support at least 20,000 rows
- Profile Editor shall support the following features
  - import/export Profiles to tab delimited text file
  - verify Profile sequences, based on previously defined test parameters
  - provide auto-build feature
  - generate a graphical representation of the resulting Load Profile for each Control Channel
- Profiles shall be editable with the test active, but in a hold state

#### 7.2.2.12 Procedures

- Create Procedures
- Procedure steps shall specify the following
  - Specify a previously defined Profile
  - Specify number of iterations to perform the Profile
  - Description
- Procedure Editor shall support the following features
  - import/export Procedures to tab delimited text file
  - verify Procedure based on previously defined test parameters
- Procedures shall be editable with the test active, but in a hold state

#### 7.2.2.13 Recorders

- Create Recorders
- The system shall include a shutdown recorder that collects a minimum of 30 seconds of all test data at a minimum of 1000 Hz.
- The shutdown recorder shall be a buffer type that allows the user to define in seconds (pre-test), how much data is retrieved prior to the shutdown event.
- The system shall include a data acquisition recorder that collects all test data at a minimum of 256 Hz.
- The system shall include user definable recorders that allow adjustments of data collection rate and the number of samples collected. The maximum data collection rate for User definable recorders shall be at least 256 Hz.
- User definable recorders shall be configurable to trigger on user defined events.
- The system shall include an end-level recorder that collects data when profile row end levels are reached.
- The end-level recorder shall allow the user to define the number of samples collected and the recorder sampling rate.
- The system shall include a data acquisition recorder that continuously collects all test data at user defined rates up to at least 256 Hz.

#### 7.2.2.14 Readouts

- Create Readouts
- Readouts shall be configurable as digital (text) displays, plots, X-Y plots, or any combination of these.
- As a minimum, signal available as a Readout shall include Command, Feedback, Error, and Valve Command. Command and Feedback shall be available as either Engineering Units or Volts. Error shall be available as Engineering Units or Percent of Full Scale.

### 7.2.3 Calibration

7.2.3.1 Configure calibration for all input conditioner inputs to convert electrical signal to engineering units

7.2.3.2 As a minimum the system shall support the following calibration methods:

- Strain Gage Calibration
- Slope Calibration
- Two-Point Calibration
- Shunt Calibration
- Lookup Table Calibration
- Polynomial Calibration

7.2.3.3 The system shall include an automated method of verifying that calibrations are within a user defined range prior to starting a test.

7.2.3.4 The system shall have the ability to export and import test channel calibration data.

7.2.3.5 Provide provision for to allow user to adjust the negative side of the calibration curve (i.e. delta K correction).

#### 7.2.4 Test Execution

7.2.4.1 Each test shall be saved as a separate file (or collection of files).

7.2.4.2 Each test file shall identify individual test control channels.

7.2.4.3 Each test control channel shall contain, as a minimum, Proportional, Integral, Differential, and Feed Forward gains.

7.2.4.4 Each control channel shall have an update rate of at least 1000 Hz regardless of the number of control channels.

7.2.4.5 The system shall be capable of providing continuous, synchronized closed-loop control of up to 300 test control channels.

7.2.4.6 PID Gain settings shall be available and adjustable while the test is active.

7.2.4.7 The system shall provide user interface to select multiple test channels for simultaneous editing (i.e. PID gain change) at once.

7.2.4.8 Test control channels shall have ability to add or subtract tare weight from the zero point of the sensor to account for weight of test fixturing.

(i.e. system shall have provisions to automatically adjust load tables for user defined tare weights.)

7.2.4.9 The system shall be capable of both dynamic and static null pacing.

7.2.4.10 Null pacing time-outs and actions shall be user definable.

7.2.4.11 System shall have user defined upper and lower interlock settings.

7.2.4.12 Upper and lower interlock settings shall have a user defined persistence associated with them.

7.2.4.13 System shall have user defined Inner and Outer error bands around the command signal. ( i.e.  $\text{Error} = \text{Command} - \text{Feedback}$  ).

7.2.4.14 Inner and outer error bands shall have user definable events.

7.2.4.15 Each control channel shall be capable of comparing two separate feedback transducers and causing a user defined event to occur should the feedback signal exceed user defined parameters. (i.e. "A-B" Compare).

7.2.4.16 System shall have function generator capable of running one or more control channels selected by the user.

7.2.4.17 System shall have provisions to allow the operator to control Hydraulic Service Manifold.

7.2.4.18 System shall automatically match the command signal to the feedback signal when hydraulic pressure is switched from Off to Low pressure.

- 7.2.4.19 System shall continue to output closed-loop control valve command signals after an interlock occurs and hydraulic pressure is removed.
- 7.2.4.20 System shall be capable of bumpless transitions between force control and position control while control channels are active.
- 7.2.4.21 System shall have provisions to allow the user to define control mode transitions in the profile and/or user definable software buttons.
- 7.2.4.22 System shall have excitation failure detectors and provisions in the software for the user to disable them.
- 7.2.4.23 System shall have over-saturation detectors and provisions in the software for the user to disable them.
- 7.2.4.24 System shall be capable of exporting data from the recorders to a Microsoft Excel file.
- 7.2.4.25 System shall be capable of automatically adjusting the output signal to compensate for use with unequal area hydraulic cylinders.
- 7.2.4.26 System shall be capable of imposing a dither frequency on the valve drive (output) signal.
- 7.2.4.27 Dither amplitude and frequency shall be user selectable in the software.
- 7.2.4.28 System shall have a software provision for automatically adjusting the valve balance for a control channel either individually or as a user defined group.
- 7.2.4.29 System shall have a software provision for manually enabling/disabling the integrator without changing PID gain settings.
- 7.2.4.30 Shunt polarity selection shall be user defined in software for each channel.
- 7.2.4.31 The Test Control Panel layout shall be user editable.
- 7.2.4.22 Operator Interface for Test Execution shall provide access to all parameters listed above.

### 7.3 Software Verification and Configuration Control

- 7.3.1 Manufacturer shall provide proof of software verification and validation for any new release or update.
- 7.3.2 Manufacturer shall maintain configuration control of software releases.
- 7.3.3 Manufacturer shall provide software updates on annual basis at minimum.

## 8. Installation and Support

### 8.1 Installation

- 8.1.1 Procurement for multi-channel control systems shall include the following:

8.1.1.1 Manufacturer shall provide complete system checkout and verify proper operation and performance of systems before shipping to MSFC.

8.1.1.2 Manufacturer shall provide installation and functional checkout of all systems at MSFC Structural Testing site.

8.1.2 Procurement for single-channel control systems shall include the following:

8.1.2.1 Manufacturer shall provide complete system checkout and verify proper operation and performance of systems before shipping to MSFC.

8.1.2.2 Installation at MSFC is not required for single-channel system.

## 8.2 Training and Documentation

### 8.2.1 Training

8.2.1.1 Manufacturer shall demonstrate existing capability to provide training facility and courses for all software and hardware devices used in these systems.

8.2.1.2 Cost for training or training facility is not required as part of this procurement. Training will be arranged and purchased at a later date.

### 8.2.2 Documentation

8.2.2.1 System shall be delivered with both paper and electronic copies of user manuals for all software packages and hardware devices delivered with the system.

8.2.2.2 Documentation shall include:

- Operator's Handbook
- System Overview Manual
- Software Reference Manual
- Product Information Manual
- Hardware Setup Manual
- Hardware Maintenance Manual

## 8.3 Support

8.3.1 The manufacturer shall have a help desk that responds to software and hardware troubleshooting requests within 24 hours of the receipt of the request.

8.3.2 The manufacturer shall maintain a test bed to assist in hardware and software troubleshooting.

8.3.3 The manufacturer shall provide a statement indicating any known obsolescence issues (hardware, firmware, software, operating systems, etc.), plans to phase out any obsolete equipment, and estimate the available future support for systems provided in this procurement. All proposed hardware shall be supported with no obsolescence issues for a minimum of 10 years from the date of award.

## 9. Data Deliverables

The Contractor shall report and document this work and fulfill the requirements of associated Data Requirement Descriptions (DRD's) as outlined in Data Procurement Document (DPD) 1452 (Attachment J-2). The contractor shall determine the data restriction that applies to each data deliverable and mark or transmit the data restriction in accordance with section 2.3.3 of the Data Procurement Document.

9.1 The contractor shall establish and implement an industrial safety, occupational health, and environmental program that (1) prevent employee fatalities, (2) reduce the number of incidents, (3) reduce the severity of employee injuries and illnesses, and (4) protects the environment through the ongoing planning, implementation integration and management control of these programs. The contractor shall comply with all MSFC SHE Core Program Requirements in MPR 8715.1, "Marshall Safety, Health and Environmental (SHE) Program" while working on-site at MSFC and provide a signed Alternate Safety, Health, and Environmental (SHE) Plan in accordance with DRD 1452SA-001.

9.2 The contractor shall report mishaps and safety statistics to the MSFC Industrial Safety Branch in accordance with DRD 1452SA-002. The contractor shall submit directly into the NASA Incident Reporting Information System (IRIS) or shall use the forms listed in section 15.4 of DRD 1452SA-002 or electronic equivalent to report mishaps and related information required to produce the safety metrics.

## APPENDIX A

### Technical Hardware Specifications

The hardware shall meet the following general technical specifications to provide compatibility with ET30 sensors and servo valve drivers, and to provide full flexibility that ET30 requires to adapt to typical Structural Strength Testing test requirements.

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<b>Configurability</b>	No configuration constraints.  Any input can be assigned to any control channel.  Control Channels can be assigned to any station without changing circuit boards or cables.
<b>Control Channels</b>	Each rack shall support at least 32 control channels when configured for dual channel feedback  Each rack shall support at least 40 control channels when configured for single channel feedback.  Systems shall support combination of multiple synchronized racks
<b>Conditioned Transducer Inputs</b>	Each rack shall support at least 80 conditioned transducer inputs that may be configured for control channel feedback.
<b>General Purpose Analog Inputs</b>	Each rack shall support up to 96 general purpose analog inputs.
<b>General Purpose Digital I/O</b>	Each rack shall support up to 32 Digital Inputs and 32 Digital Outputs
Input ON voltage	2.7-26 VDC @ 0.5mA minimum
Input resistance	2K ohm
Output	30VDC, 2A maximum

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<b>System Update Rate</b>	Standard	Support increased rate
1-4 control channels	1000 Hz	at least 4000 Hz
5-32 control channels	1000 Hz	at least 2000 Hz
Greater than 32 Control Channels	1000 Hz	n/a

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### Servo Control

Control Modes	Select Feedback from any connected input (load, strain, stroke) or calculated variable Switch between Load & Stroke control on active control channel ( while hydraulics is enabled ) Dual-Mode, Channel-Limited-Channel ( such as load-limited displacement for specimen loading ) Cascade Control & Three-Variable Control available as options
Tuning	PIDF with forward loop filter. Control loops tuned manually.
Command Optimization	Peak Valley Control and Null Pacing Standard Arbitrary Level Control, Peak Valley Phase, Adaptive Inverse Control, and Enhanced AIC optional.

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### Program Generation

Frequency Range	0.001 Hz-500 Hz (not to exceed 10% of system update rate)
Resolution	32 bit
Waveforms	Haversine, square, triangle, ramp, true sine, random, and sine-sweep
Other	Broad band, frequency-weighted random signal generation  Soft start-stop available on all functions

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**Valve Drive - 2 Stage**

Dual-balance differential current source

Output Range

Adjustable full scale up to 100 mA. Compliance voltage - 20V

Output Dither

Amplitude adjustable: 0-50% Full Scale current.  
Frequency adjustable: 1 - 4000 Hz

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**Input Signal Conditioner**

Signal Type

AC or DC; software selectable

Excitation

Balanced constant-voltage or constant-current  
Supports 4-wire or 8-wire connections

DC excitation amplitude

1 - 20 VDC

AC excitation amplitude

1 - 10 V peak-peak

Excitation Drive Current

100 mA

Excitation Error Detection

Under current detection: < 2 mA  
Over current detection: 105 mA

Excitation frequency

Software Selectable: 10KHz, 5KHz, 2.5KHz, 2KHz, or 1 kHz

Analog Gain

Software Selectable: 16 ranges to optimize input ranges  
1mV, 5mV, 20mV, 30mV, 1.5V, 5V, 10V to maximum  
A/D bit resolution

Gain accuracy

0.1% at 10VDC excitation and 68°F (DC mode)

Temperature drift

&lt; 30 ppm/°C (DC mode)

Interlocks

Excitation failure in hardware, conditioner saturation in software

Shunt Calibration

External socketed resistors

TEDS support

Compatible with IEEE 1451.4 Class 2

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### General Purpose Analog Inputs

Input Voltage  $\pm 12.5\text{VDC}$

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### Signal Processing

**Input Resolution** 18 bit ( over-sampling & average permitted to meet this spec )

Data sample rate at least 100KHz kHz  
(simultaneous sample and hold on all inputs)

Signal processing 32 bit floating point

Sample update rate Simultaneous sample and hold, sampled at update rate:  
1000-4000Hz

Types Timed sample, peak/valley, max/min, level-crossing,  
cyclic/logarithmic, with ability to tie data channels to a  
master signal

Digital Filters programmable - Bessel, Butterworth, Elliptical

Format Data transfer to ASCII ( tab delimited for import in MS  
Excel )

Digital Transducers Quadrature (e.g. incremental encoder), SSI (absolute  
encoder), PWM

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### Analog Outputs

Output Voltage  $\pm 10\text{VDC}$

Maximum load 2000 ohm minimum, 1000 pf maximum

Output Resolution 16 bit

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### Environment

Temp: 45-100 °F; RH: 5-85%

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**NNM13449167Q**

CONTRACT/RFP

EXHIBIT NUMBER

**J-2**

ATTACHMENT NUMBER

**Structural Aerospace Testing Load Control  
System Specification**

PROJECT/SYSTEM

***DATA PROCUREMENT DOCUMENT***

**TBD**

CONTRACTOR

**MARCH 22, 2013**

National Aeronautics and Space Administration					DATA PROCUREMENT DOCUMENT	
<b>DOCUMENT CHANGE LOG</b>					NO.	ISSUE
					1452	RFQ
INCORPORATED REVISIONS				AS OF:		SUPERSEDING:
OUTSTANDING REVISIONS				01-08-13		PAGE:
AUTHORITY		PORTION AFFECTED - PAGE NO./NO.			REMARKS	
(DPD Revision)	INTRO	SGR	DRL	DRD		

## 1.0 INTRODUCTION

1.1 Scope: Subject to the Rights in Data clause, this Data Procurement Document (DPD) sets forth the data requirements in each Data Requirements Description (DRD) and shall govern that data required by the DPD for the contract. The contractor shall furnish data defined by the DRDs listed on the Data Requirements List (DRL) by category of data, attached hereto, and made a part of this DPD. Such data shall be prepared, maintained, and delivered to NASA in accordance with the requirements set forth within this DPD. In cases where data requirements are covered by a Federal Acquisition Regulation (FAR) or NASA FAR Supplement (NFS) clause, that clause shall take precedence over the DPD, consistent with clause FAR 52.215-8.

1.2 DPD Description: This DPD consists of a Document Change Log, an Introduction, a Statement of General Requirements, DPD maintenance procedures, a DRL, and the DRDs.

1.2.1 General Requirements: The general requirements, as specified in paragraph 2.0 of this DPD, prescribe those requirements applicable to the preparation, maintenance, and delivery of data that are better defined in aggregate than in the individual DRDs.

1.2.2 Data Requirements List (DRL): Throughout the performance of the contract, the DRL provides a listing by data category of the data requirements of the DPD.

1.2.3 Data Requirements Descriptions (DRDs)

1.2.3.1 Each data requirement listed on the DRL is given complete definition by a DRD. The DRD prescribes content, format, maintenance instructions, and submittal requirements.

1.2.3.2 For the purpose of classification and control, DRDs of this DPD are grouped into the following broad functional data categories:

<u>CATEGORY SYMBOL</u>	<u>DESCRIPTION</u>
SA	Safety

1.2.3.3 The symbols representing these data categories form part of the prefix of the DRD identification number. The first numerical characters reflect the DPD number.

1.2.3.4 To facilitate the usage and maintenance of the DPD, the DRDs have been sectionalized in accordance with the above data categories.

1.2.3.5 The DRDs are filed by data category and are in alpha-numeric sequence as listed on the DRL page (or pages) that precedes the DRDs.

1.2.4 Document Change Log (DCL): The Document Change Log chronologically records all revision actions that pertain to the DPD.

1.2.5 DPD Maintenance Procedures: Maintenance procedures define the detailed methods to be employed in maintaining the DPD. Detailed maintenance procedures are specified in paragraph 3.0 of this DPD.

1.3 Data Types for Contractual Efforts: The types of data and their contractually applicable requirements for approval and delivery are:

<u>TYPE</u>	<u>DESCRIPTION</u>
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1\* All issues and interim changes to those issues require written approval from the requiring organization before formal release for use or implementation.

2\* NASA reserves a time-limited right to disapprove in writing any issues and interim changes to those issues. The contractor shall submit the required data to NASA for review not less than 45 calendar days\*\* prior to its release for use. The contractor shall clearly identify the release target date in the "submitted for review" transmittal\*\*\*. If the data is unacceptable, NASA will notify the contractor

within 45 calendar days\*\* from the date of submission, regardless of the intended release date\*\*\*. The contractor shall resubmit the information for reevaluation if disapproved. The submittal is considered approved if the contractor does not receive disapproval or an extension request from NASA within 45 calendar days\*\*.

- 3 These data shall be delivered by the contractor as required by the contract and do not require NASA approval. However, to be a satisfactory delivery, the data shall satisfy all applicable contractual requirements and be submitted on time.
- 4 These data are produced or used during performance of the contract and are retained by the contractor. They shall be delivered only when NASA requests in writing and shall be delivered in accordance with the instructions in the request. The contractor shall maintain a list of these data and shall furnish copies of the list to NASA when requested to do so.
- 5 These data are incidental to contract performance and are retained by the contractor in those cases where contracting parties have agreed that formal delivery is not required. However, the Contracting Officer or the Contracting Officer's Technical Representative (COTR) shall have access to and can inspect this data at its location in the contractor's or subcontractor's facilities, or in an electronic database accessible to the Government.

\* Note: Type 1 and Type 2 data may be placed under NASA configuration management control when designated by NASA. CM control requires the contractor to submit Type 1 and Type 2 data updates through Engineering Change Proposals (ECPs).

\*\* Note: This time limit may be tailored for individual DRDs to meet the requirements of the procuring activity.

\*\*\* Note: If the contractor does not identify a release target date or if the intended release date is shorter than 45 calendar days from the date of submission, the 45 calendar days review cycle stands (or the tailored Type 2 time limitation for the specific procurement).

## 2.0 STATEMENT OF GENERAL REQUIREMENTS

- 2.1 Applicable/Reference Documents: Documents included as applicable documents in this DPD are the issue specified in the Statement of Work, and form a part of the DPD to the extent specified herein. Applicable documents listed in Item 15.2 of a DRD are applicable only to the preparation of the deliverable documentation described by that DRD.

References to documents other than applicable documents in the data requirements of this DPD may sometimes be utilized, and shall be indicated in 13. Remarks of the DRD. These do not constitute a contractual obligation on the contractor. They are to be used only as a possible example or to provide related information to assist the contractor in developing a response to that particular data requirement.

## 2.2 Subcontractor Data Requirements

- 2.2.1 The contractor shall specify to subcontractors and vendors, if any, the availability source of all data required for the satisfactory accomplishment of their contracts. The contractor shall validate these requirements for documents when appropriate; where the requirement concerns other contractor data, the contractor shall provide his subcontractor or vendor with the necessary documents. All such requests shall be accomplished under the auspices of the contractor.
- 2.2.2 Reference to subcontractor data in the contractor's responses is permissible, providing the references are adequate and includes such identification elements as title, number, revision, etc., and a copy of the referenced data is supplied with the response document at time of delivery to NASA.

2.3 Data Distribution, Format, Data Restriction Marking, and Transmittal

2.3.1 Distribution: Distribution of required documentation shall be in quantities determined by the Contracting Officer. Recipient names and email (if applicable) addresses shall be noted on a separate distribution list to be furnished by the Contracting Officer. The Contracting Officer's letter may include other information pertinent to delivery of data, as required.

2.3.2 Format

2.3.2.1 Electronic Format: Electronic submission of data deliverables is preferred. Electronic deliverables shall be printable. Data deliverables shall be delivered to NASA in the format specified below unless a specific format is required by a DRD. Data submittals shall consist of a single Adobe Acrobat PDF file and the native format electronic file(s). The preferred native formats include Microsoft Word, Excel, PowerPoint or CAD drawing plot file, as appropriate. Where a single native format file is not possible, multiple files may be integrated into a single ZIP file for submission. The organization of the contents of the integrated ZIP file shall be made readily apparent to the reader, and each file within the integrated product shall be clearly identifiable and traceable within the organization of the integrated product. If files are fragmented, file names shall be labeled logically and contiguously, and the files shall be easily reassembled or merged (e.g. 1 filename, 2 filename, 2a filename, etc.). The software versions shall be confirmed prior to submittals.

2.3.2.2 Hardcopy Format: In addition to the electronic submittal, one hardcopy package of specific data deliverables shall be delivered to the NASA Contracting Officer for the Government contract file. The hardcopy package shall consist of the contractor's Transmittal Memo and one copy of the data deliverable.

2.3.3 Data Restriction Marking

2.3.3.1 Data Restriction Determination and Marking Requirements: The contractor shall determine the data restriction that applies to each data deliverable and mark the data restriction on the data coversheet, or indicate the data restriction in the data transmittal package if the data format precludes identification of data restriction directly in the data. The contractor shall make a determination for each individual data deliverable item, and shall not apply a default or blanket data restriction marking to all data deliverables (e.g., "data may be export restricted"). If NASA does not agree with the contractor applied data restriction, the NASA Contracting Officer shall return the data to the contractor, cancel the markings, or ignore the markings consistent with the procedures set forth in the "data rights" clause(s) contained in the contract.

2.3.3.2 Data Restriction Categories and Marking Statements: The contractor shall consider the following data restriction categories, as a minimum, and utilize specified marking statements.

If data delivered under this contract is subject to the International Traffic in Arms Regulations (ITAR), the data shall contain an "ITAR Notice" as follows:

**International Traffic in Arms Regulations (ITAR) Notice**

This document contains information which falls under the purview of the U.S. Munitions List (USML), as defined in the International Traffic in Arms Regulations (ITAR), 22 CFR 120-130, and is export controlled. It shall not be transferred to foreign nationals, in the U.S. or abroad, without specific approval of a knowledgeable NASA export control official, and/or unless an export license/license exemption is obtained/available from the United States Department of State. Violations of these regulations are punishable by fine, imprisonment, or both.

If data delivered under this contract is subject to the Export Administration Regulations (EAR), the data shall contain the "EAR Notice" as follows:

**Export Administration Regulations (EAR) Notice**

This document contains information within the purview of the Export Administration Regulations (EAR), 15 CFR 730-774, and is export controlled. It may not be transferred to foreign nationals in the U.S. or abroad without specific approval of a knowledgeable NASA export control official, and/or unless an export license/license exception is obtained/available from the Bureau of Industry and Security, United States Department of Commerce. Violations of these regulations are punishable by fine, imprisonment, or both.

If the contract contains FAR 52.227-14 *Alternate II*, the "Limited Rights Notice" may be applicable to data (other than computer software) delivered under this contract.

If the contract contains FAR 52.227-14 *Alternate III*, the "Restricted Rights Notice" may be applicable to computer software delivered under this contract.

If the contract contains FAR 52.227-20, the "SBIR Rights Notice" may be applicable to SBIR data delivered under this contract.

If the contract contains NFS 1852.237-73, a sensitive information legend may be applicable to information delivered under this contract.

In accordance with the applicable data clause (e.g., FAR 52.227-14(c) or FAR 52.227-20(c)), the contractor may be able to assert a copyright claim in data delivered under this contract. When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government.

2.3.4 Transmittal

2.3.4.1 Data shall be transmitted to NASA by email, CD or DVD, hardcopy, or other mechanism agreed to by the Contracting Officer, COTR, and Project representatives who are responsible to receive, index, and store the data deliverables.

2.3.4.2 If email is used to transmit data deliverables, the email size shall be 10 Megabytes or less to ensure receipt by the NASA email servers. Encrypted email format shall be used to transmit data which has been judged sensitive by the contractor (e.g., export controlled, limited rights data, SBIR, restricted computer software, copyrighted, etc.).

2.3.4.3 Data Transmittal Package: Each data transmittal package shall include:

a. Transmittal memorandum that specifies the meta-data below for each data transmittal:

1. Contract number.
2. Data Requirements Description (DRD) number.
3. DRD data type (specified in Item 3 on the DRD).
4. Submission date or milestone being satisfied.
5. Document number and revision.
6. Document title.
7. File names of all files being delivered; file naming convention shall clearly identify the document being delivered.
8. Distribution (as defined by the Contracting Officer's letter).
9. Requested response date.
10. Contractor assigned data restriction (export controlled, limited rights data, SBIR, restricted computer software, copyrighted, etc.) if not marked on data.

11. NASA Records Retention Schedule (NRRS) number, if applicable (See NPR 1441.1, NASA Records Retention Schedules).
- b. Printable electronic files or hardcopy data.
- 2.3.5 When electronic data deliverables are transmitted directly to the MSFC Repository, the Digital Asset Manager web interface shall be utilized. Instructions for electronic data submittals can be found at [http://avmcc.msfc.nasa.gov/repository/repository\\_submittal.php](http://avmcc.msfc.nasa.gov/repository/repository_submittal.php). Document submitters to the Repository must register for a MSFC EDMS (Documentum) user account, through the Identity Management and Account Exchange (idMAX) system. Computer-Aided Design (CAD) drawings shall be submitted in the original native vector, Hewlett-Packard Graphic Language (HPGL), and raster image formats.
- 2.4 Printing: All printing, duplicating, or binding shall be in accordance with NFS 1852.208-81, Restrictions on Printing and Duplicating. Printing of formal reports and Type 1 and 2 data in book format shall be in accordance with the following general specifications:
- a. Method of reproduction – offset/xerography.
  - b. Finished size – 8 1/2" X 11".
  - c. Paper – 20-pound opaque bond.
  - d. Cover – Litho cover stock.
  - e. Pages shall be printed on both sides; blank pages shall be avoided when possible.
  - f. Oversize pages shall be avoided when possible, but if necessary shall be folded to 8 1/2" X 11".
  - g. Binding shall be the most economical method commensurate with the size of the report and its intended use.
- 2.5 Contractor's Internal Documents: The contractor's internal documents shall be used to meet the data requirements of this DPD unless a specific format is required by the applicable DRD.
- 2.6 Document Identification: Type 1 and 2 documents published by the contractor and submitted in response to the data requirements of this DPD shall be identified within an organized identification numbering system prescribed to NASA by the contractor and, if applicable, as approved by NASA. For all data types, the document number, change legend, date, and title constitute the minimum identification of the specific document and shall appear on the cover and title page. The contract number shall also appear on the cover and title page as separate markings. The originator and organization shall be included on the title page. The document number, change legend, and date shall appear on each page of the document. In the front matter of each document, identify the DPD number and applicable DRD number(s) required for document preparation. Successive issues or revisions of documents shall be identified in the same manner as the basic issue and shall have appropriate change identification. Drawings and ECP's are excluded from the marking provisions of this paragraph. All Type 1 documentation, excluding configuration management requirements, shall be marked "PRELIMINARY PENDING NASA APPROVAL," and once approved shall be reissued with "APPROVED BY NASA" and the date and approval authority annotated on the cover.
- 2.7 Reference to Other Documents and Data Deliverables in Data Submittals: All referenced documents shall be made readily available to the cognizant NASA organization upon request. The contractor shall make sure that the references are available to NASA in a manner which does not incur delays in the use of the response document. Reference may be made, within one data submittal, to other data submittals delivered in response to this DPD in those cases where the data required by one DRD may have been delivered by the contractor in response to another DRD. The reference to previously-submitted data shall include the applicable DRD number, data submittal version date, and location within the referenced document.
- 2.8 Maintenance of Type 1 Document Submittals
- 2.8.1 Revisions of Type 1 documentation may be accomplished either by individual page revision or by a complete reissue of the document identified in accordance with requirements of 2.6 above, with the exception of drawings (which shall be revised in accordance with contract configuration management requirements).
- 2.8.2 Individual page revisions shall be made as deemed necessary by the contractor or as directed by the Contracting Officer.

- 2.8.3 A Type 1 document shall be completely reissued when, in the opinion of the contractor and/or NASA, the document has been revised to the extent that it is unusable in its present state, or when directed by the Contracting Officer. When complete reissues are made, the entire contents of the document shall be brought up to date and shall incorporate revised pages. All revisions shall be recorded. A revision log shall identify complete reissues except for periodic reports and documents which are complete within themselves as final.
- 2.8.4 Changes of a minor nature to correct obvious typing errors, misspelled words, etc., shall only be made when a technical change is made, unless the accuracy of the document is affected.
- 2.8.5 All revised pages shall be identified by a revision symbol and a new date. Each document shall contain a log of revised pages that identify the revision status of each page with the revision symbol. This list shall follow the table of contents in each document. The line or lines revised on a given page shall be designated by the use of vertical line in the margin of the page, and the change authority shall be indicated adjacent to the change.
- 2.8.6 Contractor Type 1 document shall not be submitted containing pen and ink markups which correct, add to, or change the text, unless schedule problems exist and approval is obtained in writing from the Contracting Officer. Such markups, however, shall not exceed 20 percent of the page content and shall be acceptable provided that the reproduced copies are legible. In addition, hand-drawn schematics, block diagrams, data curves, and similar charts may be used in original reports in lieu of formally prepared art work, as long as legibility of copies is not impaired. Acceptability shall be determined by the Contracting Officer.
- 3.0 DPD MAINTENANCE PROCEDURES
- 3.1 NASA-Initiated Change: New and/or revised data requirements shall be incorporated by contract modification to which the new or revised portion of the DPD shall be appended. The contractor shall notify the Contracting Officer in the event a deliverable data requirement is imposed and is not covered by a DRD, or when a DRD is changed by a contract modification and for which no revision to DPD is appended. In such cases, the contractor shall submit the requested changes to NASA for approval. See paragraph 3.3.1 for change procedures.
- 3.2 Contractor-Initiated Change: Contractor-proposed data requirements or proposed changes to existing requirements shall be submitted to NASA for approval.
- 3.3 DPD Change Procedures
- 3.3.1 Changes to a contractual issue of this DPD shall be identified by NASA on the Document Change Log.
- 3.3.2 The date of the DPD shall be entered under the "as of" block of the Document Change Log. The date that was in the "as of" block shall be entered in the "Superseding" block.
- 3.3.3 The Document Change Log entitled "Incorporated Revisions" shall be changed to indicate the modification number, portions affected, and remarks. All changes to the DPD/DRDs shall be identified in the "Remarks" column.
- 3.4 DPD Reissues
- 3.4.1 When conditions warrant, the DPD shall be reissued by NASA for each contract modification that affects the DPD and shall supersede the existing DPD in its entirety. Reissues shall be issued by contractual direction.
- 3.4.2 All revision dates shall remain in the Date Revised block on all DRDs. The issue symbol, which shall commence with "A" and progress through "Z," shall be entered in the DPD identification block of each DRD page of the DPD.

**Structural Aerospace Testing Load Control System Specification****Data Requirements List**

<u>DRD</u>	<u>DATA TYPE</u>	<u>TITLE</u>	<u>OPR</u>
SA – Safety 1452SA-001	2	Alternate Safety, Health, and Environmental (SHE) Plan	AS10/QD12
1452SA-002	3	Off-site Mishap and Safety Statistics Reports	QD12

## DATA REQUIREMENTS DESCRIPTION (DRD)

- |                         |            |                               |
|-------------------------|------------|-------------------------------|
| 1. <b>DPD NO.:</b> 1452 | ISSUE: RFQ | 2. <b>DRD NO.:</b> 1452SA-001 |
| 3. <b>DATA TYPE:</b> 2  |            | 4. <b>DATE REVISED:</b>       |
|                         |            | 5. <b>PAGE:</b> 1/3           |
6. **TITLE:** Alternate Safety, Health, and Environmental (SHE) Plan
7. **DESCRIPTION/USE:** To provide the Government a signed agreement confirming the contractor's commitment to comply with OSHA, EPA, at MSFC with Alabama Department of Environmental Management at MSFC, or at Michoud Assembly Facility (MAF) with Louisiana Department of Environmental Quality and DOT regulations and to use MSFC MPR 8715.1 as the contractor's Safety, Health, and Environmental (SHE) program while performing the work associated with this contract, grant or cooperative agreement.
8. **OPR:** AS10/QD12                      9. **DM:** ET30
10. **DISTRIBUTION:** Per Contracting Officer's letter
11. **INITIAL SUBMISSION:** With proposal/offer/quote or at such other time as stated in the solicitation or as requested/required by the CO.
12. **SUBMISSION FREQUENCY:** After initial submission, when any new/revised proposed or previously approved Alternate SHE Plan is requested/required by the CO, Contracting Officer's Representative (COR), solicitation/award or is otherwise required.
13. **REMARKS:**
14. **INTERRELATIONSHIP:** NFS 1852.223-72, *Safety and Health (Short Form)*; FAR 52.204-4, *Printed or Copied Double-Sided on Recycled Paper*; FAR 52.223-2, *Affirmative Procurement of Biobased Products Under Service and Construction Contracts*; FAR 52.223-10, *Waste Reduction Program*; FAR 52.223-15, *Energy Efficiency in Energy-Consuming Products*; FAR 52.223-16, *IEEE 1680, Standard for Environmental Assessment of Personal Computer Products*; FAR 52.223-17, *Affirmative Procurement of EPA-designated Items in Service and Construction Contracts*; MSFC 52.223-92, *Environmental – General Clause*. DRD 1452SA-001, *Off-site Mishap and Safety Statistics Reports*. SOW paragraph 9
15. **DATA PREPARATION INFORMATION:**
- 15.1 **SCOPE:** The Alternate Safety, Health, and Environmental (SHE) Plan documents the contractor's agreement and commitment to follow the industrial safety, occupational health, and environmental standards and requirements contained in MPR 8715.1 over the duration of the contract, grant or cooperative agreement while performing work at MSFC or MAF.
- 15.2 **APPLICABLE DOCUMENTS:**
- |                  |   |
|------------------|---|
| 29 CFR Part 1910 | <i>Department of Labor; Occupational Safety and Health Administration Standards for General Industry</i>      |
| 29 CFR Part 1926 | <i>Department of Labor; Occupational Safety and Health Administration Standards for Construction Industry</i> |
| MPR 8715.1       | <i>Marshall Safety, Health and Environmental (SHE) Program</i>  |
| MWI 8621.1       | <i>Mishap and Close Call Reporting and Investigation Program</i>  |
| MWI 8715.15      | <i>Ground Operations Safety Assessment Program</i>  |

## DRD Continuation Sheet

**TITLE:** Alternate Safety, Health, and Environmental (SHE) Plan

**DRD NO.:** 1452SA-001

**DATA TYPE:** 2

**PAGE:** 2/3

15. **DATA PREPARATION INFORMATION (CONTINUED):**

15.3 **CONTENTS:** The Alternate Safety, Health and Environmental (SHE) Plan shall document the contractor's agreement and commitment to (1) provide a workplace that is incident and injury free that (a) prevents employee fatalities, (b) reduces the number of incidents, (c) reduces the severity of employee injuries and illnesses, (2) protect the environment through the ongoing planning, implementation, integration and management control of the contractor's industrial safety, health and environment program, and (3) conduct their work activities, procedures and process so that they are compliant with EPA, OSHA, NASA, MPR 8715.1, MWI 8621.1 and other MSFC SHE documents and process applicable to the jobs/tasks associated with this contracted effort, grant, or cooperative agreement and the Center's Quality Management System. The Alternate SHE Plan shall include:

- a. Company Name.
- b. NASA Organization contractor is supporting.
- c. Methods of compliance with the requirements of MPR 8715.1 (e.g. SHE meetings, training, hazard analysis, operating procedures, operational readiness reviews etc.).
- d. Methods of compliance with the requirements of MWI 8621.1 (i.e. safety statistics, mishaps, close calls reporting).
- e. Methods of compliance with the following requirements:
  1. Assess and document employee training needs specific to the jobs/operations they will perform under this contracted effort, grant, or cooperative agreement and provide to the government when requested.
  2. Provide employees that have received training, experience and knowledge to be "qualified" and "competent" to operate equipment, machinery, and perform other jobs/operations under this contracted effort, grant, or cooperative agreement in accordance with the applicable parts of 29 CFR Part 1910 and 29 CFR Part 1926. Provide documentation to the Government when requested. Provide name of the "competent person(s)" and documentation of training to the Government when requested.
- f. Provide the person's name and title of who will serve as the day-to-day SHE Point of Contact and is responsible for ensuring all work associated with this contract, grant or cooperative agreement complies with MPR 8715.1.
- g. Obtain NASA Contracting Officer or official concurrence for implementing this Alternate SHE Plan.
- h. Place a check by the MSFC SHE documents that are applicable to the work associated with this contract, grant or cooperative agreement. (NOTE: MSFC Contract Specialist/Contracting Officer shall consult with the AS10/QD12 OPR contacts to determine documents that are applicable to specific contract.)

A sample Alternate SHE Plan meeting all the requirements of this DRD is provided in Attachment A. Submission of a completed and signed version of the sample satisfies this requirement.

15.4 **FORMAT:** Contractor format is acceptable.

15.5 **MAINTENANCE:** Changes shall be incorporated by complete reissue.

**Attachment A – Alternate SHE Plan****Company Name**

Alternate Safety, Health, and Environmental (SHE) Plan

For

Contract No. \_\_\_\_\_

In support of **NASA Organization**

Marshall Space Flight Center

Huntsville, AL

While performing the work associated with this contract, grant or cooperative agreement (**Company Name**) is committed to providing a workplace that is incident and injury free, and shall ensure jobs/operations conducted in support to this effort are in compliance with MPR 8715.1, "Marshall Safety, Health, and Environmental (SHE) Program," and all MSFC SHE documents that contain requirements applicable to this effort. We shall:

1. Support and participate in the MSFC SHE Program as a regular member of the MSFC organization being supported, (**Name of MSFC Organization being supported/Organization Code**).
2. Require employees to attend (**MSFC Organization Name/Code**) monthly SHE awareness meetings/training and participate in their supervisor monthly SHE visits/worksites inspections as requested.
3. Ensure employees receive the initial MSFC SHE Program Awareness Training within 60 days of the authority to proceed or arrival at the worksite and any other MSFC SHE training required to conduct specific jobs/operations applicable to this effort as determined by (**MSFC Organization Name/Code**). (NOTE: If the Contractor is expected to stay on-site over 30 days they shall be expected to complete the mandatory and required SHE training posted on the Office of Human Capital Training and Incentives webpage. At a minimum the Contractor shall complete SHE 101V, "MSFC SHE Program Awareness Training." The Contractor's sponsor can assist in obtaining these training courses.)
4. Ensure each employee is (1) aware of their roles, responsibilities and accountability in the MSFC SHE Program, (2) encouraged to participate in SHE employee committees and teams. (NOTE: The MSFC SHE Pocket Guide can help provide this information. Contact the Industrial Safety Branch to obtain the SHE Pocket Guide).
5. Submit safety statistics to the MSFC Industrial Safety Branch by the 10<sup>th</sup> of each month using MSFC Form 4371 or an equivalent electronic form providing the hours worked, personnel injuries or incidents or property damage and SHE training taken.
6. Report mishaps and close calls as soon as possible after initiating emergency response, but **no later than 1 hour after awareness** by calling 544-0046 (4-HELP) and selecting the "Safety" option or by using the MSFC SHE Report system posted on the MSFC SHE Web Page. (NOTE: This form is located under the pull-down menu "Mishaps, Questions & Concerns" with follow-up reports as required in accordance with Data Requirements Description (DRD) 1452SA-002 or MWI 8621.1, "*Mishap and Close Call Reporting and Investigation Program*."
7. Evaluate the jobs/operations to be performed under this contracted effort, grant, or cooperative agreement and identify the specific employee training required by OSHA, EPA, DOT, Alabama Department of Environmental Management, NASA and MSFC and ensure employees are provided with this training. Provide documentation of the training evaluation and that employees have received this training to the Government when requested. (NOTE: The SHE Training Assessment is required for this while on-site. Contact the Industrial Safety Branch to assist in gaining access to this assessment tool. Contractors are expected to use the SHE Training Assessment within 14 days after being given access).

The signature below confirms the Contractor's agreement and commitment to (1) provide a workplace that is incident and injury free that (a) prevents employee facilities, (b) reduces the number of incidents, (c) reduces the severity of employee injuries and illnesses, (2) protect the environment through the ongoing planning, implementation, integration and management control of the contractor's industrial safety, health and environment program, and (3) conduct their work activities, procedures and process so that they are fully compliant with EPA, OSHA, NASA, MPR 8715.1, and other MSFC SHE documents and processes identified on the MSFC MIDL as applicable to the jobs/operations associated with this contracted effort, grant, or cooperative agreement and the Center's Quality Management System while working at MSFC or MAF.

\_\_\_\_\_  
Print name/title of Company Official\_\_\_\_\_  
Date

Signature: \_\_\_\_\_

## DATA REQUIREMENTS DESCRIPTION (DRD)

- |                         |                   |                                      |
|-------------------------|-------------------|--------------------------------------|
| 1. <b>DPD NO.:</b> 1452 | <b>ISSUE:</b> RFQ | 2. <b>DRD NO.:</b> <b>1452SA-002</b> |
| 3. <b>DATA TYPE:</b> 3  |                   | 4. <b>DATE REVISED:</b>              |
|                         |                   | 5. <b>PAGE:</b> 1/3                  |
6. **TITLE:** Off-site Mishap and Safety Statistics Reports
7. **DESCRIPTION/USE:** To provide initial and follow-up reporting of mishaps, close calls, serious non-occupational injuries or illnesses, and contractor quarterly safety metrics to the government for contractors that are physically located Off-site or at another NASA Center.
8. **OPR:** QD12                      9. **DM:** ET30
10. **DISTRIBUTION:** Per Contracting Officer's letter
11. **INITIAL SUBMISSION:**
- a. **Safety Statistics** shall be submitted by the end of the first quarter (calendar year) after Authority to Proceed (ATP) or contract award and submitted quarterly thereafter by the 10<sup>th</sup> day of the month following the end of the quarter. The safety statistics shall be for the contractor's previous quarter's work. The contractor quarterly safety statistics shall be sent to the MSFC Industrial Safety Branch. If the work is conducted on another NASA Center provide a copy to the Center's Safety Office, if requested.
    1. Safety statistics shall be reported using MSFC Form 4371 or an equivalent electronic notification system that includes all of the information listed in 11.a.2.
    2. Safety statistics reports shall include: contract number, subcontractors, NAISC codes and the following for the reporting period: number of employees, number of supervisors, hours worked, and number of injuries including days away from work and/or first-aid cases, number of incidents involving NASA related equipment or property damage. (NOTE: The safety statistics report is to include all work conducted in direct support of NASA or MSFC work while man-hours are being charged by the contractor in direct support of the MSFC contract.)
  - b. **Initial reporting for Type A, Type B, Type C that involves a lost time injury or illness, and any High-Mishaps and Visibility Close Calls:** The initial reporting shall be to MSFC Industrial Safety Branch as soon as possible after initiating emergency response, but **no later than 1 hour** of occurrence or awareness. For these types of mishaps and close calls the initial notification can be made by calling the MSFC Safety Hotline (256) 544-0046. If the work is being conducted on another NASA Center also notify that Center's Safety Office within the same timeline.
    1. Initial reporting can also be accomplished by direct input into the NASA Incident Reporting Information System (IRIS) by the contractor designated IRIS representative. Access to the IRIS database can be obtained from the MSFC S&MA IRIS Administrator or the MSFC Mishap Investigation Program Manager after contract award. Both are located in the MSFC Industrial Safety Branch.
    2. If a contractor employee has any type mishap while visiting a MSFC controlled site, they shall report immediately to their site sponsor in addition to other reporting requirements.
  - c. **Initial reporting for Type C that does not involve a lost time injury or illness, and D and Low-Visibility Mishaps and Close Calls** shall be reported to the MSFC Industrial Safety Branch via the Safety Statistics Report submitted monthly.
  - d. **Initial reports for all mishaps and Close Calls** shall provide as much information as possible, but at a minimum include the following: location and time of incident, number of fatalities, number hospitalized, type of damage, estimated cost, brief description, and contact person's name and phone number in accordance with MWI 8621.1 and NPR 8621.1.
  - e. **Initial Reporting of a non-work-related fatality or serious injury or illnesses that occur to contractor employee while working on-site shall be within 24 hours** of occurrence or awareness of injury by:
    1. Notifying the Contracting Officer and MSFC Industrial Safety Branch at (256) 544-0046. If the work is being conducted on another NASA Center also notify that Center's Safety Office within the same timeline.

## DRD Continuation Sheet

**TITLE:** Off-site Mishap and Safety Statistics Reports

**DRD NO.:** 1452SA-002

**DATA TYPE:** 3

**PAGE:** 2/3

11. **INITIAL SUBMISSION (CONTINUED):**

f. **Follow-up reporting:**

1. **All Mishaps (Type A, Type B, Type C and Type D) and Close Calls:** A follow-up report or update into IRIS **within 24 hours** after the initial notification to the MSFC Industrial Safety Branch by the contractor designated IRIS representative, or electronic submittal to MSFC Industrial Safety Branch.. If the work is being conducted on another NASA Center also notify that Center's Safety Office within the same timeline.
2. **Type A, B, and High-Visibility Mishaps and Close Calls with a Mishap Investigation Board Report:** submitted after completion of investigation. Corrective Action Plan submitted within the timeline specified by the Investigation Appointing Official upon Endorsing Official approval.
3. **All Mishaps:** Follow-up Corrective Action Plan/Status 30 days after appointment of the Mishap Investigation Board.

- g. **Safety Concerns, Hazards, and non-reportable mishaps** for contractors working **on another NASA Center** shall be reported to that Center's Safety Office in accordance with the Center's reporting requirements.

12. **SUBMISSION FREQUENCY:** Safety Statistics (MSFC Form 4371 or equivalent format, IRIS entry, or an equivalent electronic submittal) - By the end of the first quarter (calendar year) after Authority to Proceed (ATP) or contract award and submitted quarterly thereafter to MSFC Industrial Safety Branch. A copy can also be sent to the Center's Safety Office if requested. All Mishaps: Monthly Follow-up Corrective Action Plan/Status until corrective actions implemented and closure received by updating the mishap record in IRIS data base (preferred) or electronic submittal to MSFC Industrial Safety Branch and Center Safety Office when work is conducted on another NASA Center, if requested.

13. **REMARKS:** Data type 3 applies to Mishap and Safety Statistics. Government approval/endorsement of Mishap Investigations reports is conducted in accordance with NPR 8621.1 or MWI 8621.1 when requested.

14. **INTERRELATIONSHIP:** DRD 1452SA-001, *Alternate Safety, Health, and Environmental (SHE) Plan*. SOW paragraph 9

15. **DATA PREPARATION INFORMATION:**

- 15.1 **SCOPE:** For the government to be notified by the contractor of all contractor mishaps, close calls, and serious non-occupational injuries or illnesses as required in NPR 8621.1 and MWI 8621.1.

15.2 **APPLICABLE DOCUMENTS:**

- |            |   |
|------------|---|
| NPR 8621.1 | <i>NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping</i> |
| MWI 8621.1 | <i>Mishap and Close Call Reporting and Investigation Program</i>  |

- 15.3 **CONTENTS:** Initial and follow-up mishap reports shall contain all information required by NPR 8621.1 and MWI 8621.1. Mishap and Safety Statistics Reports shall contain the information listed in 11.a.2 and on the MSFC Form 4371 or equivalent electronic format.

15.4 **FORMAT:** The following formats or electronic equivalent shall be submitted:

- a. MSFC Form 4371, "MSFC Contractor Accident and Safety Statistics" or an equivalent electronic notification system that provides all necessary information listed in 11.a.2.
- b. Mishap Investigation Board Report using the format provided in NPR 8621.1.
- c. Additional Information Submittal per MWI 8621.1.

- 15.5 **MAINTENANCE:** None required

**DRD Continuation Sheet**

TITLE: Off-site Mishap and Safety Statistics Reports

DRD NO.: **1452SA-002**

DATA TYPE: 3

PAGE: 3/3

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15. **DATA PREPARATION INFORMATION (CONTINUED):**15.6 **DEFINITIONS:** See NPR 8621.1 for NASA Mishap definitions.

Off-site. Work is physically located at a facility or on property that is **not owned or controlled by MSFC**. This is normally considered as a contractor owned facility or property or other NASA Center.

On-site. Work is physically located at MSFC, MAF or on property that is **owned or controlled by MSFC**.

**Solicitation Provisions (some require fill-in)**

**A. Federal Acquisition Regulation (48 CFR Chapter1) Provisions Incorporated by Reference:**

- 52.204-7 Central Contractor Registration (Dec 2012)
- 52.212-1 Instructions to Offerors-Commercial Items (Feb 2012)
- 52.225-25 Prohibition on Contracting with Entities Engaging in Sanctioned Activities Relating to Iran—Representation and Certification. (Nov 2011)

**B. Federal Acquisition Regulation (48 CFR Chapter1) Provisions Incorporated by Full Text:**

**52.209-7 Information Regarding Responsibility Matters (Feb 2012)**

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

“Administrative proceeding” means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (*e.g.*, Securities and Exchange Commission Administrative Proceedings, Civilian Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

“Federal contracts and grants with total value greater than \$10,000,000” means—

(1) The total value of all current, active contracts and grants, including all priced options; and

(2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

“Principal” 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 division or business segment; and similar positions).

(b) The offeror [ ] has [ ] does not have current active Federal contracts and grants with total value greater than \$10,000,000.

(c) If the offeror checked “has” in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

- (i) In a criminal proceeding, a conviction.
  - (ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more.
  - (iii) In an administrative proceeding, a finding of fault and liability that results in—
    - (A) The payment of a monetary fine or penalty of \$5,000 or more; or
    - (B) The payment of a reimbursement, restitution, or damages in excess of \$100,000.
  - (iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.
- (2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.
- (d) The offeror shall post the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIIS as required through maintaining an active registration in the Central Contractor Registration database via <https://www.acquisition.gov> (see 52.204-7).

(End of Provision)

**52.212-3 Offeror Representations and Certifications—Commercial Items (Dec 2012)**

An offeror shall complete only paragraph (b) of this provision if the offeror has completed the annual representations and certifications electronically via <https://www.acquisition.gov>. If an offeror has not completed the annual representations and certifications electronically at the ORCA website, the offeror shall complete only paragraphs (c) through (o) of this provision.

(a) Definitions. As used in this provision—

“Economically disadvantaged women-owned small business (EDWOSB) concern” means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States and who are economically disadvantaged in accordance with 13 CFR part 127. It automatically qualifies as a women-owned small business eligible under the WOSB Program.

“Forced or indentured child labor” means all work or service—

- (1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or
- (2) Performed by any person under the age of 18 pursuant to a contract the enforcement of which can be accomplished by process or penalties.

“Inverted domestic corporation”, as used in this section, means a foreign incorporated entity which is treated as an inverted domestic corporation under 6 U.S.C. 395(b), i.e., a corporation that used to be incorporated in the United States, or used to be a partnership in the United States, but now is incorporated in a foreign country, or is a subsidiary whose parent corporation is incorporated in a foreign country, that meets the criteria specified in 6 U.S.C. 395(b), applied in accordance with the rules and definitions of 6 U.S.C. 395(c). An inverted domestic corporation as herein defined does not meet the definition of an inverted domestic corporation as defined by the Internal Revenue Code at 26 U.S.C. 7874.

“Manufactured end product” means any end product in Federal Supply Classes (FSC) 1000-9999, except—

- (1) FSC 5510, Lumber and Related Basic Wood Materials;
- (2) Federal Supply Group (FSG) 87, Agricultural Supplies;
- (3) FSG 88, Live Animals;
- (4) FSG 89, Food and Related Consumables;
- (5) FSC 9410, Crude Grades of Plant Materials;
- (6) FSC 9430, Miscellaneous Crude Animal Products, Inedible;
- (7) FSC 9440, Miscellaneous Crude Agricultural and Forestry Products;
- (8) FSC 9610, Ores;
- (9) FSC 9620, Minerals, Natural and Synthetic; and
- (10) FSC 9630, Additive Metal Materials.

“Place of manufacture” means the place where an end product is assembled out of components, or otherwise made or processed from raw materials into the finished product that is to be provided to the Government. If a product is disassembled and reassembled, the place of reassembly is not the place of manufacture.

“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.

“Sensitive technology”—

- (1) Means hardware, software, telecommunications equipment, or any other technology that is to be used specifically—
  - (i) To restrict the free flow of unbiased information in Iran; or
  - (ii) To disrupt, monitor, or otherwise restrict speech of the people of Iran; and
- (2) Does not include information or informational materials the export of which the President does not have the authority to regulate or prohibit pursuant to section 203(b)(3) of the International Emergency Economic Powers Act (50 U.S.C. 1702(b)(3)).

“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 size standards in this solicitation.

“Subsidiary” means an entity in which more than 50 percent of the entity is owned—

(1) Directly by a parent corporation; or

(2) Through another subsidiary of a parent corporation.

“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 business concern” means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

“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.

“Women-owned small business (WOSB) concern eligible under the WOSB Program” (in accordance with 13 CFR part 127), means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States.

(b) (1) Annual Representations and Certifications. Any changes provided by the offeror in paragraph

(b)(2) of this provision do not automatically change the representations and certifications posted on the Online Representations and Certifications Application (ORCA) website.

(2) The offeror has completed the annual representations and certifications electronically via the ORCA website accessed through <https://www.acquisition.gov>. After reviewing the ORCA database information, the offeror verifies by submission of this offer that the representations and certifications currently posted electronically at FAR 52.212-3, Offeror Representations and Certifications—Commercial Items, have been entered or updated in 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 paragraphs \_\_\_\_\_.

[Offeror to identify the applicable paragraphs at (c) through (o) of this provision that the offeror has completed for the purposes of this solicitation only, if any.

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.

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 electronically on ORCA.]

(c) Offerors must complete the following representations when the resulting contract will be performed in the United States or its outlying areas. Check all that apply.

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

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

(3) Service-disabled veteran-owned small business concern. [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.] The offeror represents as part of its offer that it o is, o is not a service-disabled veteran-owned small business concern.

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

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

(6) WOSB concern eligible under the WOSB Program. [Complete only if the offeror represented itself as a women-owned small business concern in paragraph (c)(5) of this provision.] The offeror represents that—

(i) It ( ) is, ( ) is not a WOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (c)(6)(i) of this provision is accurate for each WOSB concern eligible under the WOSB Program participating in the joint venture. [The offeror shall enter the name or names of the WOSB concern eligible under the WOSB Program and other small businesses that are participating in the joint venture: \_\_\_\_\_.] Each WOSB concern eligible under the WOSB Program participating in the joint venture shall submit a separate signed copy of the WOSB representation.

(7) Economically disadvantaged women-owned small business (EDWOSB) concern. [Complete only if the offeror represented itself as a WOSB concern eligible under the WOSB Program in (c)(6) of this provision.] The offeror represents that—

(i) It ( ) is, ( ) is not an EDWOSB concern, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (c)(7)(i) of this provision is accurate for each EDWOSB concern participating in the joint venture. [The offeror shall enter the name or names of the EDWOSB concern and other small businesses that are participating in the joint venture: \_\_\_\_\_.] Each EDWOSB concern participating in the joint venture shall submit a separate signed copy of the EDWOSB representation.

Note: Complete paragraphs (c)(8) and (c)(9) only if this solicitation is expected to exceed the simplified acquisition threshold.

(8) Women-owned business concern (other than small business concern). [Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it is a women-owned business concern.

(9) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price: \_\_\_\_\_

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

(i) General. The offeror represents that either—

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

(B) It ( ) has, ( ) has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(ii) ( ) Joint Ventures under the Price Evaluation Adjustment for Small Disadvantaged Business Concerns. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(10)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. [The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_.]

(11) HUBZone small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, 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 changes in ownership and control, principal office, or HUBZone employee percentage have occurred since it was certified in accordance with 13 CFR Part 126; and

(ii) It ( ) is, ( ) is not a HUBZone joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (c)(11)(i) of this provision is accurate for each HUBZone small business concern participating in the HUBZone joint venture. [The offeror shall enter the names of each of the HUBZone small business concerns participating in the HUBZone joint venture: \_\_\_\_\_.]

Each HUBZone small business concern participating in the HUBZone joint venture shall submit a separate signed copy of the HUBZone representation.

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

(1) Previous contracts and compliance. The offeror represents that—

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

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

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

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

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

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352). (Applies only if the contract is expected to exceed \$150,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract. If any registrants under the Lobbying Disclosure Act of 1995 have made a lobbying contact on behalf of the offeror with respect to this contract, the offeror shall complete and submit, with its offer, OMB Standard Form LLL, Disclosure of Lobbying Activities, to provide the name of the registrants. The offeror need not report regularly employed officers or employees of the offeror to whom payments of reasonable compensation were made.

(f) Buy American Act Certificate. (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American Act—Supplies, is included in this solicitation.)

(1) The offeror certifies that each end product, except those listed in paragraph (f)(2) 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.”

(2) Foreign End Products:

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

[List as necessary]

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g)(1) Buy American Act—Free Trade Agreements—Israeli Trade Act Certificate.  
(Applies only if the clause at FAR 52.225-3, Buy American Act—Free Trade Agreements—Israeli Trade Act, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(1)(ii) or (g)(1)(iii) 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 terms “Bahrainian, Moroccan, Omani, Panamanian, or Peruvian end product,” “commercially available off-the-shelf (COTS) item,” “component,” “domestic end product,” “end product,” “foreign end product,” “Free Trade Agreement country,” “Free Trade Agreement country end product,” “Israeli end product,” and “United States” are defined in the clause of this solicitation entitled “Buy American Act—Free Trade Agreements—Israeli Trade Act.”

(ii) The offeror certifies that the following supplies are Free Trade Agreement country end products (other than Bahrainian, Moroccan, Omani, Panamanian, or Peruvian end products) or Israeli end products as defined in the clause of this solicitation entitled “Buy American Act—Free Trade Agreements—Israeli Trade Act”:

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

[List as necessary]

(iii) The offeror shall list those supplies that are foreign end products (other than those listed in paragraph (g)(1)(ii) of this provision) as defined in the clause of this solicitation entitled “Buy American Act—Free Trade Agreements—Israeli Trade Act.” The offeror shall list as other 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.”

Other Foreign End Products:

Line Item No.    Country of Origin

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[List as necessary]

(iv) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(2) Buy American Act—Free Trade Agreements—Israeli Trade Act Certificate, Alternate I. If Alternate I to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled “Buy American Act—Free Trade Agreements—Israeli Trade Act”:

Canadian End Products:

Line Item No.

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[List as necessary]

(3) Buy American Act—Free Trade Agreements—Israeli Trade Act Certificate, Alternate II. If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled “Buy American Act—Free Trade Agreements—Israeli Trade Act”:

**Canadian or Israeli End Products:** Line Item No. Country of Origin

_____	_____
_____	_____
_____	_____

[List as necessary]

(4) Buy American Act—Free Trade Agreements—Israeli Trade Act Certificate, Alternate III. If Alternate III to the clause at 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Free Trade Agreement country end products (other than Bahrainian, Korean, Moroccan, Omani, Panamanian, or Peruvian end products) or Israeli end products as defined in the clause of this solicitation entitled “Buy American Act-Free Trade Agreements- Israeli Trade Act”:

Free Trade Agreement Country End Products (Other than Bahrainian, Korean, Moroccan, Omani, Panamanian, or Peruvian End Products) or Israeli End Products:

Line Item No. Country of Origin

_____	_____
_____	_____
_____	_____

[List as necessary]

(5) Trade Agreements Certificate. (Applies only if the clause at FAR 52.225-5, Trade Agreements, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(5)(ii) of this provision, is a U.S.-made or designated country end product, as defined in the clause of this solicitation entitled "Trade Agreements."

(ii) The offeror shall list as other end products those end products that are not U.S.-made or designated country end products.

Other End Products:

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

[List as necessary]

(iii) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25. For line items covered by the WTO GPA, the Government will evaluate offers of U.S.-made or designated country end products without regard to the restrictions of the Buy American Act. The Government will consider for award only offers of U.S.-made or designated country end products unless the Contracting Officer determines that there are no offers for such products or that the offers for such products are insufficient to fulfill the requirements of the solicitation.

(h) Certification Regarding Responsibility Matters (Executive Order 12689). (Applies only if the contract value is expected to exceed the simplified acquisition threshold.) The offeror certifies, to the best of its knowledge and belief, that the offeror and/or any of its principals—

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

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

violating Federal criminal tax laws, or receiving stolen property;

(3) ( ) Are, ( ) are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses enumerated in paragraph (h)(2) of this clause; and

(4) ( ) 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.

(i) Taxes are considered delinquent if both of the following criteria apply:

(A) 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.

(B) 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.

(ii) Examples.

(A) The taxpayer has received a statutory notice of deficiency, under I.R.C. §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.

(B) 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. §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.

(C) The taxpayer has entered into an installment agreement pursuant to I.R.C. §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.

(D) 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).

(i) Certification Regarding Knowledge of Child Labor for Listed End Products (Executive Order 13126). [The Contracting Officer must list in paragraph (i)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) Listed end products.

Listed End Product    Listed Countries of Origin

Listed End Product	Listed Countries of Origin

(2) Certification. [If the Contracting Officer has identified end products and countries of origin in paragraph (i)(1) of this provision, then the offeror must certify to either (i)(2)(i) or (i)(2)(ii) by checking the appropriate block.]

(i) The offeror will not supply any end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

(ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that it has made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture any such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

(j) Place of manufacture. (Does not apply unless the solicitation is predominantly for the acquisition of manufactured end products.) For statistical purposes only, the offeror shall indicate whether the place of manufacture of the end products it expects to provide in response to this solicitation is predominantly—

(1)  In the United States (Check this box if the total anticipated price of offered end products manufactured in the United States exceeds the total anticipated price of offered end products manufactured outside the United States); or

(2)  Outside the United States.

(k) Certificates regarding exemptions from the application of the Service Contract Act. (Certification by the offeror as to its compliance with respect to the contract also constitutes its certification as to compliance by its subcontractor if it subcontracts out the exempt services.) [The contracting officer is to check a box to indicate if paragraph (k)(1) or (k)(2) applies.]

(1) Maintenance, calibration, or repair of certain equipment as described in FAR 22.1003-4(c)(1). The offeror  does  does not certify that—

(i) The items of equipment to be serviced under this contract are used regularly for other than Governmental purposes and are sold or traded by the offeror (or subcontractor in the case of an exempt subcontract) in substantial quantities to the general public in the course of normal business operations;

(ii) The services will be furnished at prices which are, or are based on, established catalog or market prices (see FAR 22.1003-4(c)(2)(ii)) for the maintenance, calibration, or repair of such equipment; and

(iii) The compensation (wage and fringe benefits) plan for all service employees performing work under the contract will be the same as that used for these employees and equivalent employees servicing the same equipment of commercial customers.

(2) Certain services as described in FAR 22.1003-4(d)(1). The offeror  does  does not certify that—

(i) The services under the contract are offered and sold regularly to non-Governmental customers, and are provided by the offeror (or subcontractor in the case of an exempt subcontract) to the general public in substantial quantities in the course of normal business operations;

(ii) The contract services will be furnished at prices that are, or are based on, established catalog or market prices (see FAR 22.1003-4(d)(2)(iii));

(iii) Each service employee who will perform the services under the contract will spend only a small portion of his or her time (a monthly average of less than 20 percent of the available hours on an annualized basis, or less than 20 percent of available hours during the contract period if the contract period is less than a month) servicing the Government contract; and

(iv) The compensation (wage and fringe benefits) plan for all service employees performing work under the contract is the same as that used for these employees and equivalent employees servicing commercial customers.

(3) If paragraph (k)(1) or (k)(2) of this clause applies—

(i) If the offeror does not certify to the conditions in paragraph (k)(1) or (k)(2) and the Contracting Officer did not attach a Service Contract Act wage determination to the solicitation, the offeror shall notify the Contracting Officer as soon as possible; and

(ii) The Contracting Officer may not make an award to the offeror if the offeror fails to execute the certification in paragraph (k)(1) or (k)(2) of this clause or to contact the Contracting Officer as required in paragraph (k)(3)(i) of this clause.

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

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

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

(3) Taxpayer Identification Number (TIN).

TIN: \_\_\_\_\_.

TIN has been applied for.

TIN is not required because:

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

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of the Federal Government.

(4) Type of organization.

Sole proprietorship;

Partnership;

Corporate entity (not tax-exempt);

Corporate entity (tax-exempt);

- ( ) Government entity (Federal, State, or local);
- ( ) Foreign government;
- ( ) International organization per 26 CFR 1.6049-4;
- ( ) Other \_\_\_\_\_.

(5) Common parent.

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

Name \_\_\_\_\_.

TIN \_\_\_\_\_.

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

(n) Prohibition on Contracting with Inverted Domestic Corporations.

(1) Relation to Internal Revenue Code. An inverted domestic corporation as herein defined does not meet the definition of an inverted domestic corporation as defined by the Internal Revenue Code 25 U.S.C. 7874.

(2) Representation. By submission of its offer, the offeror represents that—

- (i) It is not an inverted domestic corporation; and
- (ii) It is not a subsidiary of an inverted domestic corporation.

(o) Prohibition on contracting with entities engaging in certain activities or transactions relating to Iran.

(1) The offeror shall e-mail questions concerning sensitive technology to the Department of State at CISADA106@state.gov.

(2) Representation and Certifications. Unless a waiver is granted or an exception applies as provided in paragraph (o)(3) of this provision, by submission of its offer, the offeror—

(i) Represents, to the best of its knowledge and belief, that the offeror does not export any sensitive technology to the government of Iran or any entities or individuals owned or controlled by, or acting on behalf or at the direction of, the government of Iran;

(ii) Certifies that the offeror, or any person owned or controlled by the offeror, does not engage in any activities for which sanctions may be imposed under section 5 of the Iran Sanctions Act; and

(iii) Certifies that the offeror, and any person owned or controlled by the offeror, does not knowingly engage in any transaction that exceeds \$3,000 with Iran's Revolutionary Guard Corps or any of its officials, agents, or affiliates, the property and interests in property of which are blocked pursuant to the International Emergency Economic Powers Act (50 U.S.C. 1701 et seq.) (see OFAC's Specially Designated Nationals and Blocked Persons List at <http://www.treasury.gov/ofac/downloads/t11sdn.pdf>).

(3) The representation and certification requirements of paragraph (o)(2) of this provision do not apply if—

(i) This solicitation includes a trade agreements certification (e.g., 52.212-3(g) or a comparable agency provision); and

(ii) The offeror has certified that all the offered products to be supplied are designated country end products.

(End of Provision)

52.225-18 Place of Manufacture (Sept 2006)

(a) Definitions. As used in this clause—

“Manufactured end product” means any end product in Federal Supply Classes (FSC) 1000-9999, except—

- (1) FSC 5510, Lumber and Related Basic Wood Materials;
- (2) Federal Supply Group (FSG) 87, Agricultural Supplies;
- (3) FSG 88, Live Animals;
- (4) FSG 89, Food and Related Consumables;
- (5) FSC 9410, Crude Grades of Plant Materials;
- (6) FSC 9430, Miscellaneous Crude Animal Products, Inedible;
- (7) FSC 9440, Miscellaneous Crude Agricultural and Forestry Products;
- (8) FSC 9610, Ores;
- (9) FSC 9620, Minerals, Natural and Synthetic; and
- (10) FSC 9630, Additive Metal Materials.

“Place of manufacture” means the place where an end product is assembled out of components, or otherwise made or processed from raw materials into the finished product that is to be provided to the Government. If a product is disassembled and reassembled, the place of reassembly is not the place of manufacture.

(b) For statistical purposes only, the offeror shall indicate whether the place of manufacture of the end products it expects to provide in response to this solicitation is predominantly—

- (1)  In the United States (Check this box if the total anticipated price of offered end products manufactured in the United States exceeds the total anticipated price of offered end products manufactured outside the United States); or
- (2)  Outside the United States.

(End of Provision)

**1852.209-73 Representation by Offerors that they are not the Association of Community Organizations for Reform Now (ACORN) or a subsidiary of ACORN. (Deviation Feb 2012)**

(a) In accordance with section 534 of The Consolidated and Further Continuing Appropriation Act of 2012 (Pub. L.112-55) none of the funds made available by the Act may be distributed to the Association of Community Organizations for Reform Now (ACORN) or its subsidiaries.

(b) The offeror represents by submission of its offer, that it is not the Association of Community Organizations for Reform Now (ACORN) or a subsidiary thereof.

(End of Provision)

**1852.209-75 Representation by Corporations Regarding an Unpaid Delinquent Tax liability or a Felony Conviction under any Federal Law (Deviation Feb 2012)**

(a) In accordance with section 544 and 543 of The Consolidated and Further Continuing Appropriation Act of 2012 (Pub.L.112-55), none of the funds made available by that Act may be used to enter into a contract with any corporation that-

- (1) Has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless the agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government; or
- (2) Was convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless the agency has considered suspension or debarment of the corporation and made a determination that this action is not necessary to protect the interests of the Government.

(b) The offeror represents that –

- (1) It is  is not  a corporation that has had any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and It is  is not  a corporation that was convicted, or had an officer or agent acting on behalf of the corporation convicted, of a felony criminal violation under a Federal law within the preceding 24 months.

(End of Provision)