SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. REQUISITION NUMBER: 4200481934

PAGE 1 OF 17

2. CONTRACT NO.

3. AWARD/ EFFECTIVE DATE

4. ORDER NUMBER

5. SOLICITATION NUMBER: NNC13481934Q

6. SOLICITATION ISSUE DATE

7. FOR SOLICITATION INFORMATION CALL:
a. NAME: BERNADETTE KAN
b. TELEPHONE NUMBER (No collect calls): 216-433-2525

8. OFFER DUE DATE/LOCAL TIME: 08/09/2013 1630 ES

9. ISSUED BY CODE GRC

NASA/Glenn Research Center
Procurement Division, MS 60-1
21000 Brookpark Road
Cleveland OH 44135-3127

10. THIS ACQUISITION IS X UNRESTRICTED OR SET ASIDE: % FOR:

SMALL BUSINESS
HUBZONE SMALL BUSINESS
SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS
WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM
EDWOSB
8(A)

NAICS: 333414

SIZE STANDARD: 500

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED
SEE SCHEDULE

12. DISCOUNT TERMS

X 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING: D0-C9

14. METHOD OF SOLICITATION
X RFQ IFB RFP

15. DELIVER TO CODE GRC

NASA/Glenn Research Center
21000 Brookpark Road
Cleveland OH 44135-3127

16. ADMINISTERED BY CODE GRC

NASA/Glenn Research Center
Procurement Division, MS 60-1
21000 Brookpark Road
Cleveland OH 44135-3127

17a. CONTRACTOR/ OFFEROR CODE

FACILITY CODE

TELEPHONE NO.

17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18a. PAYMENT WILL BE MADE BY CODE

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	The delivery date is: TBD at time of award The end user is: TBD at time of award The items were quoted on: TBD INCO TERMS 2: DESTINATION				
001	ULTRA HIGH TEMPERATURE INERT GAS AND VACUUM FURNACE	1	EA		
	Continued ...				
	(Use Reverse and/or Attach Additional Sheets as Necessary)				

25. ACCOUNTING AND APPROPRIATION DATA

26. TOTAL AWARD AMOUNT *(For Govt. Use Only)*

X 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA X ARE ARE NOT ATTACHED.
27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA ARE ARE NOT ATTACHED.

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED.

29. AWARD OF CONTRACT: REF. OFFER DATED YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA *(SIGNATURE OF CONTRACTING OFFICER)*

30b. NAME AND TITLE OF SIGNER *(Type or print)*

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER *(Type or print)*: BERNADETTE KAN

31c. DATE SIGNED

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	This page is intentionally left blank				

32a. QUANTITY IN COLUMN 21 HAS BEEN

RECEIVED INSPECTED ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED:

32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE
32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE		32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE 32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE

33. SHIP NUMBER PARTIAL FINAL	34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	36. PAYMENT COMPLETE PARTIAL FINAL	37. CHECK NUMBER
38. S/R ACCOUNT NUMBER	39. S/R VOUCHER NUMBER	40. PAID BY		

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT		42a. RECEIVED BY *(Print)*	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER	41c. DATE	42b. RECEIVED AT *(Location)*	
		42c. DATE REC'D *(YY/MM/DD)*	42d. TOTAL CONTAINERS

TERMS AND CONDITIONS OF ORDER

SECTION A.1 GENERAL - COMMERCIAL ITEMS

[ ] GSA Schedule Item: This order is for a commercial item subject to the terms and conditions of the GSA Schedule Contract cited and any additional terms and conditions included below as addenda to FAR clause 52.212-4, Contract Terms and Conditions -- Commercial Items, contained in the GSA Schedule Contract.

[X] Open Market Item: This order is for a commercial item subject to the terms and conditions of FAR 52.212-4, Contract Terms and Conditions -- Commercial Items, incorporated by reference; FAR 52.212-5, Contract Terms and Conditions Required to Implement Statutes and Executive Orders, attached to this order; and any additional terms and conditions included below as addenda to 52.212-4.

This order incorporates the following FAR and NASA FAR Supplement (NFS) clauses by reference, with the same force and effect as if they were given in full text. Clauses incorporated by reference which require a fill-in by the Government, include the text of the affected paragraph(s) only. This does not limit the clause to the affected paragraph(s). The Contractor is responsible for understanding and complying with the entire clause. The full text of a clause may be accessed electronically at this/these address(es):

FAR: http://www.acqnet.gov/far/

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

SUPPLEMENTAL INFORMATION - SIMPLIFIED ACQUISITIONS (6/7/2013)

A. The following information is provided relative to this order:

1. The Government technical contact for this order is: **TBD at time of award**.
   The technical contact may be reached at: **TBD at time of award.**

2. This order is a rated order under DPAS (15 CFR 700). The Rating is DO-A7 if the requirement is for electronic and/or communications equipment. The Rating is DO-C9 for all other requirements.

3. If this order is for items and/or services that are directly related to space flight hardware and/or related ground support equipment, the following requirements apply:

   a. Prior to making any changes in the following areas relative to the required items and/or services, the Contractor must submit a written request to the Contracting Officer and receive written approval before proceeding: 1) Product and/or process description(s), 2) Intended suppliers, 3) Manufacturing facility location.
   b. If performance under this order results in a nonconforming product, the Contractor must submit a written notice to the Contracting Officer and receive written disposition instructions for that nonconforming product.
   c. All quality records (e.g. technical progress reports, process certifications, test results, etc.) created or received by the Contractor in the performance of this order shall be maintained and safeguarded by the Contractor until provided to the Government as specified elsewhere in this order, or, if not specified elsewhere, at the conclusion of this order.
   d. The Contractor shall include the applicable requirements of the Statement of Work/Specification, and the requirements of this paragraph (3) in all subcontracts.

4. The Government requires all vendors receiving awards to be registered in System for Award

Management (SAM). The web site for this registration is: https://www.sam.gov

5. Submit invoices 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

6. Tax Identification Number (TIN) must be provided with the invoice for payment

7. **FOR BILLING INFORMATION, CONTACT THE NSSC at 1-877-677-2123**

8. If this order is for safety critical items, or for services that involve, or are likely to involve, the furnishing of safety-critical items*, in accordance with NASA Procedural Requirements (NPR) 8735.1, the Contractor shall participate in the Government-Industry Data Exchange Program (GIDEP), and comply with the requirements of the GIDEP Operations Manual (GIDEP S0300-BT-PRO-010) and the GIDEP Requirements Guide (S0300-BU-GYD-010). These documents, as well as other information and materials concerning GIDEP are available from:

   GIDEP Operations Center
   P.O. Box 8000
   Corona, CA 92878-8000

   Phone: (951) 898-3207
   FAX: (951) 898-3250

   Website: http://www.gidep.org

   *Safety-critical item means a part, assembly, installation equipment, launch equipment, ground support equipment, recovery equipment, or support equipment for an aircraft, launch vehicle, space vehicle, or facility if the part, equipment, or assembly contains a characteristic whose failure, malfunction, or absence could cause a catastrophic or safety-critical failure resulting in the loss of or serious damage to the craft/vehicle/facility, loss of mission, an unacceptable risk of personal injury, or loss of life.

   The Contractor shall review all GIDEP Notices* and designated NASA Advisories to determine if they affect the Contractor's products/and or services provided to the Government. The Contractor shall respond by stating, in writing, whether or not each GIDEP Notice and NASA Advisory affects the Contractor's products and services provided to the Government. The Contractor is also responsible for stating whether or not each GIDEP Notice and NASA Advisory affects the subcontractor's products and services provided to the Government. For GIDEP Notices and NASA Advisories that affect the Contractor's products and services provided to the Government, the Contractor shall take action to eliminate or mitigate any negative effect and inform the Government of such actions to ensure GIDEP Notices and NASA Advisories adhere to close-loop reporting**. The contractor shall provide GIDEP Notice and NASA Advisory disposition documentation to NASA up to the time that closed-loop reporting is no longer required. The Contractor shall generate applicable GIDEP Alerts in accordance with the requirements of GIDEP SO300-BT-PRO-010 and SO300-BU-GYD-010 whenever failed or nonconforming items, available to other buyers, are discovered during the course of the Contract.

   * The term "GIDEP Notices" means "GIDEP Alerts, GIDEP Safe-Alerts, GIDEP Problem Advisories, and GIDEP Agency Action Notices." Life-cycle logistics should be addressed per contractual requirements identified by the Program/Project.

   ** The term "close-loop reporting" means providing a written response of no impact, no usage, or impact with rationale at program milestone and readiness reviews or according to contract or other specified reporting times/events for each GIDEP Notice and NASA Advisory.

If suspect/counterfeit parts are furnished under this contract, such items shall be impounded by the Glenn Research Center (GRC). The Contractor shall promptly replace such items with items acceptable to the GRC and the Contractor shall be liable for all costs relating to impoundment, removal, and replacement. The GRC may turn such items over to NASA Office of Inspector General, FBI, etc., for investigation, and reserves the right to withhold payment for the suspect/counterfeit items pending the results of the investigation.

The contractor is responsible for the flow-down of these requirements to subcontractors and subcontractor adherence to closed-loop reporting. Therefore, the Contractor agrees to insert the preceding paragraphs in any subcontract for supplies exceeding $500,000 and subcontracts of any dollar amount when safety-critical item(s), as identified by the contract, are to be supplied. When inserted, the words, "Contractor" shall be changed to "Subcontractor," and "Government" shall be changed to "Customer."

8. If travel to a foreign country will be required in the performance of this contract, the contractor shall request a defensive counterintelligence travel briefing from the GRC Counterintelligence Office at least 2 weeks prior to travel. Only approved and sanitized Information Technology (IT) devices including laptops, flash drives, thumb drives, memory sticks, smart phones or PDA's will be authorized to be taken on travel. Approval must be obtained from the GRC Information Technology Security Manager for any IT device to be transported outside the US. All NASA documents or information must be reviewed and approved by either the GRC Center Export Administrator or a cognizant GRC Center Export Representative prior to travel. Any IT or data system, device or document containing NASA sensitive information as outlined in NPR 1600.1 paragraph 5.24, must be reviewed and approved by the GRC Security Management and Safeguards Office Information Security Specialist prior to travel.

ADDENDUM TO 52.212-4, CONTRACT TERMS AND CONDITIONS - COMMERCIAL ITEMS

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

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. 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)

1852.223-72 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)

1852.225-70 Export Licenses. (FEB 2000)

(a) The Contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data, and software, or for the provision of technical assistance.

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

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

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

(End of clause)

1852.237-73 Release of Sensitive Information. (JUN 2005)

(a) As used in this clause, "Sensitive information" refers to information, not currently in the public domain, that the Contractor has developed at private expense, that may embody trade secrets or commercial or financial information, and that may be sensitive or privileged.

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

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

Mark the title page with the following legend:

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

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

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

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

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

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

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

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

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

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

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

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

(e) When the service provider will have primary responsibility for operating an information technology system for NASA that contains sensitive information, the service provider's contract shall include the clause at 1852.204-76, Security Requirements for Unclassified Information Technology Resources. The Security Requirements clause requires the service provider to implement an Information Technology Security Plan to protect information processed, stored, or transmitted from unauthorized access, alteration, disclosure, or use. Service provider personnel requiring privileged access or limited privileged access to these information technology systems are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse impact to NASA missions. The Contracting Officer may allow the service 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)

52.212-5 ATTACHMENT

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: Contracting Officer check as appropriate.

[] (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, Contractor 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 (JUN 2010) (Section 1553 of Pub. L. 111-5). (Applies to contracts funded by the American Recovery and Reinvestment Act of 2009.)
[X] (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).
[X] (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).
[X] (8) 52.209-10, Prohibition on Contracting with Inverted Domestic Corporations (MAY 2012) (section 738 of Division C of Pub. L. 112-74, section 740 of Division C of Pub. L. 111-117, section 743 of Division D of Pub. L. 111-8, and section 745 of Division D of Pub. L. 110-161).
[] (9) 52.219-3, Notice of HUBZone Set-Aside or Sole-Source Award (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)
[X] (12)(i) 52.219-6, Notice of Total Small Business Set-Aside (NOV 2011) (15 U.S.C. 644).
[] (ii) Alternate I (NOV 2011).
[] (iii) Alternate II (NOV 2011).
[] (13)(i) 52.219-7, Notice of Partial Small Business Set-Aside (JUN 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 (JUN 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. 657f).

[X] (23) 52.219-28, Post Award Small Business Program Rerepresentation (APR 2012) (15 U.S.C. 632(a)(2)).

[] (24) 52.219-29, Notice of Set-Aside for Economically Disadvantaged Women-Owned Small Business (EDWOSB) Concerns (APR 2012) (15 U.S.C. 637(m)).

[] (25) 52.219-30, Notice of Set-Aside for Women-Owned Small Business (WOSB) Concerns Eligible Under the WOSB Program (APR 2012) (15 U.S.C. 637(m)).

[X] (26) 52.222-3, Convict Labor (JUN 2003) (E.O. 11755).

[X] (27) 52.222-19, Child Labor-Cooperation with Authorities and Remedies (MAR 2012) (E.O. 13126).

[X] (28) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).

[X] (29) 52.222-26, Equal Opportunity (MAR 2007) (E.O. 11246).

[X] (30) 52.222-35, Equal Opportunity for Veterans (SEP 2010) (38 U.S.C. 4212).

[X] (31) 52.222-36, Affirmative Action for Workers with Disabilities (OCT 2010) (29 U.S.C. 793).

[X] (32) 52.222-37, Employment Reports on Veterans (SEP 2010) (38 U.S.C. 4212).

[X] (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 (JUL 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.

[X] (38) 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving (AUG 2011). (E.O. 13513).

[X] (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. chapter 83, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, 19 U.S.C. 3805 note, 19 U.S.C. 4001 note, Pub. L. 103-182, 108-77, 108-78, 108-286, 108-302, 109-53, 109-169, 109-283, 110-138, 112-41, 112-42, and 112-43).

[] (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).

[X] (42) 52.225-13, Restrictions on Certain Foreign Purchases (JUN 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)).
[X] (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: (Contracting Officer check as appropriate.)

[] (1) 52.222-41, Service Contract Act of 1965 (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 (SEP 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 this paragraph (e)(1) 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 $650,000 ($1.5 million 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 (SEP 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 (JUL 2012).

(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)

Specifications for Ultra High Temperature Inert gas/Vacuum Graphite Furnace

A. Floor standing ultra high temperature graphite furnace with control system: **1 Qty**

General Description of the Basic Unit

1. The furnace shall be designed to operate between room temperature and above 2600 ^{0}C. Furnaces designed to operate at temperatures above 2600 ^{0}C are preferred and this will be part of the selection criteria. The furnace shall be configured for vertical operation.

2. The furnace shall be resistance heated with easily replaceable graphite elements. It is preferred that the heating elements be recessed into the furnace walls to prevent damage during specimen loading and unloading. Suitable protective measures should be included in the furnace design to protect the heating elements and furnace walls from environmental, mechanical and thermal damage and ensure a long furnace life.

3. The hot zone furnace insulation shall consist of light weight rigid fibrous graphite material. The thickness of the insulation and furnace design shall ensure minimum temperature loss.

4. The vacuum chamber shall consist of a circular or a rectangular cross-sectional heated zone surrounded by a double-walled, water cooled chamber designed with standard inlet and outlet fittings suitable for attaching to a commercially available chilled water circulation unit. The inside of the vacuum chamber shall conform to the best high vacuum practices. **The vendor shall specify the design requirements for the chiller at the maximum furnace operating temperature.** The maximum surface temperature of the outer shell shall not exceed 160 ^{0}F (70 ^{0}C) at the specified water flow rate and inlet water temperature when the furnace is operated at its maximum design temperature. The cooling design shall eliminate hot spots in the furnace.

5. The furnace and power supply design shall be robust enough to allow for long duration conducting thermal cycling tests between room temperature and at least 2600 ^{0}C. Preference will be given for furnaces with high heat-up and cool-down rates if quotes are for similar quotes for furnace with similar capabilities.

6. The **minimum** useable hot zone shall be 3.0" I.D. x 4" height is acceptable but the preferred work zone is 6" I.D. x 6" height. **Preference will be given for furnaces with larger useable hot zones for similar quotes with similar furnace capabilities.**

7. The furnace design shall allow easy loading and unloading of specimens either from the top, front or bottom. Bottom loading furnaces should be equipped with an electrically powered elevator hearth designed to fit snugly with the furnace cavity to minimize heat loss.

8. The furnace design shall allow easy access to enable the changing of the heating elements and carry out routine maintenance.

9. Ports shall be provided and factory configured for specimen viewing, power feed through, gas and vacuum ports, optical pyrometer, and control and measuring thermocouple ports.

10. The furnace shall be designed to handle static or flowing inert gas (Ar, He and N_2) and roughing pump vacuum (10^{-3} to 10^{-2} torr). The furnace chamber design shall have necessary O-rings and gasket seals to reduce leak rates. A direct drive roughing pump suitable for evacuating the chamber within 5-10 minutes, manifold, valves, filters, vacuum gauges and controls should be provided. The chamber design shall be able to accommodate gas pressures of at least 2 psig. Suitable flanges, manifolds and other fittings shall be provided for attaching a diffusion pump and high vacuum gauge at a future date.

11. The furnace-controller-gas assembly system shall be equipped factory tested and certified safety interlocks designed to protect the furnace and personnel during operation. These include water flow interlock switches, water-cooled power cables, over temperature controller and sensor, electrical power disconnect switch, vacuum and gas interlock switches, mechanical pump overload trip switch, over pressure relief valves and other similar protective and safety devices. The interlock should turn off the furnace in case of loss of cooling water.

12. The electrical requirements shall be designed to operate at voltages of 208 or 220 V, 1 phase, 50-60Hz. The length of the power cable shall be longer than six-ft. (6'). A circuit breaker, amp. and voltmeter shall be provided.

13. A floor mounted control and power console shall be provided. A main power disconnect switch/circuit breaker shall be provided. All other controls and instrumentation for the gas, temperature and vacuum systems shall be mounted on the console in an easily accessible manner.

14. The temperature control system shall be tuned to match the furnace characteristics to ensure accurate temperature control without significant overshoots and undershoots. The temperature control system shall allow the furnace to respond to set point changes fairly rapidly without sluggish behavior.

15. The temperature control system shall incorporate Eurotherm Model 24xx (e.g. Models 2404 or 2416) or 35xx (e.g. Model 3504) with auto-tuning PID control. **The temperature controller shall possess Eurotherm's "Itools" software required for servicing the equipment.** The temperature controller should be programmable with at least 4 programs to store 16 segments. The controller shall have the ability to digitally communicate with a computer. The temperature controller shall possess a digital read out for displaying temperature and other process parameters.

16. A 2-color optical pyrometer (1000-3300 ^{0}C) shall be used for controlling and measuring the temperature at the center of the hot zone. A retractable molybdenum sheathed thermocouple shall be provided for controlling and measuring temperatures below 2300 ^{0}C. The desired accuracy of temperature control is better than +/- 0.1% of set temperature.

17. An over temperature Eurotherm 2216E or an upgraded Eurotherm model shall be provided. **The over temperature controller shall possess Eurotherm's "Itools" software required for servicing the equipment.** The over temperature controller shall be configured suitably to be

operative at all temperatures between room temperature and the maximum operating temperature specified in item 1.

18. Current limiting silicon-controlled rectified power controllers shall be included in the console.

B. Options

The vendor shall quote separately for the following options:

1. **Solid state ZrO_2 oxygen monitor and inert gas purifier** with adjustable alarm output, and with the capability of dynamically reducing the oxygen and moisture content of Ar, He and N_2 from a flowing gas stream. The gettered gas purity should be better than 1×10^{-6} ppm and flow rate shall be higher than 30 slpm. The unit shall have LED displays of the O_2 level. Detection levels should vary from 1×10^{-15} to 2×10^{5} ppm O_2. The unit should be assembled and factory certified. **1 Qty**

2. **Diffusion pump system and assembly** designed for evacuating the furnace system described under item A to vacuum levels lower than 10^{-5} torr. **1 Qty**

3. **Multi-channel digital data acquisition** system and associated Windows 7 based software for acquiring and storing test data during the operation of the furnace. The unit shall be able to acquire and display the following readings: gas pressure, specimen temperature, over temperature, vacuum, control temperature and alarm settings. The unit shall have the ability to graphically display the specimen temperature, gas pressure and vacuum levels as a function of time. **1 Qty**

4. **Chiller unit** suitably designed for cooling the furnace. **1 Qty**

5. **Critical spare parts** for the furnace in item A. The vendor shall quote on a spare set of heating elements, thermocouple sheath and other critical parts. In this case, the price should be given for each item. **1 Qty**

6. **On-site field service assistance** for initial start-up and training of personnel. The number of days and specific assistance to be provided shall be itemized. It is understood that since it could take several months to set-up the facilities for the furnace system, this quote is a fixed price option valid up to 6 months after the delivery of the equipment. **1 Qty**

C. Miscellaneous

1. The vendor shall itemize the laboratory requirements (i.e. power, water, air, floor space, weights of the shipping crate and furnace-assembly etc.) under a separate paragraph in the quote.

2. Two complete sets of instruction manuals necessary for operating the furnace and the temperature controllers shall be provided.

3. All necessary MSDS sheets shall be provided for any chemical compounds used in the fabrication of the furnace, if applicable.

4. Documentation including references demonstrating that the vendor has the necessary expertise to design and install ultra high temperature inert gas and vacuum furnace similar to the present specifications.