SOLICITATION, OFFER AND AWARD | ORDER UNDER DPAS (15 CFR 350) | DO-C9 | SEE SECTION 11 BELOW

2. CONTRACT NO.	3. SOLICITATION NO.	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NO.
NNJ11HA02C	NNJ10336472R	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	August 3, 2010	

7. ISSUED BY — CODE BH5
NASA/JSC/WSTF
BH5/ Irene Garcia
12600 NASA Road
Las Cruces, NM 88012

8. ADDRESS OFFER TO *(If other than Item 7)*
(Refer to Section L.14 of this solicitation)

APPROVED
JSC PROCUREMENT OFFICER
2/18/11
DATE

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

SOLICITATION

9. Sealed offers in original and copies for furnishing the supplies or services in the Schedule will be received at the places specified and in accordance with provision L.14 - "Proposal Marking and Delivery" and table L-2 - "Proposal Copies and Due Dates", located in provision L.19.2 - "Proposal Arrangement, Page Limitations, Copies, And Due Dates".

_ All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE NO. *(NO COLLECT CALLS)* AREA CODE	NUMBER	EXT.	C. EMAIL ADDRESS
	Irene Garcia	281	792-7693		irene.m.garcia-1@nasa.gov

11. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE	(X)	SEC.	DESCRIPTION	PAGE
PART I – THE SCHEDULE				**PART II – CONTRACT CLAUSES**			
☒	A	SOLICITATION/CONTRACT FORM		☒	I	CONTRACT CLAUSES	I.1
☒	B	SUPPLIES OR SERVICES AND PRICES/COSTS	B.1	**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**			
☒	C	DESCRIPTION/SPECS/WORK STATEMENT	C.1	☒	J	LIST OF ATTACHMENTS	J.1
☒	D	PACKAGING AND MARKING	D.1	**PART IV – REPRESENTATIONS AND INSTRUCTIONS**			
☒	E	INSPECTION AND ACCEPTANCE	E.1	☒	K	REPRESENTATIONS, CERTIFICATIONS AND	K.1
☒	F	DELIVERIES OR PERFORMANCE	F.1			OTHER STATEMENTS OF OFFERORS	
☒	G	CONTRACT ADMINISTRATION DATA	G.1	☒	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	L.1
☒	H	SPECIAL CONTRACT REQUIREMENTS	H.1	☒	M	EVALUATION FACTORS FOR AWARD	M.1

OFFER *(Must be fully completed by offeror)*

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

12. In compliance with the above, the undersigned agrees, if this offer is accepted within 350 calendar days *(60 calendar days unless a different period is inserted by the offeror) from* the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT *(See Section I, clause No. 52-232-8)*	10 CALENDAR DAYS %	20 CALENDAR DAYS %	30 CALENDAR DAYS %	CALENDAR DAYS %

14. ACKNOWLEDGMENT OF AMENDMENTS *(The offeror acknowledges receipt of amendments to the SOLICITATION).* For offerors and related documents numbered and dated:	AMENDMENT NO	DATE	AMENDMENT NO	DATE
	1	20 Aug 10		
	2	02 Sep 10		

15. NAME AND ADDRESS OF OFFEROR	CODE 07486	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*
	Jacobs Technology Inc. 600 William Northern Blvd., P. O. Box 884 Tullahoma, TN 37388		Rogers F. Starr, President

15B. TELEPHONE NO. *(Include area code)*	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE – ENTER	17. SIGNATURE	18. OFFER DATE
931.455.6400	☒ SUCH ADDRESS IN SCHEDULE	Rogers F. Starr	20 Sep 10

AWARD *(To be completed by Government)*

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
See Section B	See Section B	PR 4200336472 $500,000 Per Clauses B.6 & B.11

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION	23. SUBMIT INVOICES TO ADDRESS SHOWN IN: *(4 copies unless otherwise specified)*	ITEM
☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )		Clause G.3

24. ADMINISTERED BY *(If other than Item 7)* CODE	25. PAYMENT WILL BE MADE BY CODE
	NASA Shared Services Center (NSSC) **Financial Management Division(FMD) – Accounts Payable** **Bldg. 1111, C. Road** **Stennis Space Center, MS 39529**

26. NAME OF CONTRACTING OFFICER *(Type or print)*	27. UNITED STATES OF AMERICA	28. AWARD DATE
Irene M. Garcia	*(Signature of Contracting Officer)*	FEB 18 2011

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

Volume V – Model Contract

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Cross Reference Summary – Volume V

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Vol. I, MA4	Responsive Resource Provisioning (RRP) program	p. 22
Vol. I, TA1-1.2; Vol. II, Appendix C	TESTnet portal	p. 30; pp. 51, 53; pp. 60 – 63
Vol. I, TA1-1.2; Vol. II Appendix D and F	Performance Management process (PM3)	p. 30
Vol. I, TA1-1.2; Vol. II, Appendix B	Operations Coordination Group (OCG)	p. 30
Vol. I, TA1-1.2	Task Order Status Report (TOSR)	p. 30
Vol. I, TA1-1.2	Contractor Management Council (CMC)	p. 30
Vol. I, TA1-1.2	Computerized Maintenance Management System (CMMS)	p. 45
Vol. I, TA1-1.2	Strategic Planning Process (SPP)	p. 33
Vol. I, TA1-1.4	Communities of Practice (CoPs)	p. 40
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Vol. I, TA1-1.6	Business Development	p. 52
Vol. I, TA1-1.6; Vol. II., Appendix O	Focus on Safety – BeyondZero®	p. 53; pp.162 – 203
Vol. I, TA1-1.6	Community Involvement	p. 53
Vol. I, TA1-1.6	Enhancing Critical Skills	p. 53
Vol. I, TA1-1.6	Energy Conservation	p. 54
Vol. I, TA1-1.6	Employee Incentivization	p.54
Vol. II, Appendix B	Performance Improvement Plan (PIP)	p.28
Vol. II, Appendix B	Jacobs Enterprise Management System (JEMS)	p. 30
Vol. II, Appendix B	Integrated Team Management approach (ITMA)	pp. 19 – 30

Cross Reference List – Volume V

Section L Reference	Section L Requirements	Proposal Section/Page
L.19.7 (a)	STANDARD FORM (SF) 33, OFFEROR FILL INS AND SECTION K Blocks 12 through 18 of the SF 33 and -all required fill-ins in Sections B, C, D, E, F, G, H, I and J-1 must be completed (any other fill-ins required in section J shall be submitted as part of Volume II – Plans and Other Data. The completed (blocks 12-18) and signed SF33 and the pages with the required fill-ins must be submitted. The Offeror shall provide five signed original SF 33s. Annual representations and certifications shall be completed electronically and submitted with this volume in accordance with provision K.2, Annual Representations and Certifications (FAR 52.204-8). All SF 33s require original signatures; the Offeror shall provide 4 originals.	RFP Section A
	(i) Offerors shall indicate, in Block 12 of the SF 33, a proposal validity period of 350 days. However, in accordance with paragraph (d) of FAR provision 52.215-1, "Instructions to Offerors--Competitive Acquisitions," a different validity period may be proposed by the Offeror.	RFP Section A
	(ii) Provide the names, email addresses, and phone numbers of persons to be contacted for clarification of questions of a technical nature and business nature. Identify any consultants and/or subcontractors used in writing this proposal (if any) and the extent to which their services will be available in the subsequent performance of this effort.	RFP Section A
L.19.7 (b)	SUMMARY OF INNOVATIONS AND EFFICIENCIES Include in the proposal (attached to the transmittal letter) a statement of acceptance of the proposed contract terms and conditions incorporated in this RFP and that will be included in the resultant contract.	N/A
	Include a cross-reference summary list of any new proposed terms, conditions, clauses, and innovations or efficiencies proposed by the Offeror which are of benefit to the Government. The full discussion of proposed innovations and efficiencies and the benefit to the Government shall be contained in Volume I, II, or IV as appropriate. In addition innovations and efficiencies that are proposed for addition to the Performance Incentive Fee Pool, including the specific objective metrics on which performance is to be measured, shall be included in J-1 Performance Evaluation Plan, Paragraph V,A,6.	p. Summary-1

Section L Reference	Section L Requirements	Proposal Section/Page
L.19.7 (c)	ADDITIONAL INFORMATION TO BE FURNISHED (i) Business Systems State whether all business systems, including but not limited to accounting, property control, purchasing, estimating, project reporting and employee compensation, which require Government acceptance or approval (as applicable) are currently accepted/approved, by DCAA, without condition. Provide documentation showing approval status including the following: • Name of system/software • Length of approval • Provide 3 Contract Name(s) and Numbers where the business systems are currently in use • Provide the name, number and email address of the COTR and CO, for each contract • Provide the date of acceptance/approval for each system and the cognizant contract administration office. Explain any existing conditional acceptances/approvals and the compliance status of any systems(s) for which acceptance or approval is currently withheld.	p. 1
	(iii) Responsibility Information Provide information addressing all of the elements under FAR 9.104, Standards, to demonstrate responsibility (address the elements under this section that are not addressed in another proposal volume. Provide reference points for those items that will not be addressed in this section).	p. 2
	(iv) Taxpayer Identification Number Prime Offerors shall provide their Taxpayer Identification Number (TIN) (the number required by the Internal Revenue Service (IRS) to be used by the Offeror in reporting income tax and other returns).	p. 3
	(v) Waiver of Rights to Inventions This solicitation contains NASA FAR Supplement (NFS) Clause 1852.227-70, "New Technology" and NFS provision 1852.227-71, "Request for Waiver to Rights to Inventions". Any petitions for advance (prior to contract execution) waiver of rights to inventions should be included in this volume.	p. 3

Section L Reference	Section L Requirements	Proposal Section/Page
	(vii) Cost Accounting Standards State whether the Cost Accounting Standards (CAS) Disclosure Statement represented in Provision K.11, Cost Accounting Standards Notices and Certifications, has been approved by the cognizant Administrative Contracting Officer, and provide the date of such approval. If your CAS Disclosure Statement is currently not approved or there are some existing CAS non-compliance findings, please provide detailed explanation of the CAS non-compliance issues, corrective action status, and any potential impact on this procurement. A copy of the Offeror's disclosure statement applicable to the resultant contract shall be submitted and the Offer shall clearly identify where in the disclosure statement where the following are addressed: H.27 Contractor Purchasing, H.16 Requirements For Cost Tracking and Accounting and Associated Business Systems.	p. 3
	(viii) Subcontractor Listing The Offeror shall provide a summary listing (by name and address) of all subcontractors (regardless of dollar value) that have been identified throughout the Offeror's proposal and the subcontract value associated with each entity. This listing shall also include the subcontractors size classification (i.e. Small business (SB), Woman Owned Small Business (WOSB), etc) and cage code.	p. 3
	(ix) Other Information to be Provided Provide documentation verifying the ability to comply with DD Form 254. Provide information as to the status or intention of applying for a New Mexico State Type 9 and/or 15 Nontaxable Transaction Certificate. Provide milestones in accordance with NM policy as to the date a Type 15 Certificate will be granted to the Offeror for use on the TEST Contract. Provide sufficient documentation on the Offer's processes and or procedures for complying with H.27 Contractor Purchasing.	p. 4

Acronyms List

CAS	Cost Accounting System
CCR	Central Contractor Registration
CO	Contracting Officer
COTR	Contracting Officer's Technical Representative
DCAA	Defense Contract Audit Agency
DCMA	Defense Contract Management Agency
DOD	Department of Defense
ECM	Experience-Centered Maintenance
ESC	Engineering and Science Contract
ESTS	Engineering and Technical Services
FAR	Federal Acquisition Regulations
GSA	General Services Administration
ITMA	Integrated Team Management Approach
JEMS	Jacobs Enterprise Management System
NTEC	NASA Test and Evaluation Contract
O&M	Operations and Maintenance
RCM	Reliability-Centered Maintenance
SB	Small Business
SDVOSB	Small Disadvantaged Veteran-Owned Small Business
TDT	Technology Deployment Team
TEC	Test and Evaluation Contract
TEST	Test Evaluation and Support
TOSR	Task Order System Report
VOSB	Veteran-Owned Small Business
WOSB	Woman-Owned Small Business
WSTF	White Sands Test Facility

SECTION B – SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
NONE INCORPORATED BY REFERENCE		

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE
NONE INCORPORATED BY REFERENCE		

(End of Clauses Incorporated by Reference)

B.2 DESCRIPTION OF WORK

(a) The Contractor shall provide all required services (except as may be expressly stated in this contract as furnished by the Government) necessary to successfully manage, deliver and/or perform, operate, maintain and provide all requirements in accordance with the Statement of Work (SOW) in Section C, as well as all Data Requirement Descriptions (DRDs) provided in section J, and all other requirements as specified throughout the contract.

(b) In addition, the Contractor shall provide all resources and services (except as may be expressly stated in this contract as furnished by the Government) necessary to successfully perform all phase-in activities, in accordance with the Phase-in Plan (DRD TEST-CM-04).

(c) This is a performance based, Indefinite Delivery/Indefinite Quantity (IDIQ) type contract. The contract performance will be measured in accordance with the Performance Evaluation Plan (Attachment J.1).

(d) This contract contains Cost Reimbursable (CR) and Fixed Price (FP) portions. Portions of the SOW that are CR and/or FP are identified in the table of contents of the SOW. It is the Governments intent to transition work currently listed as CR to FP as historical data is collected and as appropriate during the

life of the contract.

(End of clause)

B.3 CONTRACT PHASE-IN (FIRM-FIXED-PRICE)

The total firm fixed price of all phase-in effort for this contract is $268,507 covering a 60- calendar day phase-in period from March 1, 2011 through April 30, 2011.

(End of clause)

B.4 FIRM FIXED-PRICE (NFS 1852.216-78) (DEC 1988) *(Applicable only to fixed-price)*

The total firm fixed price of this contract is b4

(End of clause)

B.5 ESTIMATED COST AND FEE

(a) The estimated cost of this contract is **TBD**. The maximum available fee, excluding base fee, if any, is **TBD**. The base fee is $0. Total estimated cost and maximum fee is **TBD**.

(b) The estimated cost and fee for this contract is **TBD.**

(End of clause)

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

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is **TBD**. This allotment is for all Test and Evaluation Support Team (TEST) efforts at NASA/JSC/WSTF and covers the following estimated period of performance: March 1, 2011 through **TBD**.

(End of clause)

B.7 FIXED PRICE TASK ORDERS

The Government reserves the right to award the fixed price task orders below, as bid. Pricing of all FP IDIQ orders shall be in accordance with the negotiated rates in clause B.10 Fully Burdened Rate Table For Pricing Fixed Price Task/Delivery Orders.

CONTRACT BASE YEAR 1 – (May 1, 2011 – April 30, 2012)

Supplies/Services	Price
SOW Section 2.1 - Contractor Management Fixed Price Task Order 1TAMGMT	
SOW Section 2.2 - Business Processes Fixed Price Task Order 1TABPRO	
SOW Section 4.0 - Emergency Services Fixed Price Task Order 1TAEMER	
SOW 5.10.2 - Mail Services Fixed Price Task Order 1TCMAIL	
SOW 5.10.3 - Supply Management Fixed Price Task Order 1TCSUPL	
SOW 5.10.4 - Equipment Management Fixed Price Task Order 1TCEQUP	
SOW 5.10.5 - Disposal Fixed Price Task Order 1TCDISP	
SOW 5.10.6 - Transportation & Fleet Management Fixed Price Task Order 1TCTRNS	
SOW 5.10.7 - Receiving Fixed Price Task Orders 1TCRECV	
SOW 5.10.8 - Real Property Fixed Price Task Order 1TCRPRO	
SOW 5.11 - Buildings & Grounds Fixed Price Task Order 1TCBGaJ	
SOW 5.12 - Radios & Paging Fixed Price Task Order 1TCRADO	
Total FP Task Orders	

NOTE: The number of the task order is subject to change.

B.7.1 FIXED PRICE TASK ORDER SCHEDULE OF PRICES

The Government reserves the right to award the task orders listed below in years 2 and 3, as bid. Pricing of all FP IDIQ orders shall be in accordance with the negotiated rates in clause B.10 Fully Burdened Rate Table For Pricing Fixed Price Task/Delivery Orders.

CONTRACT BASE YEAR 2 – (May 1, 2012 – April 30, 2013)

Supplies/Services	Price
SOW Section 2.1 - Contractor Management Fixed Price Task Order 1TAMGMT	
SOW Section 2.2 - Business Processes Fixed Price Task Order 1TABPRO	
SOW Section 4.0 - Emergency Services Fixed Price Task Order 1TAEMER	
SOW 5.10.2 - Mail Services Fixed Price Task Order 1TCMAIL	
SOW 5.10.3 - Supply Management Fixed Price Task Order 1TCSUPL	
SOW 5.10.4 - Equipment Management Fixed Price Task Order 1TCEQUP	
SOW 5.10.5 - Disposal Fixed Price Task Order 1TCDISP	
SOW 5.10.6 - Transportation & Fleet Management Fixed Price Task Order 1TCTRNS	
SOW 5.10.7 - Receiving Fixed Price Task Orders 1TCRECV	
SOW 5.10.8 - Real Property Fixed Price Task Order 1TCRPRO	
SOW 5.11 - Buildings & Grounds Fixed Price Task Order 1TCBGaJ	
SOW 5.12 - Radios & Paging Fixed Price Task Order 1TCRADO	
Total FP Task Orders	

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NOTE: The number of the task order is subject to change.

CONTRACT BASE YEAR 3 – (May 1, 2013 – April 30, 2014)

Supplies/Services	Price
SOW Section 2.1 - Contractor Management Fixed Price Task Order 1TAMGMT	
SOW Section 2.2 - Business Processes Fixed Price Task Order 1TABPRO	
SOW Section 4.0 - Emergency Services Fixed Price Task Order 1TAEMER	
SOW 5.10.2 - Mail Services Fixed Price Task Order 1TCMAIL	
SOW 5.10.3 - Supply Management Fixed Price Task Order 1TCSUPL	
SOW 5.10.4 - Equipment Management Fixed Price Task Order 1TCEQUP	
SOW 5.10.5 - Disposal Fixed Price Task Order 1TCDISP	
SOW 5.10.6 - Transportation & Fleet Management Fixed Price Task Order 1TCTRNS	
SOW 5.10.7 - Receiving Fixed Price Task Orders 1TCRECV	
SOW 5.10.8 - Real Property Fixed Price Task Order 1TCRPRO	
SOW 5.11 - Buildings & Grounds Fixed Price Task Order 1TCBGaJ	
SOW 5.12 - Radios & Paging Fixed Price Task Order 1TCRADO	
Total FP Task Orders	

NOTE: The number of the task order is subject to change.

(End of clause)

B.8 MINIMUM/MAXIMUM IDIQ POTENTIAL CONTRACT VALUE *(Applicable to cost reimbursement and fixed price task/delivery orders)*

(a) The maximum value (not to exceed (NTE) that can be ordered under the IDIQ provisions of this contract on a per contract year basis is **$100,000,000**. This NTE amount includes both FFP and CR task/delivery orders. The maximum NTE amount is an estimate and does not reflect an obligation of the Government. The Government's obligation hereunder shall be based on the value specified in the task/delivery orders issued during the period of the contract.

(b) The guaranteed minimum quantity of work initiated through the issuance of task/delivery orders, shall be **$500,000**. This amount includes both cost, fee and fixed price cost elements. There will be no further obligation on the part

of the Government to issue additional task/delivery orders thereafter. If the Government orders supplies or services in excess of the minimum but not up to the maximum, this circumstance shall not constitute the basis for an equitable adjustment to any contract price, estimated cost or fee.

(c) The total maximum value is established in B.5, Estimated Cost and Fee, of this contract.

(End of clause)

B.9 FULLY BURDENED RATE TABLE FOR PRICING COST REIMBURSABLE (CR) TASK/DELIVERY ORDERS *(Applicable only to cost reimbursement)*

The purpose of this clause is to set forth the rates to be utilized in the subsequent negotiation of CR IDIQ Task/Delivery Orders in accordance with clause H.3 "Task Ordering Procedure." The bottom of the table allows indirect rates to be applied to any non-labor resources other than those listed in Section H.27, "Contractor Purchasing", as required by task/delivery order, if applicable.

Pricing of all CR IDIQ task/delivery orders shall be in accordance with the negotiated rates set forth below. Under no circumstances shall the rates used to price out CR task/delivery orders exceed the agreed upon rates in the Fully Burdened Rate Table shown below.

These following labor, indirect, and fee rates shall be used in establishment of the estimated cost of individual CR task/delivery orders. The labor rates are fully burdened composite team rates (prime and all subcontractors); but exclude prime fee. Apart from the limitations in clause H.27, "Contractor Purchasing", the indirect rates are those rates that may be applied to non-labor resources such as travel. The Fee Rate is the maximum fee rate which may be proposed or negotiated for individual CR task/delivery orders during contract performance.

The parties agree that the fully burdened labor rates established below shall not be subject to any equitable adjustment (upwards or downwards), regardless of actual rates incurred during contract performance.

FULLY BURDENED RATE TABLE			3 Year Base Period			Option 1	Option 2
Item #	Labor Category	Unit	Contract Year 1 Rates	Contract Year 2 Rates	Contract Year 3 Rates	Contract Year 4 Rates	Contract Year 5 Rates
			5/1/2011 - 4/30/2012	5/1/2012 – 4/30/2013	5/1/2013 – 4/30/2014	5/1/2014 – 4/30/2015	5/1/2015- 4/30/2016

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(End of clause)

B.9.1 FULLY BURDENED OVERTIME RATE TABLE FOR PRICING COST REIMBURSABLE TASK/DELIVERY ORDERS *(Applicable only to cost reimbursement)*

The purpose of this clause is to set forth the overtime rates to be utilized in the subsequent negotiation of CR IDIQ Task/Delivery Orders in accordance with clause H.3 "Task Ordering Procedure." The bottom of the table allows indirect

rates to be applied to any non-labor resources other than those listed in Section H.27, "Contractor Purchasing", as required by task/delivery order, if applicable.

Pricing of all CR IDIQ task/delivery orders shall be in accordance with the negotiated rates set forth below. Under no circumstances shall the rates used to price out CR task/delivery orders exceed the agreed upon rates in the Overtime Fully burdened Rate Table shown below. The rates in this table shall only be used in the pricing of CR IDIQ task/delivery orders once overtime hours are exercised. Overtime is only applicable to non-exempt employees.

These following labor, indirect, and fee rates shall be used in establishment of the estimated cost of individual CR task/delivery orders. The labor rates are fully burdened composite team rates (prime and all subcontractors); but exclude prime fee. Apart from the limitations in clause H.27, "Contractor Purchasing", the indirect rates are those rates that may be applied to non-labor resources such as travel. The Fee Rate is the maximum fee rate which may be proposed or negotiated for individual CR task/delivery orders during contract performance.

The parties agree that the fully burdened labor rates established below shall not be subject to any equitable adjustment (upwards or downwards), regardless of actual rates incurred during contract performance.

OVERTIME FULLY BURDENED RATE TABLE			3 Year Base Period			Option 1	Option 2
Item #	Labor Category	Unit	Contract Year 1 Rates	Contract Year 2 Rates	Contract Year 3 Rates	Contract Year 4 Rates	Contract Year 5 Rates
			5/1/2011 - 4/30/2012	5/1/2012 – 4/30/2013	5/1/2013 – 4/30/2014	5/1/2014 – 4/30/2015	5/1/2015- 4/30/2016

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(End of clause)

B.10 FULLY BURDENED RATE TABLE FOR PRICING FIXED PRICE TASK/DELIVERY ORDERS

The purpose of this clause is to set forth the rates to be utilized in the subsequent negotiation of FP IDIQ Task/Delivery Orders in accordance with clause H.3 "Task Ordering Procedure." The Contractor shall utilize the rates contained herein to determine the fixed price for each IDIQ Task/Delivery Order. All labor rates are composite Contractor team fully burdened, exclusive of profit. The bottom of the table allows indirect rates to be applied to any non-labor resources other than those listed in Section H.27, Contractor Purchasing, as required by task/delivery order, if applicable.

Pricing of all FP IDIQ task/delivery orders shall be in accordance with the negotiated rates set forth below. Under no circumstances shall the rates used to price out FP task/delivery orders exceed the agreed upon rates in the Fully Burdened Rate Table shown below.

These following labor, indirect, and profit rates shall be used in establishment of the price of individual FFP task/delivery orders. The labor rates are fully burdened composite team rates (prime and all subcontractors); but exclude prime profit. Apart from the limitations in clause H.27, Contractor Purchasing, the indirect rates are those rates that may be applied to non-labor resources such as travel. The Profit Rate is the maximum Profit rate which may be

proposed or negotiated for individual FFP task/delivery orders during contract performance.

The parties agree that the fully burdened labor rates established below shall not be subject to any equitable adjustment (upwards or downwards), regardless of actual rates incurred during contract performance.

FULLY BURDENED RATE TABLE			3 Year Base Period			Option 1	Option 2
Item #	Labor Category	Unit	Contract Year 1 Rates	Contract Year 2 Rates	Contract Year 3 Rates	Contract Year 4 Rates	Contract Year 5 Rates
			5/1/2011 - 4/30/2012	5/1/2012 – 4/30/2013	5/1/2013 – 4/30/2014	5/1/2014 – 4/30/2015	5/1/2015- 4/30/2016

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b4

(End of clause)

B.10.1 FULLY BURDENED OVERTIME RATE TABLE FOR PRICING FIXED PRICE TASK/DELIVERY ORDERS

The purpose of this clause is to set forth the rates to be utilized in the subsequent negotiation of FP IDIQ Task/Delivery Orders in accordance with clause H.3 "Task Ordering Procedure." The Contractor shall utilize the rates contained herein to determine the fixed price for each IDIQ Task/Delivery Order. All labor rates are composite Contractor team fully burdened, exclusive of profit. The bottom of the table allows indirect rates to be applied to any non-labor resources other than those listed in Section H.27, Contractor Purchasing, as required by task/delivery order, if applicable.

Pricing of all FP IDIQ task/delivery orders shall be in accordance with the negotiated rates set forth below. Under no circumstances shall the rates used to price out FP task/delivery orders exceed the agreed upon rates in the Fully Burdened Overtime Rate Table shown below. The rates in this table shall only be used in the pricing of all IDIQ task/delivery orders once overtime hours are exercised. Overtime is only applicable to non-exempt employees.

These following labor, indirect, and profit rates shall be used in establishment of the price of individual FFP task/delivery orders. The labor rates are fully burdened composite team rates (prime and all subcontractors); but exclude prime Profit. Apart from the limitations in clause H.27, Contractor Purchasing, the indirect rates are those rates that may be applied to non-labor resources such as travel. The Profit Rate is the maximum Profit rate which may be proposed or negotiated for individual FFP task/delivery orders during contract performance.

The parties agree that the fully burdened labor rates established below shall not be subject to any equitable adjustment (upwards or downwards), regardless of actual rates incurred during contract performance.

Fully Burdened Overtime Rate Table			3 Year Base Period			Option 1	Option 2
Item #	Labor Category	Unit	Contract Year 1 Rates	Contract Year 2 Rates	Contract Year 3 Rates	Contract Year 4 Rates	Contract Year 5 Rates

			5/1/2011 - 4/30/2012	5/1/2012 – 4/30/2013	5/1/2013 – 4/30/2014	5/1/2014 – 4/30/2015	5/1/2015- 4/30/2016

b4

(End of clause)

B.11 LIMITATION OF FUNDS (FIXED-PRICE CONTRACT) (NFS 1852.232-77) (MAR 1989)

(a) Of the total contract price, the sum of **$TBD** is presently available for payment and allotted to this contract. It is anticipated that from time to time additional funds will be allocated to the contract, until the total price of said contract is allotted.

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

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

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

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

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

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

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

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

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

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

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

(End of clause)

[END OF SECTION]

Test, Evaluation, and Support Team (TEST) Performance-Based Statement of Work

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1.0 Test, Evaluation, and Support Team (TEST) Overview

This SOW includes the majority of the elements required to complete the WSTF Mission including institutional requirements, enabling capabilities, operating and maintaining systems and facilities, and performing tests. Other contracts will provide the remaining requirements such as IT support, environmental compliance and restoration, security, and occupational medicine.

The majority of the services will be performed at WSTF. Some facilities support (logistic operations, emergency services, safety, and facility maintenance), will also be provided to the White Sands Complex (WSC) and the Aerospace Data Facility – Southwest (ADF-SW) located adjacent to WSTF and at other remote locations such the El Paso International Airport (EPIA) in support of NASA's Forward Operating Location (FOL) In some instances, the Contractor shall be required to provide these services at other NASA centers, private industry, and government agencies throughout the United States when in NASA's best interest.

The structure of the Statement of Work and associated work breakdown structure should not be construed as defining a required organizational configuration. The types of work and services described herein may more aptly be distributed over multiple organizations whose purpose is to provide the products and services required by customers external to WSTF or to internal customers.

Indefinite Delivery Indefinite Quantity (IDIQ) Task Orders will be established for subsets of the work defined in this SOW. Multiple Task Orders will be in effect at any time during the performance period of this Contract. This SOW includes both fixed price IDIQ requirements and cost reimbursable IDIQ requirements. Notations are included in the narrative text of this SOW to identify the Fixed-Price IDIQ requirements that will be implemented at Contract start. The remainder of the requirements in this SOW are Cost-Plus-Award-Fee IDIQ. However, the Government may request additional subsets of the IDIQ work be implemented as Fixed-Price IDIQ Task Orders at any time during the Contract period of performance.

The period of performance for these SOW tasks is 5 years, beginning May 1, 2011 and ending April 30, 2016. This 5-year period of performance is comprised of a 3-year base period followed by two 1-year option periods.

Performance standards for specific SOW requirements are defined in Section 9.0. The SOW requirements with specific performance standards are identified in the text as follows: **This is a performance standard requirement, see Section 9.0 for details.**

2.0 Management and Administration

The management and administration functions are those necessary to successfully execute tests and facility operations at WSTF as described in this SOW.

2.1 Contractor Management [FIXED PRICE]

The work described in Section 2.1 is Fixed Price IDIQ.

Supply and administer a flexible, competent, and qualified Management Staff, including all Management Team Members above the first line supervisors. This Management Staff shall be integrated across all test and facility areas, to fully support and accomplish the Contract requirements as described in the SOW and in accordance with the Contractor-developed Management Plan (DRD-TEST-CM-02).

Provide integrated management and administrative services (including secretarial and human resources staff) required for the execution of all Contract activities, fully meeting the administrative performance, technical performance, and statutory and regulatory requirements of the Contract.

Subcontractors and/or teaming arrangements shall be integrated into the Contractor's management structure.

Prepare and present a Contractor self evaluation of the overall performance of the Contract in accordance with DRD-TEST-CM-06, Management Review Report. This report shall describe the Contractor's self-evaluation of its performance in meeting all Contract requirements during the designated evaluation period.

Develop, provide, and maintain a Contract Work Breakdown Structure (CWBS) Dictionary, in accordance with DRD-TEST-CM-01, Contract Work Breakdown Structure and Dictionary. The CWBS shall serve as the framework for Contract planning, budgeting, cost reporting, schedule resource loading, and schedule status reporting to WSTF Management.

Coordinate with other resident Contractors at WSTF. Ensure support agreements (including but not limited to ACA's, Memorandum of Understanding (MOU's), Contracts, and purchase orders) are in place to meet WSTF Mission and objectives. **This is a performance standard requirement, see Section 9.0 for details.**

2.2 Business Processes [FIXED PRICE]

The work described in Section 2.2 is Fixed Price IDIQ.

Perform all business functions necessary to support contract requirements. The requirements include, but are not limited to the key elements listed in this section.

2.2.1 Financial System

Effectively track, manage, and report all work performed with a financial accounting system (Contractor provided) that discretely tracks resources by fund source, Contract Work Breakdown Structure (CWBS), Task Order, sub-Task Order as negotiated with NASA Project Manager, and elements of cost including labor, overhead, other direct costs (i.e. travel and subcontracts), and indirect costs.

Actual Contractor cost will be reported on a weekly basis as detailed in DRD-TEST-PM-02, Performance Reporting. Monthly costs will be provided in accordance with DRD TEST-BP-04, NF533 Monthly Cost Reporting.

2.2.2 Purchasing

Establish and administer a purchasing operation to procure supplies, services, and materials required in the performance of this SOW in accordance with the Purchase Request – Purchase Order Infrastructure Process in the Management System Manual (MSM).

Support the WSTF Affirmative Procurement Program at WSTF, including data collection and reporting, to ensure compliance with the Resource Conservation and Recovery Act by purchasing products made with recovered materials. Provide procurement data to the Environmental Compliance and Operations (ECO) contractor for input into NASA Environmental Tracking System (NETS). The ECO Contract shall provide affirmative procurement training to site personnel.

Provide an electronic purchasing system and transfer existing purchasing data into the new system from the obsolete Oracle® system. The Contractor-provided purchasing system shall allow site-wide users on this Contract to electronically submit purchase requests. The system shall provide electronic reviews and approvals for project personnel as well as other required approvals as required by the type of purchase requested. Purchase requests may require various approvals based on the type of material that is being purchased. Guidance on the required approvals can be found in the Purchase Request-Purchase Order Process of the MSM. The system shall integrate cost data with finance/accounting to validate billings and coordinate with logistics to prepare for and verify receiving and warehousing and to document acceptance or rejection for billing purposes. Corporate purchasing cards shall be utilized to quickly and efficiently obtain low-cost products or services in accordance with the Procurement Infrastructure Process of the MSM.

Provide an efficient method of filling anticipated repetitive needs for supplies or services. Historically, this has been done using blanket purchase agreements.

Ensure the purchasing system and the Contractor's internal processes can effectively support the special requirements from the various NASA programs to perform flight hardware and associated ground support equipment procurements. The requirements range from flowing down program quality requirements to requiring source inspections at the vendor to requiring use of an approved vendor list that is audited periodically. The current process for flight and designated critical procurement requires the use of vendors that have been pre-approved for specific procurements following extensive review of the vendor's internal quality processes as well as the product or service required. Sole source justifications are often required for flight hardware procurements from vendors that are on the pre-approved list, since there is often only one approved vendor for a specific product.

Provide a procurement report (DRD-TEST-BP-05) that summarizes all monthly procurement activities, as well as metrics to evaluate performance.

2.2.3 Subcontracts

Perform subcontract administration in accordance with the Management Plan (DRD-TEST-CM-02) and the Small Business Subcontracting Plan and Reports (DRD-TEST-BP-02).

2.2.4 Work Coordination

Coordinate work across the site at service providers (e.g. precision clean and component refurbishment, machine shop, calibration). **This is a performance standard requirement, see Section 9.0 for details.**

2.2.5 Service Centers and Usage Fees

Provide a method for tracking and applying Service Centers and Usage Fees collected and used in accordance with the Direct Charge Guidelines. Direct Charge Guidelines may be adjusted (with government approval) based on fluctuations in operating budgets.

Provide baseline planning at the beginning of the fiscal year for Service Centers and Usage Fees. The collected funds will be accrued and allocated to specific cost reimbursable Task Orders, where Contractors are expected to manage staffing and expenditures against the fiscal year plan.

2.2.6 Organizational Conflict of Interest

Institute processes to avoid, neutralize, and mitigate organizational conflicts of interest (OCI) in accordance with the Contractor Organizational Conflicts of Interest (OCI) Avoidance Plan (DRD-TEST-BP-01).

2.2.7 Wage Determination

Submit and comply with Wage, Salary and Fringe Benefit Data on an annual basis as described in DRD-TEST-BP-03, Wage/Salary and Fringe Benefit Data.

2.3 Management Systems

Comply with all requirements in the MSM. Maintain the MSM by regularly reviewing, revising, and once approved posting all approved revisions and new releases (regardless of content owner). Other Contractors may be responsible for portions of the MSM content (e.g. the ECO Contractor is responsible for the environmental infrastructure processes). Maintain the records of the approvals. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain WSTF registration to ISO 9001, Quality Management Systems Requirements, ISO14001, Environmental Management Systems – Requirements with Guidance for Use, and AS9100, Quality Management Systems – Aerospace Requirements. Support internal and external audits for compliance to ISO 9001, ISO 14001, and AS9100. **This is a performance standard requirement, see Section 9.0 for details.**

2.4 Work Authorization

Utilize existing work authorization processes for performing work at WSTF. Work is authorized on the Contract by means of Task Orders and is implemented using Test Preparation Sheets (TPS), Discrepancy Records (DR) and Work Orders (WO). Different WOs exist for different laboratory, technical, administrative and facility services. Task Orders (as a contract management tool) provide more detailed requirements, guidance, and work authorization from NASA to the Contractor for operations performed at the project and general task level. A valid Task Order must exist for any work to be performed by the Contractor. When a Task Order approval is delayed, the NASA CO may authorize work towards a draft Task Order at their discretion.

Work authorization by Contractors shall be performed using a TPS, DR or a WO. The Contractor shall be responsible for initiation, performance control, closure and archival of these documents.

2.5 Configuration Management

Manage and document the configuration of WSTF facility infrastructure, test facility systems, test articles, support systems and ground support equipment. The scope of work includes: the mechanical, electrical, civil, and structural systems; Geographic Information System (GIS); software; procedures; and associated baseline documentation. Control all data to prevent any incorrect updates to the master files, ensuring that the most current data is available as

needed. **This is a performance standard requirement, see Section 9.0 for details.**

2.6 Customer Outreach

Recruit and secure external customers to utilize WSTF capabilities, in order to help WSTF keep its unique facilities and resources utilized to the maximum extent practicable. The intent of the plan is to allow the contractor to market and use WSTF facilities, contractor personnel and equipment for the purposes of retaining skills and offsetting the government's cost of maintaining technical capabilities without compromising safety, process integrity or infrastructure resources.

An External Customer Plan (ECP) shall be developed per DRD-TEST-CM-05 (External Customer Plan and Report), to outline the implementation process and establish goals for bringing in external customers. This implementation process shall include approval of a Facilities Reimbursable Agreement (FRA) and subsequent annexes, which will detail the individual undertakings with external customers. The ECP, FRA and annexes will be negotiated with and approved by NASA.

Development of the External Customer Plan is a function of Contractor Management, and execution of the plan will be covered on a cost reimbursable task order.

2.7 Project Management

Manage technical performance, requirements, cost, and schedule on NASA projects as defined in the following sections.

2.7.1 Support Project Initiation Activities

Support project initiation activities including project concept development, technical requirements definition, cost estimation and analysis, detailed schedules, and development of decision packages for project authorization. Formal cost estimates shall include labor, materials, schedule, and assumptions. All work performed by the Contractor on project initiation activities shall be done in a manner that protects potential customer information.

2.7.2 Support Project Execution and Control

Execute projects and tasks in accordance with the approved task order and supporting documentation. Approval of Task Orders shall follow the Task and Delivery Order Process of the MSM. The Contractor's response to Task Orders shall include a Task Order Plan (DRD-TEST-PM-03), which consists of a basis of estimate and a resource loaded schedule. All project activities shall be integrated with respect to planning and scheduling of personnel, facility

resources, test support systems and GSE across all function elements. **This is a performance standard requirement, see Section 9.0 for details.**

Provide data that communicates project status to the Government with respect to cost, schedule, and technical performance as outlined in the Contractor-provided Project Assessment Plan, DRD-TEST-PM-01. The Contractor shall demonstrate accurate tracking and management of labor and non-labor resources. The project reporting frequency and level of detail may be adjusted based on project performance, but will occur on a monthly basis, at a minimum. Task order reporting, as detailed in DRD-TEST-PM-02 Performance Reporting, may be required at a sub-task order level, depending on the size and scope of a project.

2.8 Environmental Coordination

Perform operations at WSTF in accordance with existing permits, laws, regulations including but not limited to the Clean Air Act, the Resource Conservation and Recovery Act (RCRA), the Clean Water Act, Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), and the WSTF MSM. **This is a performance standard requirement, see Section 9.0 for details.**

The Environmental Compliance and Operations (ECO) Contract will manage the environmental compliance and restoration program at WSTF and will be the interface with outside regulatory agencies associated with environmental compliance. The TEST Contract is responsible for supporting environmental compliance through hazardous waste management, supporting ISO 14001 certification, supporting audits by offsite entities such as NASA Headquarters or regulatory agencies including New Mexico Environment Department (NMED), and providing compliance data and records to the ECO Contractor on a routine basis. TEST Contractors shall provide comprehensive, accurate, and timely assistance to ECO Contractor regarding environmental requests and inquiries for the purpose of maintaining compliance. TEST is responsible for developing an Environmental Compliance Plan in accordance with DRD-TEST-EN-01.

TEST Contractors shall work with the ECO Contractor regarding environmental requirements, including historic preservation, associated with the Space Shuttle transition and retirement activities which may include demolition and disposal of facilities.

2.8.1 Manage Hazardous Waste

Manage hazardous waste generated while performing tasks for which the TEST Contractor is responsible, in accordance with the Waste Management Process of the MSM. This process includes the proper placement of waste in satellite accumulation areas, characterizing and identifying the waste, completing the proper documentation (including, but not limited to logbooks and waste profiles), and routine surveillance and management of the waste accumulation areas. The

TEST Contractor may also be required to assist as needed with transfer of the waste from the satellite accumulation areas to the 90 day storage areas, and to assist as needed with transportation for final disposal of the waste.

Manage the chemical inventory and coordinate with ECO for disposal of no longer needed chemicals.

Coordinate hazardous waste transfers to Fuel Treatment Unit (FTU) and the Evaporation Tank Unit (ETU) with ECO. **This is a performance standard requirement, see Section 9.0 for details.**

Coordinate spills or uncontrolled release mitigation with ECO for proper reporting and/or cleanup.

2.8.2 Support ISO 14001 Registration

Participate in on-site internal and external environmental audits, inspections, and other functional reviews in support of ISO 14001 certification. This includes supporting interviews, tours, research, and preparation of corrective action documents for any identified non-conformances or observations associated with environmental audits.

Prepare, monitor and track Environmental Management Plans (EMPs) that are related to TEST contract scope. EMPs are used to identify, track and improve significant environmental aspects within WSTF operations. The number of EMPs and their respective areas of responsibility are subject to change. TEST is responsible for three EMPs: energy conservation, water conservation and fleet vehicle management. Participate in site wide aspect/impact team that evaluates all site aspects and determines and recommends significant impacts for which EMP's are prepared.

2.8.3 Provide Data, Records and Reports

Provide data to ECO to fulfill compliance and regulatory requirements for air permits and discharge permits which enable TEST operations, in accordance with the Waste Management Process of the MSM.. **This is a performance standard requirement, see Section 9.0 for details.**

Comply with site wide National Environmental Policy Act (NEPA) requirements including initiating Records of Environmental Consideration and Permits to Excavate.

Comply with National Historic Preservation Act requirements for WSSH and other systems as they reach 50 years of age.

Comply with Clean Air Act by preparing a Risk Management Plan (RMP) as required in Section 112(r) of the Clean Air Act. TEST is responsible for developing the Environmental Compliance RMP every 5 years in accordance

with DRD-TEST-EN-02, Environmental Compliance – Risk Management Plan. TEST will coordinate the RMP with ECO and will submit the final RMP to the regulatory agency 15 calendar days prior to the regulatory due date. Note that the TEST Contractor, with support from the Safety and Mission Assurance personnel, will prepare the report.

2.8.4 Support Recycling, Waste Minimization and Sustainability

Reduce the environmental compliance risk at WSTF through conserving resources and minimizing the generation of wastes, water pollutants and air emissions during TEST operations.

Support the WSTF Sustainability Program and provide personnel to represent TEST on the WSTF Sustainability Initiative Team.

Provide data and submit reports to ECO on sustainable acquisitions, waste reduction activities, energy efficient product procurements and ozone depleting substances.

2.9 Pressure Systems Management

Design, acquire, fabricate, inspect, test, install, repair, alter, operate, and maintain all ground-based pressure systems and pressure vessels in accordance with the Pressure System Process of the WSTF MSM. Maintain certification for WSTF pressure systems (See the list of pressure systems in Attachment J.20). **This is a performance standard requirement, see Section 9.0 for details.**

Certify systems to the pressure systems certification program. Certification will require reviewing configuration control documents for accuracy, assessing the system for pressure integrity using analysis and inspection techniques, and preparing an engineering evaluation report based on the analysis and inspection findings.

Ensure pressure systems are operated and maintained in accordance with WSTF procedures and standard instructions by skilled, adequately trained, qualified and certified personnel.

Provide support as needed to WSC for the purposes of pressure system certification. In performing duties related to pressure system certification and maintenance, the Contractor will be required to interface with personnel from other contracts. For example, the Contractor will be required to interface with the S&MA Support Services Contract for some inspection and surveillance activities.

2.10 Training and Skill Management

Provide an integrated training plan which establishes plans and processes for obtaining and maintaining a skilled workforce to meet the performance challenges of testing and evaluation at WSTF per DRD-TEST-TR-01, Training

Plan and Report. TEST is responsible for managing training as described in WSI 18-SW-0002.C, "Management of Training", necessary for the conduct of WSTF operations, including training for NASA and other resident contractors. The training plan shall eliminate current redundancies in training courses and maximize efficiencies in developing, scheduling, and delivering training.

Coordinate with other resident contractors to identify training responsibilities, including trainers, record keeping, and notifications.

2.10.1 Define Training

Identify and define training requirements to meet operational needs.

Ensure only qualified personnel are assigned to perform tasks or functions to accomplish operations in compliance with regulatory requirements and in conformance with site-specific standards and procedures. Qualify personnel based on education, training, experience and their demonstrated ability to apply knowledge and skills in the performance of the job.

2.10.2 Document Training

Oversee training documentation to include the preparation and maintenance of training materials and the collection and maintenance of training records.

Maintain and process training records in the training database. Maintain electronic and hardcopy historical records as appropriate. WSTF is transitioning from a local Oracle®-based training database to the Agency-wide System for Administration, Training, and Educational Resources for NASA (SATERN). The transition should be completed prior to Contract award; however, it may be necessary to maintain both systems for some period during the Contract.

Provide and continuously maintain a training calendar.

2.10.3 Perform Training

Oversee training performance to include planning for, presenting, and receiving training.

Provide technical expertise to develop and deliver training.

Provide training to WSTF personnel, including all WSTF-resident contractors and NASA personnel. Training shall include cross training within and between test areas, through appropriate internal and external sources, to ensure the quality of workmanship on systems and equipment is consistent with aerospace/industry standards and NASA requirements.

Ensure that personnel are adequately trained and qualified or certified to perform special processes. Special processes include soldering, crimping,

harness/cabling, fiber optic splicing, welding, nondestructive evaluation, particle counting, and plastics application (potting). Additional special processes will be identified and be subject to special process certification upon development of unique test capabilities or requirements.

Assure and maintain competencies and prevent single points of failure for all areas in Section 7.0, Space System Performance, Environment, Hazard Evaluation, and Testing.

2.10.4 Evaluate and Improve Training

Define and develop a training metrics plan per DRD-TEST-TR-01, Training Plan and Report, to document and demonstrate how training effectiveness and efficiency shall be evaluated and improved.

Improve site training by looking for and executing opportunities to combine and standardize training courses throughout site organizations into site-wide training courses and materials.

Perform periodic audits of training presentations and inspections of workmanship of the trainees to ensure effectiveness of training.

Recommend and implement transition of suitable/relevant training categories from hardcopy and/or instructor-led training to computer-based training within SATERN.

2.11 Records Management

Maintain a records management program. Ensure accurate and complete records (including vital records) of Government business are maintained in accordance with WSP 05-0011 "Retention and Disposition", WSP 16-0001 "Management System Record Control", NASA Procedural Requirements (NPR) 1441.1 "NASA Records Retention Schedules", and are segregated from company-owned records and from non-record materials. **This is a performance standard requirement, see Section 9.0 for details.**

Manage legacy Federal records (data created for Government use and delivered to, or falling under the legal control of, the Government) inherited from previous contracts and from current contract.

Provide NASA or authorized representatives with access to all Government records. The Government reserves the right to inspect, audit and copy record holdings. The Contractor shall deliver Government-owned data to the appropriate Records Manager. At the completion or termination of this Contract, the Contractor shall leave all Government-owned records and data at WSTF.

2.12 Security Clearances

Maintain the capability to handle classified material and/or to access areas where classified work is performed or classified material is stored. Maintain secret security status for emergency services personnel, engineers, quality assurance personnel, and technicians to support Emergency Response requirements at WSC and ADF-SW, facility maintenance and repair at WSC, and possible classified testing and evaluation projects at WSTF.

2.13 Energy Conservation, Water Conservation and Renewable Energy

Provide support to the WSTF Energy Manager in the planning, review and coordination of the WSTF Energy and Water Conservation Programs to ensure the energy intensity and water use reductions are met.

Establish the Utility Management and Operation Action Team (UMOAT) to identify the Contractor's methods, processes and management responsibilities for developing on-going energy and water conservation procedures. Establish metrics based on 2005-2009 data which baselines the site's utility systems such as natural gas, electricity, water and fuel consumption; and plan and execute actions that reduce or eliminate operational waste and improve efficiency in those systems. TEST has the overall program lead/responsibility for the WSTF Energy and Water Conservation and Renewable Energy Programs.

Review and recommend operational guidelines of the Energy Management Control System (EMCS) to ensure energy conservation measures are implemented in order to meet the Federal Energy Reduction goals. Operate the site EMCS to ensure efficient and effective control of building utility functions.

Promote products and projects that will reduce energy and water consumption, and review project designs to ensure the design meets energy conservation criteria and that energy savings equipment has been specified.

Promote and provide input to the WSTF Energy Manager for additional Renewable Energy projects at the site to ensure that all future renewable energy requirements are met. Monitor and analyze existing renewable energy systems at WSTF ensuring optimum output is being achieved.

Provide energy and water metrics to ECO for input into the NASA Environmental Tracking System (NETS)

3.0 Safety and Mission Assurance

Safety and Mission Assurance (S&MA) occupies a unique position at WSTF, in that the NASA S&MA Office provides third party, independent review of WSTF

operations in the areas of quality, safety, and reliability. Quality at WSTF means ensuring the products conform to the requirements. Safety includes protecting personnel, the environment, hardware, and facilities from the many hazards. The aerospace testing hazards are unique and must be considered in addition to general industrial hazards. High reliability is required in a broad spectrum of activities including pressure system management, maintenance management, and component-level through system-level design. The range of systems includes infrastructure, test support, ground support equipment, test hardware, and flight hardware.

Conduct and maintain a comprehensive program of S&MA in order to provide world-class test capability and a safe working environment. Provide safety and quality support for the entire WSTF operation, including for other contracts operating at WSTF.

3.1 Safety

Perform all activities at WSTF in a safe and healthful manner in accordance with OSHA regulations (29 CFR 1910 "Occupational Safety and Health Standards", 1926 "Safety and Health Regulations for Construction") and NASA WSTF Safety and Health Policies. In cooperation with NASA, adherence to 29 CFR 1960 "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters" is also required to ensure safety practices are consistent for all WSTF employees. Safety and health are the responsibility of each employee at WSTF and facilitated by effective management of compliance to regulations, WSTF leadership commitment, and the active involvement of the WSTF workforce.

3.1.1 OSHA Voluntary Protection Program (VPP)

The OSHA VPP is a company based compliance and safety program. A number of the WSTF support Contractors and the NASA Team are rated at the VPP Star level. While certification to the VPP Star level is encouraged it is not required; however, the TEST Contractor's safety program shall be consistent with VPP Star certification requirements.

Ensure availability of employees to serve on the employee safety committee (Keystone Committee) for weekly meetings and support activities of the Keystone Committee such as Total Safety and Health Day and awareness campaigns per the VPP requirements for employee participation.

Ensure availability of employees to serve as members of the departmental safety working teams per the VPP requirements for employee participation.

3.1.2 Evacuation Coordinators

Provide Evacuation Coordinator Program training. Ensure availability of trained Evacuation Coordinators for all occupied WSTF facilities. Evacuation

Coordinators are responsible for the prompt and orderly evacuation of all personnel to a safe location and ensuring procedures are established for safe shutdown of operations or isolation of equipment under emergency conditions as described in WSP 25-0003 "Fire Safety Program".

3.1.3 Emergency Preparedness

Provide emergency preparedness planning for the facility in support of the S&MA Office.

Review and update the WSTF Emergency Preparedness Plan, with inputs from a cross section of the site representing all WSTF organizations and tenants in keeping with changes in the WSTF risk posture. The Plan must define the organizational and personal roles and responsibilities, as well as the procedures needed to minimize hazards to personnel, the environment, and property.

3.1.4 Occupational/Industrial Safety

Provide Institutional Safety services to include hazard identification and assessment of all WSTF activities, recommending the means for mitigating identified hazards, monitoring of hazard controls, and recording and analyzing accidents/close calls and associated trends for all WSTF resident contractors.

Provide safety oversight of construction projects, including construction performed by other contractors. Review safety plans submitted by other contractors for adequacy and compliance to requirements.

Integrate all Institutional Safety aspects of WSTF activities to assure a consistent and positive Safety & Health Culture is maintained throughout WSTF. This is accomplished through visible management commitment, employee involvement, safety reviews, and consultation and inspection to reduce evident hazards and improve workplace safety practices.

Provide Occupational/Industrial Safety services to record and analyze WSTF accident frequency and severity in accordance with 29 CFR Part 1904 "Occupational Injury and Illness Recording and Reporting Requirements", 1910 "Occupational Safety and Health Standards", and NASA requirements. Provide these services for all of WSTF, including work done by other contractors on site. WSTF workplaces shall be reviewed for compliance to 29 CFR 1910, 29 CFR 1926, 29 CFR 1960, and NASA JSC/WSTF safety and health policy as defined in JPR 1700.1 "JSC Safety and Health Handbook", MSM Section 4.2.1.7 "Safety", and WSTF 25 series documents.

Conduct annual safety and health professional (29 CFR 1960.2(s)) inspections of each area of operation at WSTF. Inspection findings will be submitted to the NASA Safety Officer and reviewed for entry in the WSTF Safety Information Management System (SIMS).

Perform additional safety surveillance and employee awareness training for any areas experiencing excessive accident frequency rates above the North American Industry Classification System (NAICS) product classification 541712 averages to reduce evident hazards and improve workplace safety practices.

Maintain all assigned work areas, including vehicles, storage areas, test areas, and field job sites, in a clean, neat, and orderly condition at all times, free from accumulations of waste materials. Remove all rubbish and waste materials to appropriate containers for recycling and/or pick-up by custodial staff. Store and maintain materials, tools, and equipment in the work area in a safe and orderly fashion.

Maintain accurate records of all accidents, injuries, occupational illness through OSHA Form 300 and damage to property, supplies, materials, or equipment due to mishap through NASA Form 1627, NASA Mishap Report. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain a schedule for and perform a review of each safety program and workplace at WSTF in accordance with WSI 25-SW-0015 "Workplace Hazard Inspection, Control, and Reporting" and WSP 25-0002 "Safety Planning and Compliance. **This is a performance standard requirement, see Section 9.0 for details.**

Provide and implement a Safety and Health plan as required in 29 CFR "Labor", NASA Procedural Requirements (NPR) 8715.3 "NASA General Safety Program Requirements", JSC Procedural Requirements (JPR) 1700.1 "JSC Safety and Health Handbook", and WSP 25-0002 "Safety Planning and Compliance". **This is a performance standard requirement, see Section 9.0 for details.**

DRD REF: DRD-TEST-SQ-01, Safety and Health Plan

Review new, proposed, or revised OSHA regulations for potential impact to WSTF operations and provide NASA and Contractor management, supervision, and personnel with OSHA and NASA safety requirements interpretations and implementation options in compliance with 29 CFR, NPR 8715.3, JPR 1700.1, and WSP 25-0002. **This is a performance standard requirement, see Section 9.0 for details.**

Ensure mishap and close call data are collected, investigated, reported, compiled, analyzed, and distributed, and that resulting corrective actions are completed in accordance with WSI 25-SW-0009 "Mishap Notification, Investigation, and Recordkeeping", the MSM Close Call Infrastructure Process, and NPR 8621.1 "NASA Procedural Requirements for Mishap and Close Call Reporting, investigating, and Recordkeeping". **This is a performance standard requirement, see Section 9.0 for details.**

Maintain and coordinate the WSTF Chemical Inventory and Hazard Communication Program. The existing MSDS database will be provided to the

Contractor. The database contains a list of chemicals and their quantities, and provides access to the associated MSDSs. **This is a performance standard requirement, see Section 9.0 for details.**

Provide Safety and Health Awareness Training to WSTF employees, to visitors, and subcontractors. The safety and health training information shall be accurate with respect to latest regulations, NASA standards, and WSTF practices. **This is a performance standard requirement, see Section 9.0 for details.**

Ensure availability of employees to perform the duties and fulfill the responsibilities of Health, Safety, and Environmental Facility Managers as described in WSP 25-0010 "Facility Health, Safety, and Environmental (HSE) Managers. Additionally, maintain the appropriate written, and annually updated, Job Hazard Analyses (JHAs) for all applicable environmental program activities and provide a Health, Safety, and Environmental (HSE) representative for each government facility where the Contractor is the predominant occupant or operator. Perform HSE duties, in coordination with a Civil Servant counterpart, including quarterly HSE safety inspections (as defined in Section 3.10) at all Contractor-occupied facilities.

Receive safety alerts (including but not limited to GIDEP, Chemical Safety, JSC Safety), review for applicability, and provide appropriate response.

Advise WSTF management, supervision, and personnel of recommendations to eliminate or control unsafe conditions and unsafe acts.

3.1.5 Test Operations Safety

Identify and assess hazards and control methods associated with the design, buildup, activation, and operation of systems supporting hazardous test, manufacture, or repair processes in accordance with WSP 03-0001 "Customer Agreement Review" and WSP 04-0001 "Design Control". Safety elements to be considered during project planning and operations are stipulated in WSP 25-0002 "Safety Planning and Compliance" and JPR 1700.1 "JSC Safety and Health Handbook".

Participate in System Safety and Test Readiness Reviews (TRRs) in accordance with WSI 04-SW-0003 "System Safety Analysis", WSP 25-0002 "Safety Planning and Compliance", WSI 25-SW-0032 "Job Hazard Analysis Instructions", the MSM Safety and Readiness Review Infrastructure Process, System Safety Analysis Review Infrastructure Process, and WSTF customer agreements. Review hazard analysis, system safety analysis, and readiness information for appropriate identification of hazards and acceptability of associated controls. **This is a performance standard requirement, see Section 9.0 for details.**

Assess and document potential hazards, associated risks, and development of recommended remedial action in accordance with WSI 04-SW-0002 "Hazard Analysis".

Assess and maintain systems compliant with Process Safety Management as described in WSI 25-SW-0005 "Process Safety Management of Highly Hazardous Chemicals," and 29 CFR 1910.119 "Process Safety Management of Highly Hazardous Chemicals." **This is a performance standard requirement, see Section 9.0 for details.**

3.1.6 Industrial Hygiene

Assess potential health hazards in WSTF workplaces in accordance with OSHA monitoring and sampling requirements, perform industrial hygiene sample analysis, and provide reports detailing the results. Results shall be used to evaluate and recommend methods of controlling exposure to potentially harmful biological, radiological, chemical, and physical agent hazards in the workplace environment. Exposures shall be monitored and limitations shall be developed based on NPR 1800.1, NPD 8710.2, and American Conference of Governmental Industrial Hygienists (ACGIH) guidelines adopted by the NASA Designated Agency Safety and Health Official. WSTF exposure limitations are contained in WSI 25-SW-0002.

Perform surveillance activities and provide compliance recommendations of work tasks, advising personnel and supervisors on engineering controls, safe work practices, and personal protective equipment for the task. Workplace surveys shall include laser and radiation safety, Lifting Devices and Equipment (LDE), performing air sampling of hazardous chemicals handled or used; reviewing ergonomics, heat stress, lighting, noise, and engineering controls; reviewing chemical usage and handling procedures; and performing hazard analysis to ensure that appropriate personnel protective equipment is utilized. Coordinate workplace survey results with the WSTF occupational physician to assist in the occupational medical program. **This is a performance standard requirement, see Section 9.0 for details.**

When an immediate danger to life or health situation is identified, the contractor has the authority to stop unsafe acts, immediately render the situation as safe as possible, and ensure personnel are removed from the hazard. Provide immediate notification to project representatives and NASA S&MA of these hazards.

Manage the overall WSTF asbestos program. Disposal activities are generally limited to smaller scale quantities of asbestos waste, and may include removal of small quantities of asbestos-containing insulation on beams, pipes or above ceilings, replacement of an asbestos-containing gasket on a valve, or installation of electrical conduits through or proximate to asbestos-containing materials. Large scale asbestos activities are typically completed by trained, certified asbestos subcontractors.

3.1.7 Ordnance

Provide an individual with experience and knowledge commensurate with the responsibilities of the WSTF Ordnance Officer in accordance with WSP 25-0007. The Ordnance Officer shall support all on-site projects and contracts requiring the use, storage, installation, initiation, or disposal of ordnance. This includes ensuring proper purchase, receipt and storage of all WSTF ordnance; performing inspection, maintenance and repair of the WSTF ordnance magazines and ordnance facility infrastructure; developing, reviewing, and maintaining ordnance procedures; providing required ordnance training to selected WSTF personnel and documenting completion, and performing all on-site disposal of waste explosives in accordance with WSI 25-SW-0014 "Ordnance Operations." In addition, the disposal shall be in accordance with the RCRA operating permit number NM8800019434-1.

Receive and issue ordnance. Maintain ordnance inventory at a level sufficient for ongoing normal site needs and provide an ordnance inventory report per DRD-TEST-SQ-03, Ordnance Inventory Management Report. **This is a performance standard requirement, see Section 9.0 for details.**

3.1.8 Radiation Safety

Provide and maintain a comprehensive Radiation Safety Program that covers all aspects of safety related to ionizing radiation, lasers, and radiofrequency. **This is a performance standard requirement, see Section 9.0 for details.**

Coordinate with the JSC Deputy Radiation Safety Officer and other members of the JSC Radiation Safety Committee as necessary. Perform self audits to assess the program's compliance with applicable standards and agency requirements.

Manage and oversee the Safety Program for ionizing radiation in accordance with JPR 1860, CFR 1910.1096, and JPR 1700.1 Ch. 7.3. Safety Program must cover processes, instructions, surveys, dosimetry, and training.

Manage and oversee the Safety Program for laser radiation in accordance with ANSI Z136.1, NPR 1800.1 Ch. 3.2, JPR 1700.1 Ch. 6.2, JPR 8080.5 G-26, and WSP 25-0008. Safety Program must cover processes, instructions, inventory, medical records, and training.

Manage and oversee the Safety Program for radio frequency radiation in accordance with IEEE C95.1 and C95.3, and JPR 1700.1 Ch. 7.3. Safety Program must cover processes, instructions, inventory, surveys, and training.

3.2 Quality

Maintain compliance to the WSTF Management System which meets or exceed the requirements of ISO Standard 9001:2008 and ISO Standard 14001:2004.

Both WSTF ISO Registrations include the Contractor. The Contractor shall develop and maintain appropriate work instructions necessary to implement the WSTF documents.

3.2.1 Quality Planning

Perform quality planning for WSTF projects and programs in accordance with WSP 02-0001, "Quality System Procedures and Planning" and WSP 02-0002, "Management System Verification". Quality Planning provides integration of quality considerations and techniques within the project planning and implementation process. Prepare a Quality Plan detailing how the elements of WSP 02-0001 and WSP 02-0002 will be met during planning stages of WSTF projects and programs (DRD-TEST-SQ-02). This plan shall also address non-intrusive methods to assess critical processes affecting the quality of WSTF products and identify potential improvements based on surveillance metrics or other indicators that indicate non-compliance or adverse trends.

Submit support plans to NASA PMs for projects as requested. Each support plan shall address operational fulfillment of quality control, inspection or verification, supplier assessment, special processes application or development, unique measurement capabilities, work document development and control, applied standards clarification, and quality record and deliverable data requirements.

3.2.2 Work Document Coordination

Perform work authorizing document initiation, review, coordination, in-process control, and review for closure for WSTF. Quality review and in-process control shall be performed by individuals cognizant in the area of testing and the program for which the work authorizing document is being issued. Work authorizing documents included in this activity are Test Preparation Sheets (TPS's)(WSI 09-SW-0001) and Discrepancy Records(DR's) (WSI 13-SW-0001). **This is a performance standard requirement, see Section 9.0 for details.**

Ensure a standardized review is implemented for proper authorization, completeness, constraint identification, configuration control, and other work document closeout and archival requirements.

Ensure consistency of work documentation and assurance of completeness and accuracy of project records.

Control WSTF Job Instructions in accordance with WSI 05-SW-0004, "WSTF Job Instruction (WJI) Control". Ensure each work document is updated with all current deviations, revisions, and modifications released at the time of work performance.

3.2.3 Process Verification

Provide objective evidence of compliance with process requirements, completion of critical milestones, and resolution of product non-conformances.

Provide project, process, and controls verification, and requirements consultation to project representatives in accordance with WSP 02-0002 and WSI 02-SW-0001. **This is a performance standard requirement, see Section 9.0 for details.**

Assure nondestructive evaluation and inspection of critical product characteristics as stipulated in project plans, customer agreements, or work authorizing documents. Provide dimensional and volumetric acceptance of fabricated parts intended for flight or critical applications. During the project planning phases, identify new measuring techniques, methodologies, or machine programming required to support customer defined acceptance criteria. Also identify feasibility, repeatability of design characteristics and maintainability of measuring equipment in accordance with WSP's 11-0001 and 09-0001.

Provide process verification in a timely fashion with on-location or on-call resources to provide support upon mutual arrangement with project representatives. Coordinate a designated verification program consistent with WSP 02-0002 and WSI 02-SW-0002.

Examples of typical process verification activities are:

- Operational verification of a combined systems validation for a Propulsion Test data acquisition and control system.
- Detailed visual inspection of a flight-related oxygen component for evidence of contamination and damage.
- Verification of leakage, flow, valve response, and electrical continuity acceptance test parameters associated with a flight thruster.
- Visual inspection and documentation review of a pressure system with 250 mechanical components.

Perform Pressure Vessel and Pressurized System (PV/S) surveillance and inspection for each active pressure system on site, for the WSC, and for the NASA El Paso Hangar Facility, in accordance with WSP 09-0011 "Managing the WSTF Pressure Vessel and Pressurized System (PV/S) Program", WSI 09-SW-0005 "Certification, Recertification, and Deactivation of WSTF Pressure Vessels and Pressurized Systems (PV/S)", WSP 09-0015 "WSTF Pressure Vessel and Pressurized Systems Program Management", and WSI 09-SW-0024 "Design, Certification, Repair, Alteration, and Decertification of WSTF Pressure Vessels and Pressurized Systems (PV/S)" (See Attachment J.20). **This is a performance standard requirement, see Section 9.0 for details.**

3.2.4 Test Data Collection and Reporting

Compile and deliver records substantiating successful operations and compliance with customer requirements.

Prepare WSTF Data Packages (WDP) for each project when required by the customer. The WDP for each project will be predefined and documented in program requirements and customer agreements. Included in these WDP's are quality records as defined by the MSM, contracts and official agreements between the customer and WSTF, receiving and shipping records, customer-supplied and WSTF-generated inspection and testing data, and nonconformance reports. **This is a performance standard requirement, see Section 9.0 for details.**

Assemble work documents and associated test procedures for the particular item for inclusion in the WDP, verify work documents are properly authorized and closed out, compile deliverable data, and verify shipping documentation reflects Data Package contents.

3.2.5 Acquisition Quality Assurance

Review procurement requests, orders, specifications and related documents in accordance with MSM Section 3.4, WSI 17-SW-0002, and WSI 06-SW-0002, and safety and quality assurance provisions applicable to the specific procurement. The assurance review shall ensure flight and critical materials are ordered to appropriate specifications, suppliers are confirmed as capable of meeting requirements, appropriate quality clauses are included in the PR/PO, and provisions for acceptance are defined.

Examples of typical procurement inspection tasks are:

- Review of the procurement to determine if it is a flight intended use
- Review of the selected vendor to ensure they are on the appropriate approved vendor list
- Determination of appropriate authenticity documentation, e.g., certificate-of-compliance
- Ensuring the appropriate quality clauses are included in the purchase order
- Approval of the procurement using electronic procurement system protocol

Perform supplier audits in accordance with WSI 17-SW-0002 to establish the ability of those suppliers to meet requirements. Supplier assessments shall be subject to NASA Contracting Officer approval. **This is a performance standard requirement, see Section 9.0 for details.**

Examples of typical supplier assessment tasks are:

- Formulation of survey plan
- Travel to supplier and performing survey in accordance with WSI 17-SW-0002
- Follow-up communication with supplier to rectify non-conformances identified
- Generating survey report

Ensure shipping, receiving, and storage activities for the WSTF Facility, the WSSH Facility, and the NASA El Paso Hangar, are performed in accordance with WSP 07-0001, WSP 10-0001, and WSP 15-0001, and customer specific requirements as defined by the Customer Agreement. Included in these activities are Government furnished, Contractor furnished, and WSTF procured products.

Coordinate receiving inspection activities for WSTF to ensure appropriate inspection and material, batch lot, or acceptance testing is performed to establish or confirm compliance with specifications. **This is a performance standard requirement, see Section 9.0 for details.**

Examples of typical receiving/shipping tasks are:

- Review documentation to verify appropriate pedigree of product
- Verification of count and condition of product shipped/received
- Verification of required approvals
- Initiation of appropriate nonconformance documentation upon detection of damaged product or incorrect shipping/receiving information

Examples of typical storage tasks are:

- Review the document authorizing movement (placement in or removal) of critical flight-item
- Verify that item has been appropriately logged in to storage, including bonded storage

3.2.6 Software Quality Assurance

Develop and implement a Software Quality Assurance Plan (SQAP) for software associated with test and repair procedures on Class I and II flight hardware or software designated as safety-critical in accordance with WSI 02-SW-0003, "Computer Software Quality Assurance Plan". Completion of a SQAP provides compliance with the requirements of NPR 7150.2, "NASA Software Engineering Requirements", NASA-STD-8719.13, "Software Safety Standard", and NASA-

STD-8739.8, "Software Assurance Standard", and ensures consistent quality assurance oversight throughout the life cycle of the software.

3.2.7 Corrective Action

Plan and implement nonconformance control and corrective or preventive action in accordance with WSP 13-0001,"Nonconformance Control" and WSP 14-0001, "Corrective/Preventative Action". The Corrective/Preventive Action Request (C/PAR) process provides a system for identification of deficiencies and improvement opportunities for corrective/preventive action.

Ensure the Discrepancy Record (DR) and Corrective/Preventive Action Request (C/PAR) systems are employed to document product non-conformances and corrective or preventive actions. Verify status and closure of identified product non-conformances.

Issue a corrective action request where systemic hardware or procedural discrepancies are identified, or where negative trends are evident. Monitor and document use, failure history, and other reliability data associated with test systems and hardware processed at WSTF. This data shall be collected to the functional component level and maintained within existing automated systems reporting use, failure, and reliability data for review and analysis at either the component or integrated system level.

Participate in problem reporting systems concerning flight hardware, process certification hardware, and Ground-Support Equipment (GSE). The Contractor shall ensure failures are reported to NASA upon identification or detection. Ensure WSTF failure analysis activities are tracked and documented in accordance with WSP 13-0001. **This is a performance standard requirement, see Section 9.0 for details.**

3.2.8 Records and Database Management

Provide storage of and ready access to active Test Preparation Sheets (TPSs) and Discrepancy Records (DRs). This includes managing original paperwork and maintaining copies such that data retrieval is possible. **This is a performance standard requirement, see Section 9.0 for details.**

Provide and maintain a database that includes document inventory, status, distribution, and archival for TPSs and DRs. Future upgrades may include transferring existing data from the obsolete Oracle® TPS/DR database (quality document database) and ensuring data integrity after the transfer. Provide site-wide access to database with appropriate permissions.

Provide database management and maintenance to ensure records, record status, and associated data is readily available to WSTF personnel.

Provide document status reports (i.e. open paper reviews) on request for formal pretest review, project planning, or audit/survey purposes. **This is a performance standard requirement, see Section 9.0 for details.**

Duplicates of archived documents shall be retained, retrieved, and provided for purposes of general research, project planning, or data package preparation in accordance with WSP 16-0001, "Management System Record Control".

3.2.9 Internal Auditing

Perform internal audits and surveillance, in accordance with the MSM, on product and infrastructure processes, as well as subordinate processes with other WSTF-resident contractor and NASA representatives.

4.0 Emergency Services [FIXED PRICE]

The work described in Section 4.0 is Fixed Price IDIQ.

Provide fire prevention and protection, and emergency response services to protect WSTF, WSC, and the ADF-SW employees and site facilities. Specific requirements are located in the Emergency Services Fixed Price Task Order. The most significant potential emergencies at WSTF include fire, explosion, chemical release, and associated medical emergencies.

5.0 Enabling Capabilities

5.1 Component Refurbishment and Precision Cleaning

Perform precision cleaning and component refurbishment per infrastructure processes and internal procedures to stringent specifications designed to ensure system safety and reliability for fluid components and systems used in a wide variety of aerospace and special application systems, including flight hardware. The Contractor shall provide precision cleaning and fluid component refurbishment services to the test and evaluation functions at WSTF, to the ECO Contract, to other NASA facilities, and other government agencies.

Perform disassembly, decontamination, precision cleaning, reassembly and functional testing of components, tubing, vessels, and other equipment that have been used in and will be used in high-pressure and/or high-temperature gaseous oxygen, liquid oxygen, gaseous and liquid hydrogen, hydrazine and its derivatives, nitrogen tetroxide, and inert fluid systems. Functional test includes operational checkout of valves, intensifiers, regulators, compressors, filters, vacuum pumps, and other fluid handling equipment; nondestructive testing of filter assemblies to establish integrity and define filtration characteristics; and hydrostatic and pneumatic pressure tests of pressurized components. The

Contractor shall also perform in-place repair and cleaning of large or otherwise immobile equipment in remote test areas and at other installations.

Provide and maintain an inventory, in a database, of available replacement parts for components processed through the laboratory. The database includes part number, count, inventory of softgoods, and list of soft good kits. It also contains number of available repair kits. **This is a performance standard requirement, see Section 9.0 for details.**

Provide contamination control services in accordance with JPR 5322.1 "Contamination Control Requirements Manual" to establish and maintain an effective contamination control system. Internal processes and procedures provide additional contamination control procedures along with hardware cleanliness levels for WSTF hardware. As part of this process, the Contractor shall wash and maintain contamination control garments, including those used in Class 100 clean rooms, to comply with industry standards.

Provide technical assistance and training to other WSTF organizations in the selection of fluid components, contamination control, and the upgrading of safety, reliability, and operability of fluid components. Perform functional testing of components and equipment in support of mishap investigations and procurement selection evaluations. Develop state-of-the-art cleaning and inspection techniques to improve existing operations. Advance the knowledge of component cleanliness with emphasis on reducing the use of environmentally hazardous chemicals.

5.2 Special PPE Maintenance

Decontaminate, maintain, and repair PPE such as chemical protective suits and self-contained breathing apparatuses, train users on proper use of the PPE, and provide engineering investigation and hazard analysis testing for PPE failures. Provide support for the evaluation of replacement equipment for PPE that is no longer available.

Provide and maintain an inventory, in a database, of all maintained PPE (TES and SCBA) information, including replacement parts and configuration control data. Perform maintenance and repair of associated facility infrastructure and monitors to ensure availability.

Provide expertise on the selection and use of Special PPE.

This is a performance standard requirement, see Section 9.0 for details.

5.3 Calibration

Calibrate and maintain Inspection, Measuring, and Test Equipment (IMTE) in accordance with NASA Policy Directive 8730.1, "Metrology and Calibration" per WSTF Calibration infrastructure process and internal procedures. Services are

provided for both WSTF internal customers as well as off-site customers. Turn-around times for the services provided are categorized as one of the following: Routine (2-3 weeks), Special (less than 2 weeks), or Expedite (3 days or less).

The types of measurement devices that are calibrated include, but are not limited to, force, pressure, vacuum, torque, gas and liquid flow rate, temperature, humidity, length, mass, DC and AC voltage, resistance, DC and AC current, frequency, phase modulation, power, automatic network analysis, microwave attenuation, and vibration.

Calibrate equipment to manufacturer's or user-defined specifications. Calibrations must be traceable to national, intrinsic or internationally recognized standards. Perform incidental maintenance and repair of equipment submitted for calibration. Maintain transfer, working, and reference standards and calibration equipment and systems. Ensure stability of reference standards. Maintain measurement assurance programs, statistical process control, and/or comparison to properly maintained intrinsic standards.

Administer a calibration recall program. Maintain the Met/Track® database system. Provide calibration status reporting. **This is a performance standard requirement, see Section 9.0 for details.**

The Contractor shall ensure that all required training and certifications necessary to support the calibration function are maintained.

If components have been precision cleaned prior to calibration, calibration process must maintain component cleanliness. Several test media on site require stringent component cleanliness to ensure compatibility or to maintain downstream component cleanliness.

Support and participate in the NASA Metrology and Calibration Working Group (MCWG), including two annual meetings; participate in the NASA Measurement Assurance Program (MAP); identify future metrology needs and suggest improvements to current applications; participate in the resolution of calibration/measurement problems and questions; and serve as technical resource by remaining current in the newest calibration and measurement theories, equipment, methodologies, research, and specifications.

5.4 Materials Technology

Provide materials technology services in accordance with the WSTF Chemical Hygiene Plan to characterize materials from the standpoint of the inherent relationship between their structure, properties, processing history and performance in the service environment. The materials systems of interest include metals and metallic alloy systems, polymers, composites, and ceramics; all of which may have either aerospace or terrestrial applications and be subjected to diverse service environments, including exposures to hypergolic

propellants or other hazardous and potentially toxic process media. **This is a performance standard requirement, see Section 9.0 for details.**

Perform materials characterization using the following techniques in accordance with ASTM, NASA, or other appropriate consensus organization specifications: metallography, optical microscopy and micro-structural analysis of metallic and polymeric materials; Scanning Electron Microscopy (SEM) and Energy Dispersive Spectroscopy (EDS); mechanical testing utilizing uniaxial load frames, impact, macro hardness and micro hardness; Auger Electron Spectroscopy/X-Ray Photoelectron Spectroscopy (XPS) for surface micro chemical analysis; and X-ray Fluorescent Spectroscopy (XRF) of metallic alloys in both laboratory and field settings.

Determine mechanical properties of metallic and non-metallic materials such as tensile, compression, impact, hardness (including micro hardness), 3 point bend, and low-cycle fatigue on pre- and post-exposed materials to aerospace fluids.

Perform NDE, in accordance with appropriate NASA, military, or other consensus organization specifications, of flight and flight-like test articles, ground support equipment, and pressure vessels and piping systems in both laboratory and field settings.

Provide personnel certified in accordance with both ASNT SNT-TC-1A and NAS-410 requirements, and to the specified minimum certification levels, for the following techniques:

Liquid penetrant inspection - (Level III)

Ultrasonic inspection, in both A-scan and C-scan modes - (Level III)

Magnetic particle inspection - (Level III)

Radiography - (Level III)

Acoustic Emission – (Level I, with progression toward Level III)

Eddy Current – (Level I, with progression toward Level III)

Provide Materials Technology expertise as required to support research and development initiatives, engineering investigations, and the implementation and development of advanced NDE instrumentation and techniques.

Perform Failure Analysis as required to determine the mechanisms contributing to the failure of a given system or component, and make appropriate engineering recommendations to mitigate similar instances of failure in other systems or components.

Perform metallurgical analysis of welding process qualification and operator certification test coupons. Perform ambient and inert atmosphere heat treatment of metal alloys.

Ensure and document strict compliance with all applicable radiological health requirements associated with the storage, transportation and operation of ionizing radiation equipment.

5.5 General Chemical Analysis

Conduct chemistry experimentation, test, and analysis primarily to support WSTF testing. In addition, conduct experimentation, test, and analysis to support research and development for new energetic fluids and technologies, flight hardware development, and development of new test methods. Expertise within the chemistry lab comes from the multitude of analysis tools, experimentation, and ingenuity of personnel in developing experiments to provide answers. **This is a performance standard requirement, see Section 9.0 for details.**

Perform all work within the chemistry laboratory in accordance with the requirements set forth by the "WSTF Chemical Hygiene Plan", WSTF-RD-0004. Update and maintain the WSTF Chemical Hygiene Plan as necessary. Provide the necessary expertise and skills to support the position of Chemical Hygiene Officer.

Perform analysis of fuels (hydrazine, monomethylhydrazine (MMH), unsymmetrical-dimethylhydrazine (UDMH)), oxidizers, and other propellants in accordance with current NASA-approved procedures (including NASA-STD 6001), ASTM and military specifications, EPA, NIOSH, and other methodologies as appropriate. Analyze hypergolic propellants or fuels, cations, anions, metals, NVR, and particulate. Perform specification analyses of other aerospace fluids, including isopropyl alcohol (IPA), water, and cleaning fluids. Fluid analysis also includes verification of purity and particulate of gases throughout the facility, (such as but not limited to breathing air, gaseous nitrogen, gaseous helium, Oxygen, Hydrogen). Prepare or procure gas standards to specified accuracy and maintain site monitors for vapor detection. Perform analysis for trace propellants in water and air. Perform analysis of vehicle fuels (unleaded and E85) and analysis of the potable drinking water (chlorine and hardness). Perform various analyses for the ECO contract.

Maintain and improve upon standard and specially designed tests that address the interaction between material and media. Tests consist of real-time and accelerated immersion, calorimetric, and electrochemical methodologies with posttest material analyses to characterize interaction effects such as compatibility and material property changes or degradation. Techniques typically involved with this type of test include (but are not limited to) real-time immersion tests, microcalorimetry, accelerated rate calorimetry (ARC), differential scanning calorimetry (DSC), and electrochemical techniques.

Perform particulate counts on filters supplied from precision cleaning operations and perform non-volatile residue (NVR) analysis of component rinse solvents. Perform other approved procedures for verifying the suitability of contamination control efforts as required.

Investigate and verify material properties of a variety of organic, inorganic, polymeric, and composite type samples under various gaseous environments by thermogravimetric analysis/Fourier transform infrared spectrometry (TGA/FTIR), differential scanning calorimetry, Ultraviolet Visible Spectroscopy (UV-VIS), thermomechanical analysis (TMA), inductively coupled plasma emission spectrometry (ICP), and optical emission spectroscopy (OES). Perform identification and characterization of unknown compounds.

Perform analysis of vehicle fuels, including unleaded gasoline and E85.

5.6 Machining and Welding

Provide machining and welding services in support of WSTF, WSC, and other reimbursable customers. These services involve fabrication of structures, pressure containing parts, sheet metal housings and ducts, flexible hoses, valves, and sabots. Commonly used materials are carbon and stainless steels, aluminum and aluminum alloys, titanium, copper and nickel alloys, and non-metals such as Polytetrafluoroethylene (PTFE) commonly known by the DuPont brand name Teflon®. **This is a performance standard requirement, see Section 9.0 for details.**

Machining tolerance requirements are stringent for components used in test programs. Components must be manufactured to strict design criteria and pass rigid inspection criteria. It is normal for the machine shop to work to detailed engineering drawings, but sketches or verbal concept requirements may be utilized as deemed necessary. The machinists must be able to interpret sketches and verbal requirements and then be able to manufacture the items in accordance with WSTF and industry standards.

5.7 Drafting

Provide drafting services for WSTF to document the configuration of the infrastructure, test systems, and hardware. Both computerized assisted drafting (AutoCAD®, ProE®) and conventional drafting equipment is utilized. **This is a performance standard requirement, see Section 9.0 for details.**

Convert historical drawings (blue line format) to AutoCAD® format.

Sequentially number and provide a control system for all drawings, drawing change notices (DCNs) and component numbers in accordance with WSTF Drafting Guidelines.

5.8 Pressure Systems Expertise

Provide expertise in the areas of pressure system design, analysis, documentation, fabrication, inspection, and test. Significant experience and knowledge is required using both construction codes and post-construction codes for pressure systems. WSTF is transitioning its pressure systems certification program with systems scheduled based on risk. The Contractor shall continue this transition. **This is a performance standard requirement, see Section 9.0 for details.**

5.9 Media Services

5.9.1 Technical Publications

Provide technical composition and editing services primarily for publishing reports, conference papers, presentations, bulletins, brochures, and electronic media. Perform literature searches, order materials and track documentation in a database..

Provide graphic art for technical publications, conferences, booth displays and storyboards.

5.9.2 Photography and Video

Maintain full-service photography and video facilities for still picture, motion picture, video production, and video instrumentation.

Produce still photographic prints, motion picture, transparencies, and video productions. Services shall be available in-house and in-field environments, including hazardous areas requiring use of personal protective equipment.

Maintain existing databases which contain information on all photographs, videos and other photo-related work performed at WSTF.

Perform Borescopic photography and video imaging; nonvisible spectrum photography, and infrared video imaging; pulse (time-lapse), real-time, and high-speed cinematic imaging; and high-speed and fast-shutter video imaging

Operate the NASA/WSTF Video Teleconference System (ViTS).

5.9.3 Other Services

These services need to be retained on the TEST contract and have historically been performed by individuals performing the work outlined in 5.9.1.

Provide export control for Scientific and Technical Information (STI) prior to external release or publications.

Provide duplication services, electronic scanning of documentation and archival of records as described by NASA requirements.

5.10 Logistics and Property Management [FIXED PRICE]

The work described in Section 5.10 is Fixed Price IDIQ.

5.10.1 General Requirements

Provide all resources to perform Logistics Operation services in support of the NASA/JSC/WSTF Mission. Logistics operations services consist of: supply management, receiving operations, equipment management, transportation (packing and shipping services, inbound freight service), fleet management operations, disposal operations, and mail services. Even though specific guidelines, regulations, and minimum performance standards have been established, the services to be performed will rely heavily on knowledgeable and experienced individuals who are innovative and resourceful in their approach. The Contractor will ensure thorough knowledge of the NASA legacy systems which include but are not limited to; NASA Supply Management System (SAP® Material Management Inventory (MMI) System), NASA Equipment Management System (uses SAP® software, NASA Property System (Nprop), NASA Property Disposal System (DSPL).

5.10.2 Mail Services

Provide mail distribution and pickup services between various locations at WSTF as well as mail coming into and going off-site. This includes both classified and unclassified materials. **This is a performance standard requirement, see Section 9.0 for details.**

5.10.3 Supply Management

Supply Management services shall be performed in accordance with NPR 4100.1, Federal Acquisition Regulations, NASA policies, procedures and current WSTF Logistics internal instructions.

Provide supply management services to maintain, issue, reorder, catalog, and inventory stores stock and program stock (system spare stock) which includes gas cylinders to support WSTF mission requirements.

The WSTF Supply System is scheduled to be integrated to the Integrated Enterprise Management (IEM) SAP® supply system and will be used by the Contractor to manage stores stock and program stock. However, the IEM SAP® supply system will not interface with the contractor procurement or financial system. The Contractor shall implement processes for receipt and accounting of stock supplies with final input into IEM SAP® supply module. Items held in stores stock are installation accountable assets and NASA will establish a mechanism for funding the replenishment of stock supply, and program stock.

Transport materials, equipment, and documents between customers and service providers.

5.10.4 Equipment Management

Provide equipment management services through the use of the NASA Equipment Management System, IEM SAP® which is used to manage, account, inventory, tag, report and maintain a redistribution and utilization program for Installation Accountable Property (IAP) held at WSTF or acquired, purchased equipment by the Contractor or NASA to support WSTF mission requirements. Provide customer service and custodian training to ensure an effective property management program. The IEM SAP® Equipment Management system shall be used for the purpose of accounting, tracking and reporting of property management from receipt to turn-in for disposal, in accordance with NPR 4200, "NASA Equipment Management Manual", and WSTF procedures and instructions. **This is a performance standard requirement, see Section 9.0 for details.**

5.10.5 Disposal

Provide and maintain disposal, excess and sales services to support the disposition of excess government property that is unserviceable, exceeded its service life or no longer required to support WSTF Mission requirements. Provide recycling support for the ECO contractor and support property disposal for WSC. The NASA Property Disposal System (DSPL) shall be used to record and report excess property in accordance with NPR 4300 "NASA Personal Property Disposal Procedures and Guidelines", and applicable WSTF logistics instructions that apply to the disposal function. Sales shall be coordinated and performed through the GSA Xcess System. **This is a performance standard requirement, see Section 9.0 for details.**

5.10.6 Transportation and Fleet Management

Provide transportation and fleet management support services. Transportation services include handling, preservation, packaging, coordination and delivery of routine, critical, hazardous and international shipments to and from WSTF. Fleet management services include management, accounting, reporting, and coordination with GSA for replacement, repairs, and maintenance support services for GSA vehicles. This area also includes maintaining an inventory and accountability of Government license plates within the Agency supported system. **This is a performance standard requirement, see Section 9.0 for details.**

5.10.7 Receiving

Provide receiving and inspection services to account for receipt of NASA and Contractor procured or acquired materials or equipment to support WSTF mission requirements in accordance with NPR 4100, "NASA Materials Inventory Management Manual", and NPR 4200, "NASA Equipment Management Manual", **This is a performance standard requirement, see Section 9.0 for details.**

5.10.8 Real Property

Maintain and record Real Property transactions and records in the NASA Agency Real Property System. **This is a performance standard requirement, see Section 9.0 for details.**

Even though specific guidelines, regulations, and minimum performance standards have been established, the services to be performed will rely heavily on knowledgeable and experienced individuals who are innovative and resourceful in their approach. Thorough knowledge of the NASA legacy systems which include, but are not limited to, NASA Real Property System and IEM SAP® Real Property System is required. The Real Property Inventory System will be migrated to the IEM SAP® NASA Real Property System. Therefore support in the transition from the NASA RPI to SAP® software will be required.

The NASA Real Property infrastructure consists of buildings, other structures and facilities, land, lease hold improvements, and ingrants/outgrants. Current NASA/WSTF Real Property accounts consist of 114 Building records, 86 Other Structures and Facilities records, 11 Land accounts, and 2 Leasehold improvement accounts.

5.11 Buildings and Grounds [FIXED PRICE]

The work described in Section 5.11 is Fixed Price IDIQ.

5.11.1 Grounds Keeping

Provide maintenance and operations services to all grounds and landscaping systems. **This is a performance standard requirement, see Section 9.0 for details.**

5.11.2 Pest Control

Provide pest control and extermination services to all buildings where personnel may be present. **This is a performance standard requirement, see Section 9.0 for details.**

5.11.3 Janitorial

Provide janitorial services and all supplies, cleaning tools, equipment, materials, and chemicals necessary, unless specifically provided by the Government as IAP. The material provided by the Contractor includes trashcan liners and restroom supplies such as toilet tissue, hand towels, toilet seat covers, and air fresheners. Examples of janitorial services required are: removing solid waste; collecting and managing white paper and cardboard for recycling; cleaning, disinfecting and re-stocking all restrooms; cleaning and disinfecting drinking water fountains; cleaning general assembly and hallway areas; cleaning windows and door treatments; cleaning floor surfaces (including but not limited to vinyl

tiles, ceramic tiles, concrete); vacuuming and shampooing carpeted surfaces; cleaning and disinfecting locker rooms at the WSTF Fitness Center. Cleaning shall be in accordance with ANSI Z4.1-1986, "Sanitation – In Places of Employment – Minimum Requirements".

5.12 Radios and Paging [FIXED PRICE]

The work described in Section 5.12 is Fixed Price IDIQ.

Provide and maintain radio communications, radio-to-telephone interconnects, microwave, and paging systems for use in a variety of aerospace and special application systems, test and evaluation functions, Fire Department, and Security. The paging system also supports the White Sands Missile Range and the U.S. Border Patrol. Radio towers and associated antennas and equipment are located in 10 remote locations.

Comply with radio frequency (RF) equipment policy and requirements in NPD 2570.5, Radio Frequency Spectrum Management, NPR 2570-1, NASA Radio Frequency (RF) Spectrum Management Manual, and WSP 24-0011, Control of Radio Frequencies. Provide and maintain RF radio call groups, and maintain the master RF, trunking and paging databases. **This is a performance standard requirement, see Section 9.0 for details.**

5.13 Lifting Devices and Equipment

Provide moving and lifting services of test articles, facility structures and equipment, and critical lifts in support of both mission critical and heavy lift requirements. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain the equipment, records and processes to perform these lifting services safely and to meet Federal, Agency, and WSTF requirements.

Train and license all heavy equipment and crane operators to use the specific equipment. Ensure all operators have required licensing and certification when performing Lifting Devices and Equipment (LDE) tasks.

Move oversized and/or overweight loads. Coordinate with the NASA Transportation Officer when hauling or moving oversized or overweight loads to ensure proper permits are secured prior to movement. **This is a performance standard requirement, see Section 9.0 for details.**

Ref: WSP 25-0006 WSTF Lifting Devices and Equipment (LDE) Program; WSI 25-SW-0018 Critical Lifting, Hoisting, and Moving, and Load Testing of Lifting Devices and Equipment

Provide moving services necessary to satisfy WSTF's internal relocations of office furniture and equipment. Scope includes routine, priority and quick

dispatch moving and hauling services to ensure items are delivered safely, to the correct location and on schedule. Specific requirements will be defined in Task Orders. **This is a performance standard requirement, see Section 9.0 for details.**

Ensure items being moved and surrounding areas are protected from damage. Items moved via trucks should be properly secured and personnel performing the moves should be trained on securing loads.

5.14 Information Technology Services

5.14.1 Information Technology Administration and Planning

Manage and administer Information Technology (IT) systems that are in support of the Contract requirements in accordance with NASA NPR 2810.1, Security of Information Technology. Contractor personnel will utilize equipment provided by the Government and its IT Contractors for the performance of office automation and administrative requirements.

Develop, update and implement an IT Management Plan in accordance with DRD–TEST-IT-01 "IT Management Plan".

Procure, install, secure, administer, maintain and upgrade all approved IT hardware and software that is not provided by the NASA IT contractor. Maintain and update inventory and obsolescence schedules. **This is a performance standard requirement, see Section 9.0 for details.**

Perform IT planning, including compliance tracking, compliance reporting, and implementing the IT Capital Planning Investment Control (CPIC) process. Update and compare Summary Investment Business Case (SIBC) data. Provide subject-matter expertise to WSTF organizations responsible for developing SIBCs.

5.14.2 Support

Provide support for various Information Resources Directorate (IRD) IT Governance Boards, Control Boards, Technical Forums, regular internal IRD meetings, and NASA IT Working Groups.

Provide responses to data calls, analyses, assessments, and support for audits related to privacy. Reduce the use of personally identifiable information and eliminate the use of social security numbers. Support breach response activities in the event of a suspected or actual security breach affecting personally identifiable information.

Comply with Section 508 of the Rehabilitation Act. This includes completing a periodic Section 508 self-evaluation survey from the Department of Justice (DoJ) and assuring compliance with Section 508 when developing, maintaining, and

procuring new electronic and information technology (E&IT) products and services.

Complete all requests for data/information from NASA Headquarters and external Federal Government entities. The Contractor shall log and track all data call products and provide final dispositions to IRD for reporting to Headquarters.

5.14.3 Enterprise Architecture

Support Enterprise Architecture activities in accordance with NPR 2830.1, NASA Enterprise Architecture Procedures.

Document and analyze baseline information (artifacts and relationships) data, and supporting applications and technologies to identify opportunities for streamlining, collaboration, and consolidation.

Document the relationships between the business process and the technology assets. Coordinate and support Enterprise Architecture reviews for major IT projects and activities.

5.14.4 Data Management

Manage and administer shared file resources including maintaining NASA filing scheme standards, maintaining file share permissions, managing duplication and managing any misuse.

Maintain documents, drawings and work instructions to ensure controlled identification, versioning, retention, archiving, and access in accordance with Enterprise Architecture requirements.

Manage content for web sites and databases that support TEST contract.

Develop content and store assets for the government-provided SharePoint system (or equivalent collaborative management tool). Provide extended services and expertise to support SharePoint users. This shall include user training, assistance in building SharePoint sites, and troubleshooting.

5.14.5 Data Center Services

Administer and operate systems managed under this Contract to achieve required availability and performance.

Plan, organize, and coordinate Data Center activities. Recommend infrastructure upgrades and improvements. Maintain effective communications with the NASA Data Center Manager, customers, vendors, and other contractors associated with the facility. Perform planning and monitoring, conduct configuration management, and facilitate modifications of the Data Center systems, including power and environmental conditioning systems.

Provide, install, maintain, and upgrade middleware used by the applications to achieve the system availability and performance requirements.

Perform server administration duties in accordance with NASA and JSC policies.

5.14.6 Application Services

Provide applications services and systems management including end–to-end system lifecycle support for new and existing application capabilities, database and database product administration, and middleware in accordance with NPR 7120.7, NASA Information Technology and Institutional Infrastructure Program and Project Management Requirements.

Develop, maintain and upgrade databases needed to execute the Contract.

Provide applications and end-user support for the computer training environment. Respond to requests for assistance in such a manner as to not interfere with the class.

5.14.7 End User Services

Fill out IT service request forms after working with end users to understand their IT needs and requirements. Provide IT assistance to assess end user issues, and determine appropriate initial course of action, such as calling in trouble tickets to desktop support contractors.

Provide assistance and support on end user type applications (e.g. MS Word, Excel, PowerPoint).

Operate the electronic equipment in conference rooms and other common locations, with the exception of the Rotunda. Coordinate repairs with IRD contractors as appropriate.

5.14.8 IT Security

Comply with NASA IT Security Requirements to assure data on managed systems are not compromised. The Contractor shall be responsible for the integrity, availability and confidentiality of all data on all managed systems. Integrate with NASA institutional infrastructure and meet Federal and NASA IT security requirements

Participate in the development and maintenance of the IT security plans for each Contractor-managed system in accordance with DRD-TEST-IT-01.

Identify an IT Security point of contact for each IT system supporting IT security requirements under this Contract. One individual supporting IT security must possess a minimum of Secret clearance.

Work with the NASA Office of the CIO and incumbent Contractor to transfer responsibility for all IT security requirements for existing information systems within the scope of the Contract from the incumbent Contractor to the successor Contractor.

6.0 Systems and Maintenance

6.1 Build and Construct

The government funds facility construction projects through various programs including but not limited to Construction of Facility (CoF) Program, Modification-Construction-Repair-Rehabilitation (MCRR), and Maintenance & Repair (M&R). These projects range in scope from simple maintenance and repair activities to major construction activities. These will be executed in one of two ways: 1) a separate NASA construction contract, or 2) a cost reimbursable or fixed price Task Order on the TEST Contract.

6.1.1 Construction Management

Perform Construction Management services for construction performed under separate NASA construction contracts.

Monitor construction progress and ensure the construction is meeting the specifications, and report all problems related to schedule or quality to identified COTR. Ensure that the Contractor complies with the defined statement of work, specifications, and drawings included in the construction contract. Assist the COTR in interpreting technical requirements of the Contract scope of work and specifications. Recommend to the COTR if submitted invoices should be approved for payment based upon the percentage of completeness of the job. Assist the COTR with the pre-proposal conference and perform/oversee the project site showing. During construction, coordinate with NASA organizations involved in the project implementation or affected by the construction efforts to minimize impact to site personnel and coordinate and schedule system outages required for construction activities. After completion of the work, notify the COTR when the Contractor has met all terms of the contract including the completion of final punch lists.

6.1.2 General Contractor

Perform General Contractor services for construction Task Orders submitted to the TEST Contractor. Sub-contract part or all of the work as appropriate.

Establish methods and processes to quickly activate construction work using sub-contractors once a Task Order is approved.

6.2 Operation and Maintenance

6.2.1 General requirements

Design, operate, maintain, and manage facilities, systems, and critical processes defined in subsequent paragraphs and listed in Attachment A-1, Attachment J.20, and Attachment J.4 (List of Installation Accountable Property). The project work requirements in Attachment A-2 are incorporated for all operation and maintenance activities.

The TEST Contractor shall take full responsibility for any systems or functions they are assigned which includes all necessary planning, engineering, configuration control, operations, maintenance, and management. The Contractor is an integral member of a Test Team with the Government and is expected to be a champion on issues related to core capability. The Contractor shall make the most efficient use of workforce resources possible. This includes sharing of resources among the different facility and test areas. However, when a piece of test equipment, or system, or facility is required to be operated or maintained by someone who is certified, those certification requirements shall be met.

Operate and maintain systems during any scheduled work period. Specific test projects may require both operations and maintenance of core facilities to be performed outside normal shifts. Although some maintenance will need to be performed outside normal shifts, most operations will be required within normal shifts.

Should the Contractor elect not to utilize any piece or pieces of equipment, the Contractor shall provide a cost estimate to the Government to preserve the equipment in-situ such that the equipment will be preserved for a period of at least 5 years. The Contractor will assess and report on the operating condition of the equipment before it is taken out of service.

Equipment covered under this section may be replaced when it reaches "end of service life" or becomes uneconomical to repair in accordance with the preventive maintenance plan. Replacement of this equipment (including upgrade to accommodate equivalent modern technology) shall not relieve the Contractor of the responsibility of continued performance of specified work. The Contractor shall begin maintenance and operations of such replacement equipment as soon as it is placed in service.

6.2.2 Maintenance Program

Maintain systems and facilities at readiness levels agreed upon with the Government. The readiness level may be at a "ready to operate" state where the system or facility is fully ready for use, or may be at a "standby" state where there may be some amount of work to get the facility ready, or may be at a

"mothballed" state where the facility will require a significant amount of work to be ready.

Implement a comprehensive and integrated maintenance program that encompasses and utilizes the appropriate maintenance models (preventive, predictive, reliability centered, corrective) to efficiently provide system availability. Provide this comprehensive maintenance program in accordance with applicable codes, OEM instructions, NASA requirements, and good engineering practice. Maintenance activities shall be closely coordinated with test operations in order to ensure minimal impacts to test operations.

Maintain and continue existing service contracts. Provide service contracts for equipment as needed. Typically, "blanket" purchase agreements have been used for this type of service contract.

Maintain a Computerized Maintenance Management System (CMMS) for WSTF (which includes supporting other site contractors). Historically, WSTF has tracked maintenance in several separate databases. It is the NASA's goal to reduce the number of separate tracking systems to a single tracking system. Investigate and recommend the most efficient way to implement maintenance tracking across WSTF.

Prepare and maintain appropriate maintenance procedures based on the type of maintenance model employed.

Generate and maintain work instructions for routine or repetitive maintenance and operations tasks in order to ensure that tasks are repeatable and to improve cost effectiveness.

Implement and maintain preventive, test, and inspection technology for site maintenance programs. Perform system inspections, identify deficiencies, and implement corrective actions for deficiencies.

Develop a long range Programmed Maintenance Plan. Present plan to NASA on a semi-annual basis for consideration into the Modification, Construction, Rehabilitation, and Repair (MCRR) and Construction of Facilities (CoF) programs.

Perform scheduled refurbishment, overhaul of systems and equipment, planned obsolescence, and replacement of assemblies to minimize the impact on WSTF test projects. **This is a performance standard requirement, see Section 9.0 for details.**

Negotiate critical system maintenance down periods with NASA before they occur.

Identify discrepancies in drawings and other configuration control and baseline documentation. Implement approved changes and corrections.

Identify and document in CMMS or an electronic form or data base, approved by the Technical Management Representative, all necessary system inspections, repairs and modifications. Information in the data base shall include but not be limited to system description, key equipment word, area, building, system, cost, status, priority, and need date. Report maintenance data per DRD-TEST-MO-01, Maintenance Reporting.

6.2.3 Outages

Schedule and coordinate all requested service outages with WSTF users and WSTF customers, including WSC, ADF-SW, and commercial power suppliers, as applicable to the service(s) being taken out. **This is a performance standard requirement, see Section 9.0 for details.**

Restore service following maintenance or repair activities. **This is a performance standard requirement, see Section 9.0 for details.**

Report all service outage information to the TMR and all affected WSTF users and WSTF customers. Include cause, status of the maintenance or repair activity, estimated time to restore the service, system or utility to operations, and any other pertinent facts. **This is a performance standard requirement, see Section 9.0 for details.**

6.2.4 Critical Spares

Generate and maintain a critical spares list for NASA approval and maintain a critical spares inventory for all of WSTF. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain an electronic data base for tracking critical spares that can be queried on the WSTF local area network (LAN) and sorted by quantities, location, minimum levels, cost, and persons authorized to remove stock.

6.2.5 Meter Readings

Maintain a data base or an electronic file of all service meters and monthly meter readings. Meter readings shall be collected, recorded, filed, and posted on the WSTF LAN that can be accessed by NASA and provides historical and trending data. **This is a performance standard requirement, see Section 9.0 for details.**

Include in the database or electronic file all HVAC electrical power meters, water meters, natural gas and monthly meter readings. Also include cooling towers and boiler blowdown and supply meters. Meter readings shall be collected, recorded, filed, and posted on the WSTF LAN that can be accessed by NASA and provides historical and trending data.

6.2.6 Repairs

Perform scheduled repairs to all test, facility and utility infrastructure systems. Generate repair procedures, procure parts, perform the repair, and document the work performed. Coordinate all repairs with all WSTF users and WSTF customers, including WSC, ADF-SW, and commercial power supplier. Ensure repaired system continues to perform intended function by performing baseline tests.

Track all individual repairs and total repair costs by incident, equipment number, labor hours, and material costs. **This is a performance standard requirement, see Section 9.0 for details.**

Immediately mitigate unsafe conditions that have resulted in an injury, accident, or presents a threat to human health, then schedule and complete required repairs. **This is a performance standard requirement, see Section 9.0 for details.**

Implement a 5-year Work Plan for all facilities, structures, and equipment (real property database and CMMS).

6.2.7 Commodity Management (including propellants)

Manage and coordinate propellant and pressurant requirements and logistics. Provide integrated, long-range forecasting, ordering, coordination of delivery, transport scheduling, certification, acceptance, storage, and distribution of commodities, including vehicle fuel, propellants, and pressurants. The frequency of forecasting and tracking may vary depending on the commodity. Ensure the required quantity and quality of commodities is available at each facility.

This effort requires close coordination with NASA, other NASA centers, and other NASA support Contractors. Submit reports of forecasted propellants requirements and propellants and pressurants usage.

The commodities involved are: hydrazine, monomethylhydrazine (MMH), dinitrogen tetroxide, liquid and gaseous oxygen, liquid and gaseous hydrogen, liquid and gaseous nitrogen, air, gaseous helium, gasoline, diesel, propane, and E85.

6.2.8 Specific Systems

The paragraphs below are not intended to be an exhaustive list of all the WSTF facilities, systems, and processes. Specific operation and maintenance requirements for particular systems and processes are given here.

The Contractor shall use the following documents, lists, tables, databases, and geographical boundaries to further define the scope of the Contractor's responsibility for maintenance and operations:

- Attachment A-2 - This table identifies major systems, subsystems, and units.
- The MAPCON equipment database identifies numbered equipment and gives criticality for each.
- The Installation Accountable Property (IAP) List (J-4).

6.2.8.1 Site Infrastructure Systems

Operate and maintain electrical distribution and utilization systems, including 24.9/14.4-kilovolt (kV), 480/277 and 120/208-volt distribution, including associated controls - 28-120 VDC and 50 VAC.

Operate and maintain potable water systems and all related operations and sustaining services to the WSTF. Maintain a continuous supply of water to all WSTF, WSC, and ADF-SW users with a minimum of 16-feet of level in the WSTF Storage tank, or higher, as dictated by test, fire fighting activities, or customer requirements. Ensure that the WSTF water system meets New Mexico Environmental Department (NMED) requirements (through ECO) and is approved for operation. Operate in accordance with good engineering practices and all applicable Federal and State drinking water requirements.

Operate and Maintain all sewer system and sewage treatment operations and sustaining services. Maintain NMED approval (through ECO) for operation of the WSTF waste water system. Maintain applicable approvals (in coordination with ECO) for the new sewer system.

Operate and maintain all natural gas systems and all related operations and sustaining services. Notify the TMR of any leaks and initiate immediate corrective action.

Operate and maintain building systems. Building systems include electrical, HVAC, potable water, sewer and drains, mechanical, structural, roofing and roofing drains, wall surfaces (interior/exterior), natural gas, stairways (interior/exterior), lighting (interior and exterior), lightning protection and grounding, and personnel restraining and other Life Safety Systems. Other structures may include but are not limited to fences, elevators, special use doors, loading docks, storage yards, pathways, and canopies. Maintain required environmental conditions (including but not limited to humidity, temperature) in all facilities.

Operate and maintain the WSTF Energy Management Control System (EMCS) for the 100 and 200 areas.

Operate and maintain the WSTF Meter and Monitoring System, including components, firm/soft-ware, servers, and interconnections.

Operate, maintain, and sustain life safety, safety shutdown, and annunciation systems, for WSTF and WSTF users and customers (WSC and ADF-SW), and the B104 Alarm Room to ensure no negative impact to life safety, WSTF or customer missions. Life Safety Systems include Fire Alarm and Detection, Fire Suppression, Emergency Egress Lighting, Eyewashes and Eye Showers, and Water Level Monitors. Contingencies must be planned and in place in event of loss of one or more life safety systems. **This is a performance standard requirement, see Section 9.0 for details.**

Provide all operations and sustaining services to all roads, road shoulders, parking areas, and boundary fences for WSTF users and customers, WSC, and ADF-SW. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain primary roads, road shoulders, and boundary fences free of litter and unsightly debris. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain the primary roads (including but not limited to NASA Road, Second Tracking Data Relay Satellite System (TDRSS) Ground Terminal [STGT] Access, WSC Access, ADF-SW Gate Turn-in, Apollo Blvd., 200 Loop, Road L, 272 Road, well road) such that they are always passable by common privately owned vehicle (POV). Primary roads shall be made passable within 4-hours of the identification of the need for or request for clearing (includes holidays, weekends and after normal working hours).

Keep all shoulders mowed and cleared to allow emergency shoulder access.

Maintain Emergency egress roads such that they are always passable by common POV. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain Perimeter Roads such that they are made passable for security and fire fighting use. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain Primary Parking areas (STGT, WSC, ADF-SW, 100 Area, 200 Areas, 300 Areas, and 400 Areas) and Secondary Parking areas such that they are made passable for common POV use. **This is a performance standard requirement, see Section 9.0 for details.**

Provide all operations and sustaining services to systems and structures that control erosion, flood, and drainage, including but not limited to culverts, berms, and other contours. Maintain all erosion and drainage control structures. Clean culverts and berms (including but not limited to removing brush, excessive dirt).

Provide the operations and sustaining services to all grounds and landscaping systems.

Maintain cafeteria equipment. Perform special cleaning of cafeteria outdoor patio (including but not limited to removal of sand and debris, washing). Pump and clean grease traps in food preparation areas. Maintain cafeteria food service fixtures and equipment (including but not limited to tables, chairs, ovens, coolers, freezers). Maintain the kitchen exhaust vents and fire suppression system.

Maintain and operate fuel dispensing system. System consists of two fuel dispensers, two submersible pumps, two fuel tanks, one fuel leak detector and level indicator, one electronic card swipe authorization system, and associated piping and control cables. Notify NASA for replenishment of fuels to ensure sufficient fuel(s) for the WSTF and WSC vehicle fleet. Perform leak detection tests. Maintain NMED approval (in coordination with ECO) for underground storage tanks.

Maintain the site vehicle weigh scale equipment and ensure that it is certified and functional at all times.

Maintain the facility paint booth and ensure that it is certified and periodically tested.

Operate and maintain the compressed air system in the NHB and throughout the 200 Complex of buildings.

Operate and maintain the WSTF NASA Select satellite television receiving and signal distribution systems. **This is a performance standard requirement, see Section 9.0 for details.**

Maintain all solar parking structures in 100 Area Main Parking Lot and related electrical controls in accordance with manufacturer's recommendations.

6.2.8.2 IT Systems, Applications and Databases

The following systems, applications and databases will require support from the TEST contractor:

IT Systems - Development and maintenance of IT Security Plans is required for the following contractor-managed systems, as defined in DRD-TEST-IT-01, Information Technology Management Plans and Reports:

- Propulsion Data Acquisition and Control Systems
- Labs Data Acquisition and Control Systems
- Emergency Communication System
- Facility Management System
- General Office Automation

Databases - Numerous Access and SQL databases are used to support operations and activities across the TEST contract. These databases support tracking of work tickets, local documents, components, testing results, metrics, maintenance, and other various functions. In general, these databases are developed by the NASA IT contractor, but some are locally developed and maintained by TEST contractors, based on need. Examples of these databases are listed below:

- Facility Baseline Documentation System
- Pressure Systems Database *
- Emergency Accountability System *
- Visitor Database *
- Management System Manual *
- Internal and External Web Pages *
- SIMS Database *
- Close Call Database *
- Shuttle Test Article Database (S&MA)

(indicates that TEST is responsible for collecting and entering the data and the NASA IT contractor will develop the applications)*

Commercial Applications - TEST contractor shall maintain a working knowledge of existing commercial applications to ensure the ability to maintain, use and enter data. NASA owns licenses for the applications listed below, and there are no renewal requirements for TEST. These applications are subject to change, and the TEST contractor shall support any transitions or upgrades through cost reimbursable IDIQ task orders.

- Computerized Maintenance Management System
- Geographic Information System
- SharePoint
- Oracle

6.2.8.3 Propellant Storage and Distribution Systems

Operate and maintain the hypergolic, cryogenic, and all other propellant receiving, storage, and delivery systems. This shall include offloading commodities from delivery trucks into storage at all test facilities. This does not include operation of transport trailer valves.

6.2.8.4 High Pressure Gas Systems

Operate and maintain the high-pressure gas systems used to generate and distribute high-pressure gases throughout the facilities. This includes bulk storage tanks, compressor units, pump units, vaporizers, distribution lines with associated components, tube bank trailers and remote gas storage bottles and equipment. The gases generated and distributed are hydrogen, nitrogen, helium, and breathing air. **This is a performance standard requirement, see Section 9.0 for details.**

6.2.8.5 Backup Electrical Systems

Operate and maintain the emergency power generators, battery/inverter systems, and uninterruptible power systems (including 28VDC, 480/277 and 120/240 VAC systems), including the electrical distribution system within the facility to insure backup power as necessary. The emergency generation systems consist of diesel-driven generators and associated switchgear, controls, and instrumentation. Detailed coordination with test operations is required in

performance of these functions. In cooperation with ECO, maintain applicable NMED approvals for emergency power generators.

6.2.8.6 Environmental Systems

Operate and maintain, including test and recordkeeping, regulated underground and above ground petroleum storage tanks, Oil/Water separators, and area-specific systems that require ECO Contractor monitoring (drain lines, lagoons, drinking water system, waste accumulation areas) in cooperation with ECO.

6.3 Upgrade

Support a wide range of system and process development and upgrade activities. The complexity of these types of projects can be as simple as modifying an existing system to accommodate a new test requirement or as complex as designing and building a system from the ground up. All facility modifications and construction will rely on the close coordination with various groups for definition of requirements and services.

Support facility modernization and improvements from planning through implementation. Planning may include researching, documenting and prioritizing facility upgrade concepts. Upgrades shall be handled as projects and detailed on Task Orders once approved and funded.

7.0 Space System Performance, Environment, Hazard Evaluation, and Testing

Operation and maintenance of facilities and equipment that is associated with the Core Capabilities is addressed in Section 6.0 of this SOW.

7.1 Propulsion

Conduct ambient and altitude tests of components, liquid rocket engines, solid rocket engines and integrated propulsion systems, as well as test and analysis of flight and ground support equipment components for functionality and fluid compatibility. The following propellants may be employed: hypergolic propellants, cryogenic propellants, hydrocarbon propellants, mixed gas propellants, cold gas propellants and solid propellants. The types of tests range from concept demonstration through qualification and acceptance tests, and may include anomaly investigation and support. Propulsion tests range from static hot fire tests of up to 90- kilo-Newton (KN) thrust engines at simulated altitude and up to 270-KN thrust engines at ambient pressure, tests of an entire satellite propulsion system, or tests of a launch vehicle upper stage. The WSTF test specialty (designated by NASA) is systems implementing hypergolic propellants (the various hydrazines and NTO) and vacuum (simulated altitude) tests of non-hypergolic propellant engines below 111 KN.

Operate several altitude simulation systems located in the 300 and 400 propulsion test areas. These systems are maintained in a ready-to-operate state and operated in support of the various test projects as required.

Maintain expertise on data acquisition systems, control systems and various forms of instrumentation used for test operations. Typical instrumentation includes high speed video, accelerometers, thrust measurement, pressure measurement , temperature measurement, including thermal imaging.

Maintain propellant handling expertise to support a range of activities, including operation of hypergolic systems, responding to issues/anomalies, and decontamination of hardware and systems that have been exposed to hypergolic propellants. Altitude test chambers and pressurant systems may be used in support of decontamination efforts. Contractors may be called upon to perform propellant operations or troubleshooting at remote locations because of experience and working knowledge of hazardous operations.

7.2 Oxygen Materials and Components

Conduct materials and component tests with oxygen in both gaseous and liquid states. Gaseous oxygen tests may be conducted at pressures up to 10,000 psi and at flow rates up to 8 pounds per second. Materials tests shall be performed to NASA, ISO, military, or ASTM standards in ignition, flammability and reaction effects. Materials test capabilities include pneumatic impact, mechanical impact, particle impact, frictional ignition, autogenous ignition, oxygen index, promoted combustion and heat of combustion tests. Component tests includes forced ignition, pneumatic impact, particle impact, and tests per NASA-STD-6001.

Perform assessments of potential hazards of pressurized gaseous and liquid oxygen and oxygen-enriched systems or designs and recommend material and/or design changes to remediate the hazards. Requirements for conducting oxygen hazards analyses are detailed in NASA TM-104823. Analyses range from single components (e.g., regulator) to full systems with multiple components, pressures, and/or fluid states (e.g., ISS Fluid Combustion Facility).

Perform analyses and testing in support of in-flight anomalies in propulsion and environmental control and life support systems.

Actively participate in the technical community and support standards committees (e.g. ASTM, American Institute of Aeronautics and Astronautics (AIAA), Joint Army, Navy, NASA, and Air Force (JANNAF)).

Support and teach courses for the NASA Safety Training Center and industry such as the ASTM technical and professional training courses entitled "Fire Hazards in Oxygen Systems," and "Oxygen Systems: Operation & Maintenance." This will often involve travel, both foreign and domestic.

7.3 Composite Pressurized Systems

Evaluate composite structures and materials through hazardous destructive tests, various NDE techniques and computational analysis. Tests may include stress rupture, burst test, life cycle test, impact damage characterization, material compatibility test and flammability characterization. NDE techniques include laser shearography, IR thermography, acoustic emissions, eddy current, full field strain measurement, x-ray CT, Raman spectroscopic strain measurement and bore scope laser interferometry. Computational analyses may include finite element, blast and fragmentation analysis and data analysis from NDE and test results.

Conduct research and development in the areas of composite pressure systems and composite materials. Provide support to WSTF and WSTF customers in the area of composites typically in a flight environment.

Use expertise to support continuous improvement of test and evaluation processes.

Support and teach the certification course to train aerospace visual inspectors of flight composite pressure vessels. This will often involve travel, both foreign and domestic. Training courses developed may be taught at WSTF, at other NASA facilities, or at non-NASA facilities.

Develop and maintain expertise in composites. Actively participate in the technical community and support standards committees (ASTM, American Institute of Aeronautics and Astronautics [AIAA], Joint Army, Navy, NASA, and Air Force [JANNAF], et al.

7.4 Hypervelocity Impact Test

Conduct hypervelocity impact tests to simulate micrometeoroid and orbital debris impacts on spacecraft materials and components for external analysis per TP-WSTF-922, unless otherwise negotiated. Tests are performed using four two-stage light gas guns (2SLGG) that propel single projectiles from 0.05mm-25.4mm at velocities >7km/s repeatedly. Test articles typically include shields, stored energy systems, aerospace fluid systems, materials, and components, and may require heating (>125 °C) or cooling (cryogenic temperatures).

Develop and maintain expertise to optimize existing 2SLGGs, including improvements to increase impact velocities to >10km/s while maintaining a 'clean' test article.

Actively participate in the technical community.

7.5 Propellants and Aerospace Fluids

7.5.1 Hypergolic Fluids, Materials, and Components

Perform laboratory scale experiments and tests to determine and verify the properties of the various aerospace fluids. Tests include but are not limited to: microcalorimetry, flash point, fire point, differential scanning calorimetry, inductively coupled plasma-mass spectroscopy, adiabatic compression, and thermal runaway.

Perform material tests on non-exposed materials to determine properties including, but not limited to, tensile strength, flexure, compression set, and hardness. For polymers, perform tests such as FTIR and DSC to characterize composition and glass transition temperature

Perform tests per appropriate NASA, military, and/or ASTM standards to determine the exposure effects of a material to a particular aerospace fluid (or its decomposition product). Perform materials tests including, but not limited to, tensile strength, flexure, compression set, and hardness. to quantify the extent of change a material has experienced after exposure and perform post-test fluid analysis to determine effects on the fluid by the material.

Perform component level analyses to identify materials of construction (including, but not limited to, metals, soft goods used for seals and seats, ceramics, sensing media, electrical components) to determine fluids compatibility.

Perform system level analyses that consider the material change/degradation effects and how these changes affect component function. Provide recommendations for increasing component/system reliability.

Design and fabricate test systems that replicate or duplicate the component and system configurations (considering their intended use conditions –temperatures and pressures) and perform tests to evaluate component/system functionality, usability, and safety.

Analyze and evaluate system operational parameters that may cause the aerospace fluids and/or the materials they are in contact with to have undesirable effects. Examples include, but are not limited to: high surge pressures causing adiabatic compression decomposition (fuel systems); high cycle water hammer systems causing fatigue of components leading to exposure of incompatible media to the fluids; high temperature environments causing thermal runaway; liquid lock up situations coupled with thermal excursions causing over pressurization of system lines or components.

Perform analyses and testing in support of in-flight anomalies in propellant systems.

Develop new methodologies for understanding fluid behavior, identifying material interaction with aerospace fluids, and predicting the life of materials exposed to aerospace fluids.

Support and teach courses for the NASA Safety Training Center for NASA, other government agencies and for industry. This includes "Hypergol Systems: Design, Buildup, and Operations". This will often involve travel, both foreign and domestic.

7.5.2 High-Energy Systems

Design free-field blast experiments up to 230 kg TNT equivalency and small-scale 11 kg TNT equivalency experiments to assess the hazards associated with a variety of high energy release mechanisms.

Perform assessments of hazards associated with a variety of high-energy release mechanisms such as solid-, cryogenic-, and hypergolic-propellant explosions or detonations; pressure vessel failures; and high-explosive detonations.

Conduct pretest evaluations of the potential damage from the high energy to determine the level of risk of damaging the facility and to design the appropriate facility protection.

Analyze and evaluate data, including side-on and dynamic pressure measurements in the near- and far-fields; explosion or detonation temperatures, acceleration, blast wave velocities, Chapman-Jouquet (CJ) pressure, CJ velocity measurements, cell size measurements, and fragment velocities and size distribution measurements.

7.5.3 Hydrogen Systems

Conduct materials and component tests with hydrogen in both the gaseous and liquid state. Gaseous hydrogen tests may be conducted at pressures up to 6,000 psi, and at flow rates up to 5 pounds per second. Tests may be to determine compatibility with hydrogen to enhance safe use, or may be to determine life cycle issues including acceptance test and qualification of flight hardware. Tests may also be done as part of the design and development stages of flight components.

Perform component and system hazard analyses per NASA technical manual NASA TM-2003-212059 "Guide for Hydrogen Hazards Analysis on Components and Systems".

Conduct research and development in the areas of hydrogen system design and hazards associated with hydrogen. Provide unique support to WSTF and WSTF customers in the area of hydrogen system analysis and hydrogen hazards analysis typically in a flight environment.

Perform analyses and testing in support of in-flight anomalies in hydrogen systems, including but not limited to propulsion and fuel cell systems.

Develop and maintain expertise in hydrogen safety, hydrogen hazards analysis, and hydrogen system design. Actively participate in the technical community and on consensus standard committees (e.g. ASTM, American Institute of Aeronautics and Astronautics (AIAA), Joint Army, Navy, NASA, and Air Force (JANNAF)).

Use hydrogen expertise in the development of new and improved safety guides and standards for hydrogen and to develop and provide training and education in those areas. Support and teach training courses to WSTF personnel, other NASA organizations, other government agencies and industry customers. Domestic and foreign travel may be required.

7.5.4 Out Gassing and Off Gassing and Molecular Desorption and Analysis Laboratory (MDAL)

Provide material and component tests in accordance with NASA-STD-6001, "Flammability, Odor, Offgassing and Compatibility Requirements and Test Procedures for Materials in Environments that Support Combustion", NASA-STD-6016, "Standard Materials and Processes Requirements for Spacecraft", ASTM E595, "Standard Test Method for Total Mass Loss and collected Volatile Condensable materials from Outgassing in a Vacuum Environment", as well as related consensus methodologies such as thermal-vacuum stability tests (SP-R-0022A) and thermal conditioning of materials and components. This work may include full configuration test of payloads and flight items along with necessary preparation, coordination, storage, and reporting.

Perform all work within the MDAL in accordance with the applicable requirements set forth by the WSTF Chemical Hygiene Plan. Perform gas analysis using the following techniques in accordance with ASTM, NASA, or other appropriate consensus organization specifications: Gas Chromatograph Mass Spec (GCMS), Gas Chromatograph Flame Ionization Detector (GCFID), Gas Chromatograph Methanizer, Gas Chromatograph Thermal Conductivity Detector, Gas Chromatograph Infra Red (GCIR). Perform analysis using other available techniques (FTIR, Ion chromatography) as special requests are made.

Evaluate materials and components for Percent Volatile Condensable Material and Configurational Thermal Vacuum Stability (CTVS) Testing.

Provide Odor Analysis of materials and components.

Provide expertise as required to support research and development initiatives, engineering investigations, and the implementation and development of advanced analysis techniques.

Coordinate and perform round robin gas analysis tests with other NASA supporting labs.

7.6 Flight and Special Test Equipment Development and Processing

Provide oversight of projects involving flight and other critical hardware, such as special test equipment or customer supplied hardware, with personnel familiar with the requirements of flight hardware development and processing to ensure the proper processing and handling of the hardware the entire time it is at WSTF.

Perform any or all facets of flight hardware and special test equipment development, qualification, acceptance and delivery phase activities. Research the applicable program specifications, complete mechanical and electrical designs, and perform appropriate hazards and interface analyses. Prepare and present complete documentation packages including drawings in a customer-specified format, detailed manufacturing, assembly, and test instructions, material certifications and procurement information, and design calculations and analyses. Prepare detailed test plans and procedures, ensuring that the applicable test system meets program-specific requirements. Procure or manufacture hardware. Conduct tests, analyze data, and report data. Finally, deliver hardware and acceptance data packages per program standards and customer requirements.

Follow and maintain the facilities and processes associated with cable fabrication. These processes have been approved by JSC and are used as overflow capacity by JSC. Maintenance requirements associated with these tasks will be identified in the Task Orders.

For hardware processing projects, perform preventative maintenance, refurbishment, repair, and/or acceptance test of flight and/or critical hardware. Receive hardware, identify and plan required work per customer requirements, verify work authorization/approval if Class I hardware, perform receiving inspection, and/or decontaminate hardware. Because of WSTF core expertise in propellant media and propulsion test, personnel performing this work must be trained and able to perform decontamination and work on or with propellant contaminated hardware.

Maintain Bonded Storage facilities and processes required for receipt and delivery of Class I Flight Hardware. Maintain facilities and processes required to provide controlled storage of non-Class I hardware.

8.0 Space Shuttle Program & Related Requirements

Support Space Shuttle Program (SSP) related activities as required by task orders. WSTF is supporting SSP testing as outlined in Section 7.0, "Space System Performance, Environment, Hazard Evaluation and Testing" and through

operation of the WSSH. WSTF has already begun some transition and retirement of functions that are no longer required by SSP.

Space Shuttle retirement will initiate the transition and retirement of facilities at WSTF associated with processing and support of the SSP. These transition and retirement activities are scheduled to continue into the period of performance of this Contract. The TEST Contractor shall support transition and retirement activities at the WSTF.

8.1 SSP Transition and Retirement

8.1.1 WSSH Transition and Retirement

WSSH is a WSTF satellite facility consisting of three dry lakebed (unpaved gypsum) runways and associated facilities and is a tenant of the US Army White Sands Missile Range (WSMR). It lies within a 100 square mile area on the alkali flats lakebed approximately 55 miles northeast of the WSTF.

The facility shall be transitioned and returned back to the WSMR at the conclusion of the Space Shuttle Program. Move pre-engineered and portable buildings to WSTF and WSMR Main Post. Excess equipment and facilities. Transfer equipment to WSTF, Kennedy Space Center, WSMR, and other locations. Perform demolition and disposal of buildings and facilities.

Government vehicles will be provided at the WSMR Small Missile Range and Holloman Air Force Base (HAFB) locations for WSSH personnel to use.

8.1.2 WSTF SSP Support Facilities

Decontaminate and render safe WSTF hazardous facilities that support SSP and that will not be maintained for use as part of the existing Core Capabilities as stated in Section 7.0, "Space System Performance, Environment, Hazard Evaluation, and Testing". This work includes venting and draining systems, decontamination, disassembly and excess of hardware and equipment associated only with SSP. This work also includes the disassembly and excess of flight hardware and flight-like test articles. Test areas will remain intact with propellant and other test specific systems, where necessary, to maintain capability for follow-on customers. Impacted test areas include: Test Stand (TS) 301, TS 303, TS 328, TS 403, TS 405, TS 406, Test Cell (TC) 844, TC 843, and parts of the 250 Area. There are no plans for demolition of facilities at WSTF.

8.1.3 Personal Property

Perform personal property decontamination and safing as required. Perform personal property transport or excess as directed once final disposition is identified for the various items. Work in this section will also include safing and decontamination of hardware from Space Shuttle pods and modules and safing,

decontamination, and disposal of Space Shuttle hardware spares at Kennedy Space Center (KSC) for which WSTF is the certified depot along with fuel cell decontamination and heavy metal recovery and auxiliary power unit safing, decontamination and disposal.

8.1.4 Records

Collect, disposition, archive and dispose of SSP related documentation per NASA regulations and National Historic Preservation Act requirements.

8.2 SSP Continued Operations

SSP retirement will eliminate the requirement for WSSH and the Shuttle and ISS Hardware Depot in late FY 11. The actual work requirements will be identified in IDIQ task orders. In the event that Shuttle transition and retirement is delayed, IDIQ task orders will be issued defining continued operations and support.

ISS hardware requirements would be similar to work described in Section 8.2.2, "WSTF Shuttle and ISS Depot". The actual work requirements will be identified in IDIQ task orders.

SSP transition and retirement activities are scheduled to be completed by the end of FY12 with the exception of records disposition, which is scheduled through FY13, and historic preservation activities.

8.2.1 WSSH

Operate and maintain the WSSH facilities and equipment (conventional, custom built, collateral, and non-collateral) in full support, capable of accepting an Orbiter landing during any WSTF or JSC Landing Support Officer specified time, and in cooperation with WSMR, Holloman Air Force Base (HAFB), El Paso FOL, Goddard Space Flight Center (GSFC), and JSC. Facilities and equipment are to be 100% available, unless availability is outside the control of the Contractor, no less than 98% of the scheduled and requested time.

Operate and maintain the WSSH facilities and equipment in full support of the Shuttle Training Aircraft (STA) astronaut training missions, which will include a significant amount of time coordinating with WSMR, HAFB, El Paso FOL, and JSC and accommodating impacts by WSMR launch activities, holidays, and inclement weather.

Perform maintenance and operations of gypsum surface runways, taxiways, roads, navigational aids, and the WSSH radar tracking system. Must have minimum 1 year of experience working with gypsum and airfield M&O. Must be certified for operation and maintenance of the navigational aids per the KSC Microwave Scanning Beam Landing System (MSBLS) certification.

Perform air traffic and ground operations control. Each controller must have a minimum of 7 years of air traffic control experience (military or FAA controller); however an FAA certificate is not required.

Provide quality verification and designated verification management support for White Sands Space Harbor (WSSH), in accordance with WSI 24-SW-0001 "White Sands Space Harbor (WSSH) Shuttle Program Support Plan (PSP)".

The Contractor shall assure operational readiness of WSSH navigational aids and runway conditions for STA and Shuttle operations and shall assure operational readiness of NASA El Paso Hangar facilities for STAs as required (lease, utilities, fire protection, janitorial).

Maintain the WSSH custom built equipment that provides real time communication locally and between NASA Kennedy Space Center (KSC), JSC, and WSSH. Maintain communications capability with Goddard Space Flight Center (GSFC) Shuttle communications support Contractor, maintain the UHF equipment supporting the Shuttle Program located at WSSH and owned by GSFC. Equipment must be operational 99% during daily operations and 100% of the time during Shuttle flight.

8.2.2 WSTF Shuttle and ISS Depot

The Depot operations function is responsible for performing preventative maintenance, refurbishment, repair, and acceptance test of Space Shuttle and ISS flight hardware. It is critical that program level certification be maintained uninterrupted for the Depot processes performed at WSTF. The expertise, capabilities, and the specialization of the WSTF facilities results in additional projects related to the work that the Depot is certified to perform, such as designing and fabricating thruster mockups, fabricating flight piece parts that no longer have original equipment manufacturers (OEM), performing failure analysis, and analyzing certified operations for process improvements. All personnel must be certified to perform work on flight hardware per the requirements for the specific flight hardware, with the exception of individuals performing on-the-job training under the supervision of certified personnel.

The Contractor shall refurbish and repair the Space Shuttle and ISS components listed below. The Space Shuttle Intermediate Depot Maintenance Requirements Documents (IDMRD) describes each component the Depot is certified to process and includes approved WSTF procedures. The planned hardware repair mix and schedule requirements are negotiated continually and are reflected in the individual DOs. The Depot is certified to work on the following Space Shuttle hardware: Primary Reaction Control System (PRCS) thrusters, PRCS pilot operated valves, Vernier Reaction Control System (VRCS) thrusters, VRCS direct acting valves, Orbital Maneuvering System (OMS)/RCS quad check valve, OMS engine, OMS engine series valve, OMS/RCS manual valve, OMS/RCS burst disk/relief valve, OMS/RCS AC motor valve, Space Shuttle Main Engine

(SSME) hydrogen flow control valve, Atmospheric and Revitalization Pressurization Control System (ARPCS) control and supply panels, and Shuttle Main Propulsion System (MPS) Liquid Hydrogen Recirculation Pump (cryogenic acceptance test only).

WSTF ISS component refurbishment, overhaul and repair requirements are documented as part of the hardware certification in SSP 50276, Depot/Manufacturing Facility Certification Plan, Annex 4. The Depot is certified to work on the following ISS hardware: Oxygen Recharge Compressor Assembly and Respiratory Support Pack.

Perform system maintenance and repair on a variety of facility test equipment and systems. Because of the Depot certifications, the test systems and equipment are controlled via the Shuttle and ISS Programs certified processes and procedures. The availability of the equipment and systems is essential to the Depot Operations. The readiness of particular test systems and equipment is managed based on the scheduled hardware work. Specific hardware and system readiness is documented in individual Task Orders. This task also includes maintenance of system and hardware documentation such as test processes, procedures, and hardware data.

9.0 Performance Standards

Performance standards and corresponding acceptable quality level are shown in the table below. Verification of Quality Level may be performed by the Government or delegated to the Contractor. Methods of verification may include surveillance, audits, review of DRD reports, and effectiveness review during performance evaluations. Some performance standards relate to requirements that are detailed in the corresponding Fixed Price Task Order. For those standards, the paragraph reference column "Ref" includes the note: "See T.O."

Ref	Description	Performance Standard	Acceptable Quality Level
2.1	Contractor interfaces and agreements	Efficient and effective day-to-day working relationship between contractors	WSTF mission is not adversely impacted due to ineffective interaction. No work stoppages due to interface issues. Zero non-routine revisions to ordered services Task Orders
2.2.4	Work Coordination	Coordinate work across the site at service providers.	Receive work requests and deliver work to service providers in a timely manner such that project schedules or the WSTF mission are not adversely impacted.
2.3	Management Systems	Maintain the MSM by incorporating and posting all approved revisions and new releases.	Changes performed within 3 working days of approved document or process submitted.
2.3	Quality and Environmental Management Systems	Maintain operations, documentation, and systems in full compliance with MSM and WSTF documentation system	Successful 3rd party ISO certification; additional quality level descriptions in procedural documentation and the MSM requirements.
2.5	Configuration Management	Update facility infrastructure modifications in the Geographic Information System (GIS) or AutoCAD® files as applicable.	100% of facility infrastructure modifications updated within 30 days of modification.
2.7.2	Project Management	Schedule and integrate all project activities and resources across the site.	WSTF mission is not adversely impacted due to ineffective project management.

Ref	Description	Performance Standard	Acceptable Quality Level
2.8	Environmental Coordination	Perform operations in accordance with permits, laws, and regulations	100% compliant
2.8.1	Environmental Coordination	Coordinate hazardous waste transfers with ECO	No regulatory nonconformances due to ineffective coordination.
2.8.3	Environmental Coordination	Provide data to ECO to fulfill compliance and regulatory requirements for air permits and discharge permits.	100% accurate and timely data.
2.9	Pressure Systems	Maintain certification for Pressurized Vessels and Pressurized Systems (PV/S)	No overdue certifications.
2.10	Training	Maintain and provide employee training status, trends, and effectiveness reports	Training status is maintained up to date within one week of completed training
2.11	Records Management	Ensure accurate and complete records of government business are maintained in accordance with WSP 05-0011, Federal requirements, and NPR 1441.1.	Documents dispositioned within 30 days of the schedule date.
3.1.4	Occupational / Industrial Safety	Maintain accurate records of all injuries.	Injury rates and supporting data must be 100% accurate with respect to number of injuries and calculated rate.
3.1.4	Occupational / Industrial Safety	Perform review of each safety program and workplace at WSTF.	Annual review schedule submitted for approval prior to January 1st of each year Documented reports of reviews will be submitted within 30 calendar days of review and 100% accurate with respect to conditions noted and applicable requirements cited

Ref	Description	Performance Standard	Acceptable Quality Level
3.1.4	Occupational / Industrial Safety	Provide and implement a Safety and Health plan.	Injury prevention efforts must limit injury rates below applicable North American Industry Classification System (NAICS) industry average.
3.1.4	Occupational / Industrial Safety	Review OSHA regulations and provide interpretations and implementation options.	Written advisory to NASA S&MA a minimum of 60 calendar days prior to regulatory implementation
3.1.4	Occupational / Industrial Safety	Ensure mishaps and close calls are reported, analyzed, and resulting corrective actions are completed.	Mishap (type A &B) notification within 1 hour of occurrence. Mishap (type C or less) notification within 8 hours of occurrence. Mishap corrective actions within 15 calendar days of estimated completion.
3.1.4	Occupational / Industrial Safety	Maintain and coordinate the WSTF Chemical Inventory and Hazard Communication Program.	Chemical inventory updated within 24 hrs of arrival of hazardous material 100% of MSDS's shall be available to employees at the time of material use
3.1.4	Occupational / Industrial Safety	Provide Safety and Health Awareness Training.	Provide training to visitors and subcontractors within 2 hours of request or to meet negotiated project requirements 95% of safety and health training information shall be accurate with respect to latest regulations, NASA standards, and WSTF practices

Ref	Description	Performance Standard	Acceptable Quality Level
3.1.5	Test Operations Safety	Review hazard analysis, system safety analysis,and readiness information for appropriate identification of hazards and acceptability of associated controls.	Documents reviewed in a timely manner such that test schedules are not impacted.
3.1.5	Test Operations Safety	Assess and maintain systems compliant with Process Safety Management.	100% compliant with WSTF requirements.
3.1.6	Industrial Hygiene	Perform IH workplace surveys where potential health hazards may exist	Written recommendations and options for compliance within 24 hrs of observation. Monitoring results to NASA Occupational Health and medical representatives within 5 working days of completion 100% of compliance-related observations and recommendations shall be accurate with respect to hazard observed and requirements cited.
3.1.7	Ordnance	Maintain inventory supply of ordnance and provide ordnance inventory report.	Inventory report must be 100% accurate.
3.1.8	Radiation Safety	Provide and maintain a comprehensive radiation safety program that covers all aspects of safety related to radiation.	100% compliant with applicable Standards and Agency requirements.
3.2.2	Quality	Perform work document initiation, in-process control, and close-out actions.	95% of in-process documentation will meet requirements applicable for the individual process 99% of closed documentation will meet applicable document requirements

Ref	Description	Performance Standard	Acceptable Quality Level
3.2.2	Quality	Perform work document review and coordination for WSTF. Review includes verification of all current deviations, revisions, and modifications.	Review must be completed within 2 hours of submittal or as necessary to meet milestone negotiated with project representatives.
3.2.3	Quality	Perform project, process, and controls verification.	Provide visual process verification within 30 minutes of request.
3.2.3	Quality	Perform pressure vessel/system (PV/S) surveillance and configuration verification for each active pressure system on an annual basis.	All surveillance and configuration verification shall be performed within one week of submission
3.2.4	Quality	Prepare WSTF Data Packages (WDP) for each project when required by the customer to verify accuracy of project records, and assure resolution of product nonconformance.	WDP will be completed within 3 working days of data compilation 100% of completed records will meet MSM and customer specified requirements
3.2.5	Quality	Perform supplier audits of WSTF suppliers to assure they are capable of meeting customer requirements.	Supplier assessments must meet timeline negotiated with project representatives.
3.2.5	Quality	Coordinate receiving inspection activities for WSTF to ensure appropriate inspection and material, batch lot, or acceptance testing is performed.	Receiving inspection must be initiated within 1 hour of notification or as necessary to meet milestone negotiated with project representatives.

Ref	Description	Performance Standard	Acceptable Quality Level
3.2.7	Quality	Perform the QA functions associated with the project problem reporting systems.	Notification of NASA S&MA, project manager, and project leader shall be within 1 hour of flight hardware or customer-supplied hardware discrepancy identification.
3.2.8	Quality	Provide storage of and ready access to active Test Preparation Sheets and Discrepancy Records	Provide record within 1 hour of request during normal business hours.
3.2.8	Quality	Provide document status reports on request for formal pretest review, project planning, or audit/survey purposes.	Document status reports shall be provided within 2 hours of request.
4.0 See T.O.	Emergency Response	Respond to all alarm and emergency call incidents (fire, HAZMAT spill, hazardous wildlife, or medical) at the WSTF, WSC, or ADF-SW.	Emergency response shall be on scene within the WSTF industrial area within 5 minutes of receiving the alarm or call with capabilities on hand to respond to the immediate emergency.
4.0 See T.O.	Emergency Response	Provide a report detailing the incident or emergency to the notification list.	Report delivered to notification list within 30 minutes of return to station. Report will reflect 98% accurate status of emergency disposition.
4.0 See T.O.	Fire Prevention	Provide fire prevention services, identify code non-compliances, and consult on remedial and corrective actions for buildings at the WSTF, WSC, and ADF-SW.	100% of inspection services shall meet NFPA qualifications and identified non-compliances will reference specific citations.
4.0 See T.O.	Fire Prevention	Verify and record WSTF and WSC fire extinguisher readiness on a monthly basis.	At least 99% of extinguishers distributed in the field will be accounted for and in compliant condition at all times.

Ref	Description	Performance Standard	Acceptable Quality Level
5.1	Component Services	Provide and maintain an inventory of available replacement parts for components processed through the laboratory.	Maintain 95% of parts identified in the program.
5.2	Special PPE Maintenance	Provide and maintain an inventory, in a database, of all maintained PPE (TEST and SCBA) information, including replacement parts and configuration control data.	Respond to work requests and maintenance schedules in a timely manner such that test schedules are not adversely impacted.
5.3	Calibration	Maintain the Met/Track™ database system in a current state. Administer a calibration recall program. Provide calibration status reporting.	99% accuracy for Met/Track™ status and no items cause delay or adverse impact to a project or the WSTF mission due to the calibration systemStatus updated the same day that the equipment is calibrated.
5.4	Materials Technology	Provide materials technology services.	Respond to work requests in a timely manner such that test schedules are not adversely impacted.
5.5	General Chemical Analysis	Provide general chemical analysis services.	Respond to work requests in a timely manner such that test schedules are not adversely impacted.
5.6	Machining and Welding	Provide machining and welding services.	Respond to work requests in a timely manner such that test schedules are not adversely impacted.
5.7	Drafting	Provide drafting services.	100% Accuracy in reflecting correct configuration.
5.8	Pressure System Expertise	Provide expertise in the areas of pressure system design, analysis, documentation, fabrication, inspection and test	Certification of all pressure systems as scheduled

Ref	Description	Performance Standard	Acceptable Quality Level
5.10.2 See T.O.	Mail Services	Process and distribute all outgoing mail including official outgoing Registered, Certified, Insured Express and Priority mail.	100% of outbound mail delivered to the Las Cruces Post Office within the same day.
5.10.3 See T.O.	Supply Mgmt	Provide, manage, and maintain a supply system for the tracking and visibility of a complete catalog of stock items and assets information.	Maintain a 92% stock supply effectiveness
5.10.3 See T.O.	Supply Mgmt	Maintain a shelf life program for items identified in the stores stock system that require shelf life control and tracking.	100% of items classified as shelf life items in the stock supply system monitored, inventoried and reported quarterly.
5.10.4 See T.O.	Equipment Mgmt	Ensure completion of entire IAP annual inventory and data upload to SAP® software database.	SAP® software database upload completed within 3 working days of the completion of the annual inventory.
5.10.4 See T.O.	Equipment Mgmt	Missing or lost items should be surveyed and reported to the WSTF Supply and Equipment Management Officer (SEMO). Submit quarterly Lost, damaged destruction reports to the Contracting Officer and to the SEMO.	Reported losses for the Contractor shall not exceed the NASA Agency Standards of 0.5%
5.10.4 See T.O.	Equipment Mgmt	Perform de-tagging of equipment as required for excess, down grade due to value or expired equipment.	NEMS control transmittal completed and placed into the SAP® software database within 3 working days.

Ref	Description	Performance Standard	Acceptable Quality Level
5.10.4 See T.O.	Equipment Mgmt	Receive and prepare NASA Form 1617, Cannibalization/Modification request. Complete recommendation action, forward to the WSTF SEMO and Contracting Officer for approval. Input changes into SAP® database.	Completed copies of source documentation distributed and cannibalization/modification request completed within 3 working days of receipt.
5.10.4 See T.O.	Equipment Mgmt	Maintain NEMS documentation, SAP® equipment database and provide SAP® equipment reports as required for equipment receipts.	Process same day if request received before 2PM.; process next working day if received after 2PM.
5.10.4 See T.O.	Equipment Mgmt	Ensure copies of all source documents are maintained for capitalized equipment ($100,000 and above) and forwarded to JSC Financial Management TMR.	Source documents shall be forwarded to JSC Financial Management TMR on the same day the equipment is capitalized.
5.10.4 See T.O.	Equipment Mgmt	Perform equipment acquisition screening for Contractor equipment purchases.	Purchase requests shall be screened within 1 working day of purchase request receipt.
5.10.5 See T.O.	Disposal	Screen and process artifacts; secure, voucher and annotate a freeze in DSPL for artifacts on the same day of receipt to ensure items are not automatically released for disposition.	Archive daily documents within 3 working days after DSPL is updated and all end of year documents within 45 days at fiscal year end.
5.10.5 See T.O.	Disposal	Receive excess property, perform physical inspection, and ensure tagged property is processed in accordance with equipment management procedures.	Resolve discrepancies and record in DSPL within 5 working days

Ref	Description	Performance Standard	Acceptable Quality Level
5.10.6 See T.O.	Transportation	Order License plates from NASA HQ.	License Plate orders through NASA HQ processed and received within 10 working days
5.10.6 See T.O.	Transportation	Establish a process for handling, packaging and shipment of critical, priority, hazardous and routine products. Process shipments to satisfy customer, project and mission requirements.	Routine shipments processed within 4 working days of receipt. Process shipments safely, damage free, accurately, and on time.
5.10.6 See T.O.	Transportation	Establish and maintain a daily Outbound and Shipment and Detention Log. The log must be available to the NASA Transportation Officer for review upon request.	Daily outbound shipping log accurately maintained in a current status.
5.10.6 See T.O.	Transportation	Establish a process for requesting new and replacement vehicles through GSA.	Requisition for new vehicles and terminations and work orders within one week of request.
5.10.7 See T.O.	Receiving	Develop and maintain a log in process to record the delivery of all incoming goods or products delivered to WSTF.	Incoming products logged the same day of delivery
5.10.7 See T.O.	Receiving	Provide receiving and inspection services to account for receipt of NASA and Contractor procured or acquired materials or equipment	Emergency orders: 95% of receipts and inspections completed within 24 hours of delivery to WSTF Routine Non-emergency orders or deliveries: 92% of receipts and inspections completed with 72 hours of delivery to WSTF. Requestors notified of item received within 1 hour or receipt for priority shipments.

Ref	Description	Performance Standard	Acceptable Quality Level
5.10.7 See T.O.	Receiving	Develop and maintain a process for maintaining, documenting and recording discrepancies for all receipts and products delivered to WSTF.	Customer supplied product discrepancies should be reported to the Technical point of contact. With 72 hours of delivery.
5.10.8 See T.O.	Real Property	Maintain and record Real Property transactions and records in the NASA Agency Real Property System.	100% Accuracy.
5.11.1 See T.O.	Grounds Keeping	Provide maintenance and operations services to all grounds and landscaping systems.	Services provided within 1-hour if request is made during normal working hours and within 4-hours at other times if deemed an emergency. Otherwise, service will be provided at the start of the next business day.
5.11.2 See T.O.	Pest control	Provide pest control and extermination services to all buildings where personnel may be present.	All buildings sprayed on a monthly basis beginning October 1 through September 30. During the period from May 1 through August 31, buildings sprayed on an every-other-week basis. .
5.11.3 See T.O.	Janitorial	Provide unscheduled janitorial services (200 hours).	Services provided within 1-hour if request is made during normal working hours and within 4-hours at other times.
5.11.3 See T.O.	Janitorial	Remove all blood or potentially infectious material and disinfect the area.	Within 30-minutes if request is made during normal working hours and within 4-hours at other times.
5.12	Radio and Paging	Provide and maintain RF radio call groups, and maintain the master RF, trunking and paging systems and databases.	The radio and trucking system must be operational at all times with no more than a 1 hour down time if the system should fail.

Ref	Description	Performance Standard	Acceptable Quality Level
5.13	Lifting Devices	Provide moving and lifting of test articles, facility structures, and equipment, including critical lifts.	No damage to test articles or facilities and no injuries to personnel. All lifts performed by properly certified personnel with proper WSTF documentation and certified lifting equipment.
5.13	Lifting Devices	Move oversized and/or overweight loads.	No impacts to program or project schedules and all active equipment continually certified.
5.13	Moving Services	Provide moving services necessary to satisfy WSTF's internal relocations of office furniture and equipment.	If no date is specified for the move, complete within 5 working days with minimal impact to organizations and personnel.
5.14.1	IT Administration and Planning	Maintain and update inventory and obsolescent schedules	Post additions and deletions to the database within seven calendar days from the change.
6.2.2	Maintenance Program	Perform scheduled refurbishment, overhaul of systems and equipment, and replacement of assemblies to minimize the impact on WSTF test projects. Report the maintenance status monthly.	No more than four test operations per year will be delayed due to maintenance operations. Each delay will be less than one 9-hour shift.
6.2.3	Outages	Schedule, coordinate, and report on all requested service(s) outages with all WSTF users and WSTF customers	No negative impacts to any WSTF user or customer due to requested outage.
6.2.3	Outages	Restore service outages.	Unforeseen service outages responded to within 1-hour during normal working hours and within 4-hours at all other times

Ref	Description	Performance Standard	Acceptable Quality Level
6.2.3	Outages	Report all information of service outage(s) to the TMR and all affected WSTF users and WSTF customers.	Information of service outages reported to the TMR within 1-hour of emergency services notification and all affected WSTF users and customers no later than the beginning of the next working day
6.2.4	Critical Spares	Generate and maintain a critical spares list (located in M&O DRD) and maintain a critical spares inventory.	100% of critical spares accounted for on list.
6.2.5	Meter Readings	Maintain a database or an electronic file of all service meters and monthly meter readings.	100% of all meter readings are recorded on the 23rd of each month and posted on the net by the 5th of the following month.
6.2.6	Repairs	Perform immediate actions to correct unsafe conditions that have resulted in an injury, accident, or presents a threat to human health, and schedule and complete required repairs.	All incidents are responded to within 30-minutes of notification during normal working hours and within 4-hours at other times.
6.2.6	Repairs	Tracks all individual repairs and total repair costs.	Update CMMS within 2 working days after task completed.
6.2.8.1	Site Infrastructure Systems	Operate, maintain, and sustain Life Safety Systems, other Safety Shutdown and Annunciation Systems.	Contingency plans must be activated within 1-hour of loss of one or more emergency notification or communication systems.
6.2.8.1	Site Infrastructure Systems	Provide all operations and sustaining services to all roads, road shoulders, parking areas, and boundary fences for WSTF users and customers, WSC, and ADF-SW.	All roads and parking lots are restored within 1-hour during normal working hours and within 4-hours at all other times following problems

Ref	Description	Performance Standard	Acceptable Quality Level
6.2.8.1	Site Infrastructure Systems	Maintain primary roads, road shoulders, and boundary fences free of litter and unsightly debris.	All primary roads, road shoulders, and boundary fences free of litter and unsightly debris within 8-hours of normal work time after notification
6.2.8.1	Site Infrastructure Systems	Maintain Emergency egress roads such that they are always passable by privately owned vehicle (POV).	Emergency egress roads are made passable within 3 calendar days of identification or request to clear or made passable by POV within 2-hours in the event of emergency need to egress WSTF, ADF-SW, or WSC.
6.2.8.1	Site Infrastructure Systems	Maintain Perimeter Roads such that they are made passable for security and fire fighting use.	Perimeter Roads are made passable within 3-days of identification for need or request for clearing.
6.2.8.1	Site Infrastructure Systems	Maintain Primary Parking areas (STGT, WSC, ADF-SW, 100 Area, 200 Areas, 300 Areas, and 400 Areas) and Secondary Parking areas such that they are made passable for personnel POV use.	Primary Parking areas are made passable within 4-hours of the identification for need or request for clearing. Secondary Parking areas are made passable within 5-working days following the identification of the need or request for clearing.
6.2.8.1	Site Infrastructure Systems	Operate and maintain the equipment required by WSTF and WSC to provide radio communications, radio-to-telephone interconnects, microwave, and paging systems.	All equipment must be operational 100% of time.
6.2.8.1	Site Infrastructure Systems	Operate and maintain the WSTF NASA Select satellite television receiving and signal distribution systems.	Operational 95% of workday

Ref	Description	Performance Standard	Acceptable Quality Level
6.2.8.4	High Pressure Gas Systems	Operate and maintain the high pressure gas systems used to generate and distribute high pressure gases throughout the facilities.	Return services within 8 hours after notification.

Attachments

Attachment 1 List of facilities

DESCRIPTION	LOCATION
Electrical Power Systems and Services	Sitewide
Electrical Generation, Distribution and Utilization Systems	Sitewide
Potable Water Systems	Sitewide
Wastewater Management Systems (sewage)	Sitewide
Heating, Ventilation, and Air Conditioning	Sitewide
Energy Management Systems (includes building management EMCS, meter/monitoring system, potable water SCADA)	Sitewide
Natural Gas Systems	Sitewide
Life Safety Systems	Sitewide
Emergency Notification Systems	Sitewide
Radios and Paging Systems	Sitewide
Safety Shutdown and Annunciation Systems	Sitewide
Emergency and Uninterruptible Power Systems	Sitewide
All Buildings	Sitewide
Roads, Road Shoulders, Parking Areas, and Fencing	Sitewide
Emergency Egress Road	Sitewide
Erosion, Flood, and Drainage Systems and Structures	Sitewide
Grounds and Landscaping Services	Sitewide
Lifting Devices and Equipment	Sitewide
WSTF public announcement systems, surveillance camera systems, intrusion detection, and conference room audio and presentation systems	Sitewide
Cafeteria Equipment	100
Fuel Dispensing Systems	100
Vehicle Weigh Scale	100

Paint Booth	100
Steam Cleaning and Pressure Washing Systems	100
Sand Blasting Equipment (portable)	100
Portable Radio Battery Maintenance Equipment	100
Loan Pool Trunking Radios and Loan Pool Radio Batteries	100
Machine Shop and Machining Equipment	100
Welding Shop and Welding Equipment	100
300 Area Fuel Storage and Distribution System	300
300 Area Oxidizer Storage and Distribution System	300
300 Area Small Altitude Simulation System	300
Test Stand 301	300
Test Stand 302	300
Test Stand 303	300
Test Stand 328	300
300 Helium Storage and Distribution System	300
400 Area Fuel Storage and Distribution System	400
400 Area Oxidizer Storage and Distribution System	400
400 Small Altitude Simulation System	400
Large Altitude Simulation System	400
Stand Support Building 416	400
Test Stand 401	400
Test Stand 402	400
Test Stand 403	400
Test Stand 405	400
Test Stand 406	400
LN/GN Storage and Distribution System	200, 300, 400, 500
Breathing Air Storage and Distribution System	300, 400, 500
400 Helium Storage and Distribution System	400, 500
South High Bay Facility	200

North High Bay Facility	200
Hydrogen Storage & Test Facility	250
Oxygen Storage and Test Facility	250
High Energy Blast Facility	700
High Pressure Test Area	800
Hazardous Fluid Test Area	800
Standard Test Area	800
Bldg 802 - Mechanical and Electrical Fabrication Shop	800
Bldg 804	800
Low Pressure Lab	800
Materials Prep Lab - Bonded Storage (bldg 803)	800
COPV Test Systems	270
Hypervelocity Impact Test Facility	270
Optics Lab	200
Molecular Desorption and Analysis Laboratory	200
Analytical Chemistry Laboratory	200
Metallurgical Laboratory	200
Space Environment Simulation and Test Lab	200

Attachment 2 Project Work Requirements

This section describes the work requirements associated with projects at WSTF. These requirements can be applied to any project at WSTF, ranging from upgrading the HVAC system in a building to conducting rocket engine test in an altitude simulating test stand. The specific requirements for each project will be detailed in the Task Order that authorizes the work. For some projects, only a few portions of this section will apply and be required. For other (usually more complex) projects, most of this section may be required.

1.0 Planning

Conduct pre-planning activities such as cost estimating and negotiating customer requirements.

Develop a plan for completion of approved projects in accordance with the work request. Plans will include a detailed cost estimate, cost phasing plan, schedule, and list of assumptions, but may also include a work breakdown structure (WBS), resource (personnel and facility) utilization plan, risk management plans, and status reporting plan. The project estimate, schedule and documented assumptions will form the basis of work authorization, through the Task Order system.

2.0 Design

Design, analyze, and integrate a broad range of systems and facility infrastructure to accomplish project requirements. Document the design using drawings, diagrams, solid models, and text documents as necessary.

Larger projects will utilize an incremental approach to achieving the final (100%) design, by completing a 30% (Preliminary Design), 60% (Intermediate Design), and 90% (Critical Design).

2.1 Mechanical Design

Provide mechanical design, analysis and/or review of facility infrastructure, test facilities, Special Test Equipment and Ground Support Equipment. The scope of this effort includes system design and analysis of storage, distribution and disposal systems containing storable propellants, cryogens, water, steam, gases, and vacuum. Some examples of these systems are propellant and pressurization system tanks and delivery systems, test article thrust measurement, thrust restraints, propellant ignition, component hydraulic and pneumatic actuation, environmental and test article purge systems, steam ejection systems, water deluge, building HVAC, potable water, and other ancillary and support systems.

Provide specialized engineering services required for system design and analysis, and in particular, knowledge, expertise and analysis capabilities in

hypergolic, oxygen, steam, and cryogenic systems engineering. Expertise is also required for systems ranging from vacuum to an ultra high pressure (UHP) regime, temperatures from cryogenic liquid hydrogen temperatures to 1,500 degrees C, and related fluid/structural phenomena, such as flow induced vibration and fluid hammer. Specialized analytical capabilities in steady state, transient, and dynamic modeling of fluid flows are required. Controls for these systems may be manual, semi-automated, or automated.

Some specific requirements for mechanical systems that require specialized knowledge and skills are described in the subsections below. This is not an exhaustive list of the systems or types of systems at WSTF, but the remainder of the mechanical systems are general mechanical systems that generally do not require specialized knowledge.

2.1.1 Propellant

Provide cryogenic systems engineering in a test environment, from ambient pressure to a UHP regime. The primary cryogens in use at the test facilities are liquid hydrogen (LH), liquid oxygen (LOX), liquid methane (LM), and liquid nitrogen (LN).

Provide non-cryogenic fluid systems engineering in a test environment. The primary non-cryogenic propellants used at the test facilities include hydrocarbons, hydrazine, Aerozine-50, monomethylhydrazine (MMH), nitrogen tetroxide (NTO), and gaseous Oxygen (GOX). Gaseous Oxygen is used at elevated temperatures (up to 1,000 °F) in one test area.

2.1.2 Pressurant/purge

Provide ambient temperature and UHP fluid systems engineering (systems design and analysis) in a test specific environment. Test projects may require high flow (5 lb/sec), ultra high pressure (6,000 – 15,000 psi) pressurants. The primary ambient temperature, UHP fluids in use at the test facilities include oxygen (GOX), nitrogen (GN), and helium (He).

2.1.3 Component

Provide fluid control system design, component sizing, and component selection. Ensure selected components are appropriate for the media and design conditions, and meet all requirements in the applicable design and construction code. Components in fluid systems include, but are not limited to, valves, filters, screens, orifices, venturis, pumps, compressors, intensifiers, heaters, connectors, reducers, instrumentation (pressure, temperature), and flow meters.

2.1.4 Steam

Provide steam systems design, sizing, and selection. Steam is used in ejection systems to create a vacuum environment for tests. Steam is created by chemical steam generators, and by Scotch-Marine type boilers.

2.1.5 Hydraulic/pneumatic

Provide hydraulic and pneumatic systems design, sizing, and selection. These systems typically provide the control and/or motive force for large valves and other mechanical components.

2.1.6 HVAC

Provide Heating, Ventilation, and Air Conditioning (HVAC) systems design, sizing, and selection. The HVAC system could be conditioning a small test cell in a hazardous fluids area, a large test stand in a hazardous test area, or a building.

2.2 Electrical Design

Design and analyze electrical systems for test facilities and infrastructure facility systems. The scope of this effort includes existing test and infrastructure facilities, Special Test Equipment (STE), and Ground Support Equipment (GSE). This effort includes system design and analysis of the electrical systems supporting test in a cryogenic, non-cryogenic, explosive, ambient, vacuum to high pressure propellant environment.

2.2.1 Data Acquisition

Provide design and analysis of data acquisition systems for conducting test operations. This effort includes design, selection, and integration of hardware/software systems, development and verification support for high and low speed data acquisition systems, development of software, and integration of signal conditioning, data acquisition, display, and recording systems. Data collection rates ranges from single data points to 100,000,000 samples per second. Knowledge and experience in the assessment of measurement uncertainty, time correlation, and system margins is also required.

Provide design and analysis of systems (hardware/software) to process large datasets from test telemetry. This effort includes deterministic real-time software development, computer networking, and computer systems for both dynamic and static data processing.

2.2.2 Control

Provide design and analysis of control systems for a broad range of equipment, including building systems, industrial systems, and aerospace test systems. This effort includes hardware/software development and verification support for

control systems, and requires development of automated process control, operation screens, integration with controllers, specialized equipment for valve operations, sequencing, automated limit response, abort design and analysis, timing, and system margin analysis. Control systems may be manual, semi-automated, or automated.

2.2.3 Instrumentation and Metering

Provide evaluation and selection and development of dynamic and static measurement instrumentation. This effort includes instrumentation range and response selection, placement, measurement uncertainty analysis, cabling, signal conditioning, stress analysis, procurement specifications development, calibrations, and installation support.

2.2.4 Video

For the Propulsion Test Area only, provide design and analysis of specialized video capture, display and storage. Specialized test video includes high & low speed, infrared (IR), Analog and Digital formats. Designs are specific to a test environment.

2.2.5 Fire and Gas Detection

Provide design, analysis, review and/or selection of gas detection and fire detection as required in support of test and facility operations.

2.2.6 Aural Warning and Automated Warning Systems

Provide design and analysis of radio frequency, intercom/paging, meteorological, area access lighting, and emergency auto-dialer systems

2.2.7 Electrical Power

Provide design and analysis of all power, grounding, and lighting systems for both test and facility systems. For example: 1) 28Vdc power for motor operated valve and solenoid operated valve operation, 2) 270Vdc for electromotive actuators, three phase camera lighting and heaters, grounding layouts for instrumentation, controls, and data acquisition and control system (DACS) equipment, 3) 25kVa site electrical distribution system.

2.3 Documentation (design tools)

As part of the design and development process, utilize a systematic approach to identify and document hazards, assess risks (probability and severity), and manage risks. Manage risk in accordance with the NASA risk reduction protocol documented in NPR 8715.3, "NASA General Safety Program Requirements". Perform hazard analyses (HAs) as required on WSTF facilities, systems, and processes to ensure hazards and risks are identified, documented, and tracked

to closure. Perform failure modes and effects analyses (FMEAs) as required on mechanical and electrical system designs to evaluate system reliability, single fault tolerance, and liquid lock susceptibility. FMEAs and HAs should be completed early in the design process so the results can influence the design. Fluid specific hazard analyses for hazardous propellant systems (e.g. oxygen, hypergolic fuels).

The Contractor is encouraged to propose innovations or improvements to the risk assessment/risk management process.

3.0 Fabricate, Construct, and Install

Fabricate, construct, and install systems and subsystems as required by each project. All fabrication of systems requires close coordination with NASA and other contractors performing construction on the same facility.

3.1 Mechanical Fabrication and Installation

Fabricate mechanical systems within the responsibilities of the TEST Contract, as required for each test program or facility. The specific types of work required consist of:

3.1.1 Pressure/fluid Transfer Systems

Fabrication of pressure/fluid transfer systems falls within the scope of the WSTF pressure system program and is subject to all rules for certification of pressure systems. Fabricate and install pressure/fluid transfer systems. This work includes field fitting, welding, threading, installing appropriate connections, and connecting pressure vessels, tubing, piping, components, equipment, and subsystems. Perform examination and testing such as visual, radiographic, magnetic particle, dye penetrant, and hydrostatic integrity test.

3.1.2 Structures

Fabricate and install structures and adapting hardware for test articles or facility installations. Typically, this consists of field fitting, welding or bolting, connecting to other structures, examination, and tests. Examination and tests may include visual, radiographic, magnetic particle, and dye penetrant.

3.1.3 Components

Assure all required components are suitable for the installation and have the proper configuration (including materials of construction) and cleanliness levels. Install required components as part of systems and subsystems.

3.2 Electrical Fabrication and Installation

Fabricate electrical systems as required for each test program or facility. The specific types of work consist of:

3.2.1 Data acquisition systems

Fabricate and install data acquisition systems in facilities for which the Contractor is responsible. Examples of the type of work involved would be running and terminating copper wire and fiber optic cable, building-up panels and racks, component preparation and installation, fabricating and installing drag-on cables.

3.2.2 Test control systems

Fabricate and install all control systems in facilities for which the Contractor is responsible.

Examples of the type of work involved would be: running and terminating copper wire and fiber optic cable, panel and rack build-up including component preparation and installation, and specialized programming. Examples include: programmable logic controllers, event recorders, and both analog and discrete input/output devices, valve position sensors, and computer-based interface units. Fabricate control panels and overlays for test control panels using screen print and over laminate film techniques. Repair or replace A/V systems and fabricate printed circuit boards.

3.2.3 Instrumentation

Install all instrumentation used in facilities for which the Contractor is responsible.

Examples of instrumentation used include but are not limited to: Resistance Temperature Device (RTD's), transmitters, accelerometers, thermocouples, strain gauges, and load cells, along with all the required supporting hardware. Test article instrumentation may be installed by the test article Contractors, however, the TEST Contractor will need to coordinate this activity.

3.2.4 Ancillary systems

Install all ancillary systems as required in facilities for which the Contractor is responsible.

Examples of instrumentation used include but are not limited to: fire detection, hazardous gas detection, low and high speed video (propulsion test area only), intercoms, aural warning systems, test communication systems, area access and control systems, test warning systems, 28Vdc power for solenoid valve operation, 270Vdc for electromotive actuators, three phase camera lighting and heaters, and grounding layouts for instrumentation, controls, and DACS equipment.

4.0 Readiness Reviews

4.1 System Safety

Perform System Safety Analyses (SSAs), in accordance with requirements in the MSM SSA Infrastructure Process, as required on WSTF facilities, systems, and processes to ensure hazards and risks are identified, documented, and tracked to closure. Manage risk in accordance with the NASA risk reduction protocol. An SSA is a continuation of the systematic approach to identify and document hazards, assess risks (probability and severity), and manage risks. A primary focus of an SSA is to ensure operating, maintenance, and emergency procedures are safe to use with the design. The results of design reviews, FMEAs, and HAs are inputs to the SSA process.

Continually monitor projects for risk. Revise analyses and/or reconvene review committees as required to assess and manage risks and ensure safety of personnel, systems, and facilities.

4.2 Conduct Readiness Review

Prepare and present material at the readiness review in support of NASA and the customer, substantiating readiness to continue with a project test phase or facility operations. All open items and discrepancies will be reviewed and dispositioned before approval to proceed is granted.

Participate in various reviews as requested by NASA including Operational Readiness Inspections, Safety and Readiness Review Teams, and Independent Investigations. The level of participation and responsibility will typically be as an area expert reviewing project designs, procedures, and documentation to reach an independent assessment as to the risk of proceeding with test. Provide technical and administrative support in assembling information required by the review teams.

5.0 Readiness Demonstration

Activate mechanical and electrical systems and subsystems per engineering instruction as required by each program or project. Activation is performed after construction and fully characterizes the facility; including demonstrating that facility performance meets requirements.

5.1 Activate Mechanical Systems

In support of facility activation, perform mechanical system setup and safing operations, verifying system readiness, supporting facility or test article failure or incident investigations, and troubleshooting. Examples of this type of work include: cleanliness verification, leak checks, and cold flows.

5.2 Activate Electrical Systems

In support of facility activation, perform electrical system setup operations, verifying system readiness, supporting facility or test article failure or incident investigations, and troubleshooting. Examples of this type of work include: data acquisition system validation, control system validation, functional tests and automated limit system validation.

5.3 Activate Integrated Systems

Integrated systems activation demonstrates all test systems (mechanical and electrical) are operating in unison to accomplish facility performance objectives.

In support of facility activation of integrated systems, verify system readiness. Provide engineering analysis and corresponding systems performance assessments. Perform integrated system performance operations. Support facility off nominal, failure, or incident investigations and troubleshooting.

Perform or support (as required by NASA) a Combined System Validation (CSV) with the facility and test article in final configuration. The CSV consists of complete systems operations less propellant flow with data and control systems operation. The CSV results will be analyzed by the Contractor to ensure facility and systems are performing as required.

6.0 Test/Activate

6.1 Overview

Operate mechanical and electrical systems and subsystems to perform the intended function. The intended function could be to conduct a propulsion test, or to supply electrical power to a building, depending on the project. Test/Activate includes a span of operations beginning with facility preparation. Depending on the project, Test/Activate may include test article installation/integration, facility set up, verification and validation, test readiness review (TRR), test conduct or facility activation, facility safing, test article removal and return of the facility to pretest configuration. Operation of these systems may be performed by a Team consisting of NASA, the Contractor, and others as required. For example, during some propulsion tests, the customer providing the test article may perform part of the operations.

6.2 Conduct Pretest or Pre-activation Operations

Conduct pretest or pre-activation operations to prepare the facility for test or activation in accordance with specific project requirements. Pretest operations may include open paper reviews and personnel certification review. Pre-activation operations for facilities may include notification of affected buildings.

6.3 Test Article Receipt and Installation

Receive and inspect test articles, check for transportation damage and parts defects and shortages, identify equipment, and verify completeness of accompanying records. Transport and install test articles into the test stand.

6.4 Integrate Test Article

Test article integration involves coordinated operations between the entire test operations team, including NASA, the test article Contractor, and the Contractor. Perform test article pretest setup and checkout, conditioning, and inspection as required. Install and remove test article instrumentation, as required.

Assist in the resolution of any performance anomaly associated with the test facility or technical issues related to test article and test facility interaction.

Clean, dry, store, package, ship, and handle test articles and their components, as required. A test article data package shall be maintained which, as a minimum, shall include a history of tests, discrepancies, repairs, serialization of parts, and time/cycle data, where applicable.

Perform test anomaly resolution as requested by NASA and coordinated with the test article Contractor.

6.5 Setup Facility and Systems

Prepare facility mechanical, data, and control systems for subsequent test performance or facility activation per project and facility requirements. Set up hydraulic, pneumatic, cryogenic, mechanical and electro-mechanical systems, electrical control systems including analog servo controllers, programmable logic controllers (PLCs), digital controllers, event recorders and personal computer-based equipment as required.

Install measuring transducers and assure systems calibration. Checkout and verify instrumentation and data acquisition systems installation. Set up instrumentation front end equipment.

Diagnose and troubleshoot problems associated with facility mechanical systems involving valves, regulators, filters, relief devices, gauges; control problems within the facility control systems. Diagnose and troubleshoot problems associated with sensors, cabling, and front end signal conditioning equipment, and assist in diagnosing end to end instrumentation systems involving standard electronic test equipment.

6.6 Conduct Test or Activate System

Test is activity typically performed in accordance with a Test Readiness Review (TRR) and is considered complete after the facility and test article are rendered

safe. System activation typically consists of bringing a new system online, or activating an existing system after an upgrade. The activation is typically authorized by the NASA project manager in conjunction with a system readiness review.

6.6.1 Conduct Final Facility Setups

Conduct any final facility setups, including checklists and setup sheets, as required by specific test or facility requirements.

6.6.2 Conduct Test or Activate System

Operate test systems and related equipment in accordance with detailed written work authorizing documents, safely and efficiently in support of test operations. All work shall be completed in accordance with the TRR-approved operating instructions.

Operate or activate system for the intended use. Work shall be completed in accordance with approved or standard instructions.

Provide engineering support during test and facility operations, including real time activation test support, post-test data analysis, propellant discharge plume diagnostics, acoustic monitoring, radiometric monitoring, thermal imaging, and other special and unique measurements.

6.6.3 Secure and Safe Test Facility and Test Systems

Secure the test facility and systems after each test, placing each system in a safe mode as directed by the test operations engineer or work authorization document. In the event of an off nominal condition before, during or after the test, implement contingency procedures to secure and safe the test system and facility.

7.0 Analyze and Posttest Processing

7.1 Conduct Posttest Operations

Conduct post test operations after the test is completed and the facility is safed.

Examples of this work include: data processing, data review, data transmittal, storage and retrieval of data, environmental waste management, and disposition of test article and associated equipment in accordance with specific test project requirements.

7.1.1 Analyze Data

Analyze all facility and test article data for accuracy and validity, and quantify and certify test/measurement accuracy. Identify data channels that are invalid and recommend corrective action.

7.1.2 Process and Transmit Data

Provide processed data in the required formats. Protect processed data from security and proprietary perspectives in accordance with the data control procedures agreed upon by NASA and the customer.

With NASA and the customer's participation, review and evaluate the data to determine test outcome and to prepare for subsequent tests.

Support WSTF requirements for retention and disposition of test related data and records.

7.1.3 Inspect Test Article and Facility

Inspect the test article or facility at the conclusion of each test, test series or operation as required by each project. Inspection should include checks for cracks or leaks, loose or broken mechanical and electrical connections, loose debris, or any other condition indicating a safety or technical problem. Document all anomalies with a Discrepancy Record or Anomaly Log

8.0 Closeout

8.1 Overview

Review the accomplishments at the conclusion of each test program. Review the approved requirements documents to assure all desired goals have been met. Close all open work documents.

8.2 Prepare Final Reports

Prepare a final report at the conclusion of each program to document the results. Reporting requirements will be identified in the planning phase, and may include a summary of project activities, results of tests, discussion on issues and anomalies, overview of budget, cost and schedule, and lessons learned. Reports may be intended for off-site distribution.

8.3 Support Customer Surveys

Support implementation of corrective actions that result from customer survey responses. Customer surveys will be performed, tracked and maintained by NASA.

8.4 Disposition Test Article and Customer Furnished Equipment

Disposition all equipment provided by the test article Contractor as required. This may include the test article and any other equipment provided as part of the test program. Proper packaging, documentation, and shipping are critical. Any special instructions will be provided by the test article Contractor to NASA and transmitted to the TEST Contractor.

8.5 Gather and Incorporate Lessons Learned and Corrective Actions

Collect and incorporate any lessons learned into daily operations. Complete any corrective actions identified during the gathering of lessons learned.

8.6 Reconfigure Facility and Systems

Return the facility and its systems to a neutral configuration in preparation for future test requirements. This includes the removal of any hardware installed specifically for a program and the reconfiguration of the test facility. The scope will vary depending on the specific program and future programs.

Attachment 3 List of Acronyms

Acronym	Meaning
°C	Degrees Celsius
°F	Degrees Fahrenheit
2SLGG	Two Stage Light Gas Gun
AC	Alternating Current
ACA	Associate Contractor Agreement
ACGIH	American Conference of Governmental Industrial Hygienists
ADF-SW	Aerospace Data Facility - Southwest
AIAA	American Institute of Aeronautics and Astronautics
ANSI	American National Standards Institute
ARC	Accelerated rate Calorimetry
AS	Aerospace Standard
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
C/PAR	Corrective/Preventive Action Request
CFR	Code of Federal Regulations
CIO	Chief Information Officer
CJ	Chapman-Jouquet
CMMS	Computerized Maintenance Management System
CO	Contracting Officer
CoF	Construction of Facility
COPV	Composite Overwrapped Pressure Vessel
COTR	Contracting Officer's Technical Representative
CPIC	Capital Planning Investment Control
CSV	Combined System Validation
CT	Computed Tomography
CTVS	Configurational Thermal Vacuum Stability
CWBS	Contractor Work Breakdown Structure
DACS	Data Acquisition and Control System
DC	Direct Current
DCN	Drawing Change Notices

DoJ	Department of Justice
DRD	Data Requirements Document
DSC	Differential Scanning Calorimetry
DSPL	NASA Property Disposal System
E&IT	Electronic and Information Technology
ECO	Environmental Compliance and Operations
EDS	Energy Dispersive Spectroscopy
EMCS	Energy Management Control System
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ETU	Evaporation Tank Unit
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulations
FCC	Federal Communications Commission
FMEA	Failure Mode and Effects Analysis
FOL	Forward Operating Location
FTIR	Fourier Transform Infrared Spectrometry
FTU	Fuel Treatment Unit
FY	Fiscal Year
GCFID	Gas Chromatograph Flame Ionization Detector
GCIR	Gas Chromatograph Infrared
GCMS	Gas Chromatograph Mass Spectroscopy
GIDEP	Government Industry Data Exchange Program
GIS	Geographical Information System
GN	Gaseous Nitrogen
GOX	Gaseous Oxygen
GSA	General Services Administration
GSE	Ground Support Equipment
GSFC	Goddard Space Flight Center
HA	Hazard Analysis
HAFB	Holloman Air Force Base
HAZMAT	Hazardous Material

He	Helium
HQ	Headquarters
HSE	Health, Safety, and Environmental
HVAC	Heating, Ventilation, and Air Conditioning
IAP	Installation Accountable Property
ICP	Inductively Coupled Plasma Emission Spectrometry
IDIQ	Indefinite Delivery, Indefinite Quantity
IDMRD	Intermediate Depot Maintenance Requirements Documents
IEEE	Institute of Electrical and Electronics Engineers
IEM	Integrated Enterprise Management
IMTE	Inspection, Measuring, and Test Equipment
IPA	Isopropyl Alcohol
IR	Infrared
IRD	Information Resources Directorate
ISO	International Organization for Standardization
ISS	International Space Station
IT	Information Technology
JANNAF	Joint Army, Navy, NASA, and Air Force
JHA	Job Hazard Analysis
JPD	JSC Procedural Directive
JPR	JSC Procedural Requirement
JSC	Johnson Space Center
kg	Kilograms
km/s	Kilometers per second
KN	Kilo-Newton
KSC	Kennedy Space Center
kV	Kilovolt
kVa	Kilovolt-ampere
LAN	Local Area Network
LDE	Lifting Devices and Equipment
LH	Liquid Hydrogen
LHRP	Liquid Hydrogen Recirculation Pump

LIMS	Logistics Inventory Management System
LM	Liquid Methane
LN	Liquid Nitrogen
LOX	Liquid Oxygen
M&O	Maintenance & Operations
M&R	Maintenance & Repair
MAP	Measurement Assurance Program
MCRR	Modification-Construction-Repair-Rehabilitation
MCWG	Metrology and Calibration Working Group
MDAL	Molecular Desorption and Analysis Laboratory
MG	Million Gallons
MGD	Million Gallons/Day
MMH	Monomethylhydrazine
MMI	Material Management Inventory System
MOU	Memorandum of Understanding
MPS	Main Propulsion System
MS	Microsoft
MSBLS	Microwave Scanning Beam Landing System
MSDS	Material Safety Data Sheet
MSM	Management System Manual
NAICS	North American Industry Classification System
NASA	National Aeronautics and Space Administration
NDE	Non-Destructive Evaluation
NEMS	NASA Equipment Management System
NEPA	National Environmental Policy Act
NETS	NASA Environmental Tracking System
NIOSH	National Institute for Occupational Safety and Health
NMCID	New Mexico Construction Industries Division
NMED	New Mexico Environment Department
NPR	NASA Procedural Requirements
Nprop	NASA Property System
NTIA	National Telecommunications and Information

NTO	Nitrogen Tetroxide
NVR	Non Volatile Residue
OCI	Organizational Conflict of Interest
OEM	Original Equipment Manufacturer
OES	Optical Emission Spectroscopy
OMS	Orbital Maneuvering System
ORCA	Oxygen Recharge Compressor Assembly
OSHA	Occupational Safety and Health Administration
PLC	Programmable Logic Controller
PM	Project Manager
PO	Purchase Order
POV	Privately Owned Vehicle
PPE	Personal Protective Equipment
PR	Purchase Request
PRCS	Primary Reaction Control System
PTFE	Polytetrafluoroethylene
PV/S	Pressure Vessels and Pressurized Systems
RCRA	Resource Conservation and Recovery Act
RCS	Reaction Control System
RF	Radio Frequency
RMP	Risk Management Plan
RSP	Respiratory Support Pack
S&MA	Safety and Mission Assurance
SATERN	System for Administration, Training, and Educational Resources for NASA
SCADA	Supervisory Control and Data Acquisition
SCBA	Self Contained Breathing Apparatus
SEM	Scanning Electron Microscopy
SEMO	Supply and Equipment Management Officer
SIBC	Summary Investment Business Case
SIMS	Safety Information Management System
SOW	Statement of Work
SQAP	Software Quality Assurance Plan

SSA	System Safety Analysis
SSME	Space Shuttle Main Engine
SSP	Space Shuttle Program
STA	Shuttle Training Aircraft
STE	Special Test Equipment
STGT	Second TDRSS Ground Terminal
STI	Scientific and Technical Information
TC	Test Cell
TCC	Transient Current Characteristics
TDRSS	Tracking Data Relay Satellite System
TES	Totally Encapsulating Suit
TEST	Test, Evaluation, and Support Team
TGA	Thermogravimetric Analysis
TMA	Thermomechanical Analysis
TMR	Technical Management Representative
TNT	Trinitrotoluene
TO	Task Order
TPS	Test Preparation Sheet
TRL	Technical Reference Library
TRR	Test Readiness Review
TS	Test Stand
UDMH	Unsymmetrical-dimethylhydrazine
UHF	Ultra High Frequency
UHP	Ultra High Pressure
UMOAT	Utility Management and Operation Action Team
US	United States
UV-VIS	Ultraviolet Visible Spectroscopy
VAC	Volts Alternating Current
VDC	Volts Direct Current
ViTS	Video Teleconference System
VPP	Voluntary Protection Program
VRCS	Vernier Reaction Control System

WBS	Work Breakdown Structure
WDP	WSTF Data Pack
WO	Work Order
WSC	White Sands Complex
WSGT	White Sands Ground Terminal
WSI	WSTF Standard Instruction
WSMR	White Sands Missile Range
WSP	WSTF Standard Procedure
WSSH	White Sands Space Harbor
WSTF	White Sands Test Facility
XPS	X-ray Photoelectron Spectroscopy
XRF	X-ray Fluorescent Spectroscopy

[END OF SECTION]

SECTION D - PACKAGING AND MARKING

D.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
NONE INCLUDED BY REFERENCE		

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE
NONE INCLUDED BY REFERENCE		

(End of Clauses Incorporated by Reference)

D.2 PACKAGING, HANDLING, AND TRANSPORTATION (NFS 1852.211-70) (SEP 2005)

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

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

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

(End of clause)

[END OF SECTION]

SECTION E - INSPECTION AND ACCEPTANCE

E.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

Clause(s) at the beginning of this Section are incorporated 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 following contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
52.246-2	AUG 1996	INSPECTION OF SUPPLIES-FIXED-PRICE
52.246-3	MAY 2001	INSPECTION OF SUPPLIES - COST REIMBURSEMENT
52.246-4	AUG 1996	INSPECTION OF SERVICES—FIXED-PRICE
52.246-5	APR 1984	INSPECTION OF SERVICES-- COST-REIMBURSEMENT
52.246-8	AUG 1996	INSPECTION OF RESEARCH AND DEVELOPMENT—COST-REIMBURSEMENT
52.246-12	AUG 1996	INSPECTION OF CONSTRUCTION
52.246-13	AUG 1996	INSPECTION – DISMANTLING, DEMOLITION, OR REMOVAL OF IMPROVEMENTS
52.246-16	APR 1984	RESPONSIBILITY FOR SUPPLIES

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE
1852.246-73	MAR 1997	HUMAN SPACE FLIGHT ITEM

(End of Clauses Incorporated by Reference)

E.2 INSPECTION AND ACCEPTANCE

Final inspection and acceptance shall be accomplished by the Contracting Officer or his/her duly authorized representative.

(End of clause)

E.3 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT (FAR 52.246-11) (FEB 1999)

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

Title	Number Date	Tailoring
Quality Management System Requirements	ISO 9001:2008	Current revision applicable to NASA WSTF is dated January 2008. Revision to future application is subject to NASA direction.
Environmental Management Systems – Requirements with guidance for use	ISO 14001:2004	Current revision applicable to NASA WSTF is dated June 2004. Revision to future application is subject to NASA direction.
Quality Management Systems – Aerospace Requirements	AS9100:2004	Current revision applicable to NASA WSTF is dated January 2004. Revision to future application is subject to NASA direction

(End of clause)

E.4 GOVERNMENT CONTRACT QUALITY ASSURANCE FUNCTIONS (NFS 1852.246-71) (OCT 1988)

In accordance with the inspection clause of this contract, the Government intends

to perform the following functions at the locations indicated:

Government Quality Assurance functions are typically performed by the S&MA Contractor representatives with NASA JSC Safety & Mission Assurance (S&MA) Office review of critical flight hardware acceptance test parameters. Any of these functions may be performed by the NASA JSC Safety & Mission Assurance (S&MA) Office personnel.

Item	Quality Assurance Function	Location
Test, Evaluation, and Repair Projects	In-process surveillance.	WSTF
Test, Evaluation, and Repair Projects	Flight hardware acceptance test parameter verification	WSTF
Test, Evaluation, and Repair Projects	Quality performance data collection and trend analysis	WSTF
Test, Evaluation, and Repair Projects	Procurement quality assessment, including source inspection of critical processes and hardware.	WSTF, Vendor premises for critical source inspection.
Pressure Vessel/System (PV/S) Management	PV/S assessment and certification.	WSTF, WSC, ADF-SW, WSSH, and El Paso Forward Operating Location
Management System	Management System coordination.	WSTF
Management System	Internal audit scheduling, closeout and acceptance.	WSTF
Management System	Corrective/preventive action coordination and acceptance	WSTF
WSSH Space Shuttle Operations	Flight support readiness verification.	WSTF, WSSH

(End of clause)

E.5 MATERIAL INSPECTION AND RECEIVING REPORT (NFS 1852.246-72) (AUG 2003)

(a) At the time of each delivery to the Government under this contract, the Contractor shall furnish a Material Inspection and Receiving Report (DD Form 250 series) prepared in 3 (three) copies, an original and 2 (two) copies.

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA

FAR Supplement 1846.6, Quality Assurance - Material, Inspection and Receiving Reports. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope, which shall be securely attached to the exterior of the package in the most protected location.

(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words CONTAINS DD FORM 250 on the package.

(End of clause)

[END OF SECTION]

SECTION F - DELIVERIES AND PERFORMANCE

F.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

Clause(s) at the beginning of this Section are incorporated 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.

NOTICE: The following contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
52.211-17	APR 1989	DELIVERY OF EXCESS QUANTITIES
52.242-15	AUG 1989	STOP-WORK ORDER (applicable to fixed price) (ALTERNATE I) (APR 1984) (applicable to cost reimbursement)
52.242-17	APR 1984	GOVERNMENT DELAY OF WORK
52.247-34	NOV 1991	F.O.B. DESTINATION

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE

NONE INCORPORATED BY REFERENCE

(End of Clauses Incorporated By Reference)

F.2 BILLS OF LADING (NFS 1852.247-73) (JUN 2002)

The purpose of this clause is to define when a commercial bill of lading or a government bill of lading is to be used when shipments of deliverable items under this contract are Free On Board (F.O.B.) origin. Unless otherwise specified

in the delivery/task order and authorized in advance by the Contracting Officer, deliveries under this contract shall be made F.O.B. Destination.

(a) Commercial Bills of Lading. All domestic shipments shall be made via commercial bills of lading (CBLs). The Contractor shall prepay domestic transportation charges. The Government shall reimburse the Contractor for these charges if they are added to the invoice as a separate line item supported by the paid freight receipts. If paid receipts in support of the invoice are not obtainable, a statement as described below must be completed, signed by an authorized company representative, and attached to the invoice.

"I certify that the shipments identified below have been made, transportation charges have been paid by (company name), and paid freight or comparable receipts are not obtainable.

Contract Number: **TBD**
Destination: WSTF

(b) Government Bills of Lading.

(1) International (export) and domestic overseas shipments of items deliverable under this contract shall be made by Government Bills of Lading (GBLs). As used in this clause, "domestic overseas" means non-continental United States, i.e. Hawaii, Commonwealth of Puerto Rico, and possessions of the United States.

(2) At least 15 days before shipment, the Contractor shall request in writing GBLs from:
WSTF Transportation Officer
NASA/JSC/White Sands Test Facility
12600 NASA Road
Building 120
Las Cruces, NM 88012

If time is limited, requests may be by telephone: 575-524-5140.

Requests for GBLs shall include the following information:

(i) Item identification/ description
(ii) Origin and destination
(iii) Individual and total weights
(iv) Dimensional Weight
(v) Dimensions and total cubic footage
(vi) Total number of pieces
(vii) Total dollar value

(viii) Other pertinent data

(End of clause)

F.3 FLIGHT ITEM (JPI 52.247-95) (SEP 1989) (JSC PROCUREMENT INSTRUCTION)

Block 16 of each DD Form 250 prepared for hardware or equipment to be shipped under this contract must be annotated as follows in ¼-inch letters or larger by hand printing or rubber stamp:

THIS IS A FLIGHT ITEM: OR "THIS IS MISSION ESSENTIAL GROUND SUPPORT EQUIPMENT," as applicable.

(End of clause)

F.4 PLACE AND PERIOD OF PERFORMANCE

(a) The place of performance for the work called for hereunder will be the NASA/JSC/White Sands Test Facility, 12600 NASA Road, Las Cruces New Mexico and other locations where the requirements are specified in section C of this contract and as determined by the task/delivery order.

(b) The base period of performance of this contract shall be from May 1, 2011, through April 30, 2014. Task /Delivery Orders placed prior to the expiration date of this contract shall remain in full force and effect until deliveries have been completed and payment has been made.

The periods of performance for the option years are as follows:

Option Year 1: May 1, 2014 through April 30, 2015
Option Year 2: May 1, 2015 through April 30, 2016

(End of clause)

F.5 COMPLETION OF WORK

All work required under this contract, including submission of all reports, shall be completed on or before **April 30, 2014**.

(End of clause)

F.6 SHIPPING INSTRUCTIONS

(a) All documentation and hardware to be shipped to WSTF shall be shipped as identified below:

Parcel Post Shipments and Freight Shipments

Ship to: Transportation Officer,
NASA/JSC/White Sands Test Facility
12600 NASA Rd.
Building 120
Las Cruces, NM 88012

Mark for: Accountable Property Officer
Mark With: Contract Number: **TBD**
For reissue to: _____
(Name)(Mail Code)(Bldg.)(Rm.)

(b) Unless otherwise authorized in advance by the Contracting Officer, deliveries under this contract shall be made between the hours of **7:30 a.m. and 3:30 p.m**., Monday through Friday, excluding off-Fridays and Federal holidays.

Hardware may be required to be shipped to locations other than those identified above in the performance of this contract; the "ship to; mark for; for reissue to" information shall be modified as necessary to annotate the appropriate information for each shipment.

(End of clause)

F.7 PHASE-IN, PHASE-OUT AND CLOSE-OUT

(a) Contractor Phase-In

(1) The services provided by this contract are vital to the Government's overall effort. Therefore, continuity of these services must be maintained at a consistently high level without disruption. The Contractor is expected to meet full performance requirements upon contract start through the life of the contract.

(2) The Phase-In period shall not exceed **60 calendar days** prior to the start date of the base contract period. The Contractor shall accomplish Phase-In in accordance with DRD–TEST–CM-04, Phase-In Plan.

(3) Once the 60 calendar day phase-in period is complete, the Contractor shall assume full responsibility for the effort covered by the SOW and as issued through task/delivery orders.

(4) During phase-in, the Contractor (at a minimum) shall:

(i) participate in meetings with the predecessor Contractor(s) to identify and discuss problems or areas requiring attention during the phase-in period; and

(ii) perform all activities described in the Contractor's phase-in plan submitted with its proposal, and all activities necessary, to ensure effective transfer of all effort from the predecessor Contractor(s) and readiness to assume full contract performance. As a minimum, phase-in must include the following: all personnel must be trained and must meet contract requirements (e.g., certifications, permits); all Installation Accountable/Government Furnished Property must be inventoried; qualified staff must be available and ready to assume performance (and must have obtained security clearances (if required) and been badged by JSC/WSTF).

(iii) Office space will be provided by the Government during the Phase-In period

(5) The total firm fixed price of all Phase-In activities shall not exceed the price set forth in clause B.3 "Contract Phase-In (Firm Fixed Price)." Any costs incurred in excess of this amount shall be unallowable under this or any other Government contract.

(6) The effort performed during phase-in period will be evaluated during Award Fee Period 1.

(b) Contractor Phase-Out/Close-out

(1) Prior to contract completion, a successor Contractor(s) may be selected to perform the work requirements covered by the SOW. The Contractor shall conduct an orderly phase-out of contract activities prior to completion of this contract and assumption of responsibility for the effort described in the SOW by a successor Contractor(s). The Contractor shall remain responsible for the effort covered by the SOW during phase-out activities.

(2) Upon written notice by the Contracting Officer, the Contractor shall conduct phase-out activities for up to **90 calendar days** prior to the contract completion date, including:

(i) support periodic meetings with the successor Contractor(s) to identify and discuss problems or areas requiring attention during the phase-out period; and

(ii) negotiate in good faith, a plan with the successor Contractor(s) to determine the nature and extent of phase-in and phase-out activities required. The plan shall include effective transfer of all effort to the successor

Contractor(s); training of personnel; and any other agreements or steps necessary to ensure a smooth transition between the contracts. The plan shall be subject to the Contracting Officer's approval.

(3) Close-Out activities shall be accomplished in accordance with FAR 52.237-3 "Continuity of Services." The Contractor shall accomplish Close-Out in accordance with DRD-TEST-PC-02 Contract Closeout Plan.

(End of clause)

F.8 TASK/DELIVERY ORDER TYPE

Task/delivery orders may be fixed-price or cost reimbursement. Clauses applicable to cost reimbursement and fixed-price are contained within this contract schedule. The appropriate clauses (either cost reimbursement or fixed-price) within the contract will apply to a task/delivery order based on the type of order issued (cost reimbursement or fixed-price).

Amendments to orders may be issued in the same manner as original orders. The Contractor shall provide any resubmittals or supplemental data requested by the Government within **5 working days (unless otherwise negotiated with the Contracting Officer and another time frame is explicitly and expressly agreed upon)**. The Contractor's proposal shall utilize the direct, indirect and fee rates established in Sections B.9 "Fully Burdened Rate Table for Pricing Task/Delivery Orders (Cost Reimbursement)" and B.10 "Fully Burdened Rate Table for Pricing Task/Delivery Orders (Fixed-Price)", to determine the estimated costs for each IDIQ Task Order. In accordance with B.9.1 "Fully Burdened Overtime Rate Table For Pricing Cost Reimbursable Task/Delivery Orders" and B.10.1 "Fully Burdened Overtime Rate Table For Pricing Fixed Price Task/Delivery Order", overtime rates shall only be used once overtime hours are exercised. Any task/delivery orders with purchasing requirements shall adhere the advanced agreement by both parties as specified in section H.27, Contractor Purchasing.

(End of clause)

F.9 OPTION TO EXTEND

In accordance with Section I clause, **FAR 52.217-9**, Option to Extend the Term of the Contract, the Contracting Officer may exercise the option(s) identified in F.4 by issuance of a unilateral contract modification. The contract values will be increased as set forth in Clause B.5.

(End of clause)

[END OF SECTION]

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

Clause(s) at the beginning of this Section are incorporated 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 following contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE

NONE

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE
1852.223-71	DEC 1988	FREQUENCY AUTHORIZATION
1852.227-70	MAY 2002	NEW TECHNOLOGY
1852.227-86	DEC 1987	COMMERCIAL COMPUTER SOFTWARE—LICENSING
1852.242-71	DEC 1988	TRAVEL OUTSIDE OF THE UNITED STATES
1852.242-73	NOV 2004	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING

(End of Clauses Incorporated by Reference)

G.2 AWARD FEE FOR SERVICE CONTRACTS (NFS 1852.216-76) (JUN 2000)

(a) The Contractor can earn fee from a minimum of **$0** to the maximum stated in Clause B.5, Estimated Cost and Fee.

(b) Beginning **6 months** after the effective date of this contract, the Government

shall evaluate the Contractor's performance every **6 months** to determine the amount of award fee earned by the Contractor during the period. The first evaluation period (AFP 1) will include evaluation of the Contractor's Phase-In effort. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations may be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with the Performance Evaluation Plan (Attachment J.1). The plan may be revised unilaterally by the Government prior to the beginning of any rating period to redirect emphasis.

(c) The Government will advise the Contractor in writing of the evaluation results. The NASA Shared Services Center (NSSC) Financial Management Division (FMD) will make payment based on the issuance of a unilateral modification by the Contracting Officer.

(d) After **85 percent** of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the total potential award fee.

(e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth in the Performance Evaluation Plan (Attachment J.1). Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods. There shall be no adjustment to award fee pools from a previous period.

(f)

(1) Provisional award fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional award fee payments will be made to the Contractor on a monthly basis. The total amount of award fee available in an evaluation period that will be provisionally paid is the lesser of **80 percent** or the prior period's evaluation score.

(2) Provisional award fee payments will be superseded by the final award fee evaluation for that period. If provisional payments exceed the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the Contracting Officer.

(3) If the Contracting Officer determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional award fee will be discontinued or reduced in such amounts as the Contracting Officer deems appropriate. The Contracting Officer will notify the Contractor in writing if it is determined that such discontinuance

or reduction is appropriate.

(4) Provisional award fee payments will be made prior to the first award fee determination by the Government.

(g) Award fee determinations are unilateral decisions made solely at the discretion of the Government.

(End of clause)

G.3 SUBMISSION OF VOUCHERS FOR PAYMENT (NFS 1852.216-87) (MAR 1998)

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to the number of this contract.

(b) (1) If the Contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted 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 : 866-779-6772 Phone : 877-677-2123

Electronic submission of invoices to the NSSC via e-mail is preferred.

(2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.

(3) Copies of vouchers should be submitted as directed by the Contracting Officer.

(c) If the Contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the Contractor shall prepare and submit vouchers as follows:

(1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to:

CFI: Cognizant DCAA Mailing Address

(2) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment

to the following offices by insertion in the memorandum block of their names and addresses:

(i) Copy 1 - NASA Contracting Officer
(ii) Copy 2 - Auditor
(iii) Copy 3 - Contractor
(iv) Copy 4 - Contract administrator
(v) Copy 5 - Contracting Officer's Technical Representative (COTR)

(3) The Contracting Officer may designate other recipients as required.

(d) Public vouchers for payment of fee shall be prepared similarly to the procedures in paragraphs (b) or (c) of this clause, whichever is applicable, and be forwarded to:

NASA/JSC/WSTF
Attn: TEST Contracting Officer/BH5
12600 NASA Rd
Las Cruces, NM 88012

This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

(e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of clause)

G.3.1 SUPPLEMENTAL VOUCHER/INVOICE INSTRUCTIONS

All vouchers/invoices submitted to the Contracting Officer shall clearly delineate the following (unless otherwise directed by the Contracting Officer):

(1) The period of performance the invoice/voucher covers

(2) Identify by WBS name and number of the work performed

(3) As part of the voucher/invoice submittal to the Contracting Officer, the Contractor shall provide a recapitulation of invoices submitted.

(4) Any other information as required by the Contracting Officer to clearly and effectively track each invoice/voucher

(End of clause)

G.4 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NFS 1852.227-72) (JUL 1997)

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights--Retention by the Contractor (Short Form)," whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

NEW TECHNOLOGY REPRESENTATIVE:
NASA Johnson Space Center
AD2/ Technology Transfer Office
2101 NASA Parkway
Houston, TX 77058-3696

PATENT REPRESENTATIVE:
NASA Johnson Space Center
AL Patent Representative
Houston, TX 77058-3696

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

(End of clause)

G.5 TECHNICAL DIRECTION (NFS 1852.242-70) (SEP 1993)

(a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 1842.270, COTR Delegations. "Technical direction" means a directive to the Contractor that approves approaches, solutions, designs, or refinements; fills in details or otherwise completes the general description of work or documentation items; shifts emphasis among work areas or tasks; or furnishes similar instruction to the Contractor. Technical direction includes requiring studies and pursuit of certain lines of inquiry regarding matters within the general tasks and requirements in Section C of this contract.

(b) The COTR does not have the authority to, and shall not, issue any instruction purporting to be technical direction that--

(1) Constitutes an assignment of additional work outside the statement of work;

(2) Constitutes a change as defined in the changes clause;

(3) Constitutes a basis for any increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;

(4) Changes any of the expressed terms, conditions, or specifications of the contract; or

(5) Interferes with the Contractor's rights to perform the terms and conditions of the contract.

(c) All technical direction shall be issued in writing by the COTR via a Transmittal/Information Request Form (TIRF), JSC Form JF991C.

(d) The Contractor shall proceed promptly with the performance of technical direction duly issued by the COTR in the manner prescribed by this clause and within the COTR's authority. If, in the Contractor's opinion, any instruction or direction by the COTR falls within any of the categories defined in paragraph (b) of this clause, the Contractor shall not proceed but shall notify the Contracting Officer in writing within **5 working days** after receiving it and shall request the Contracting Officer to take action as described in this clause. Upon receiving this notification, the Contracting Officer shall either issue an appropriate contract modification within a reasonable time or advise the Contractor in writing within **30 calendar days** that the instruction or direction is--

(1) Rescinded in its entirety; or

(2) Within the requirements of the contract and does not constitute a change under the changes clause of the contract, and that the Contractor should proceed promptly with its performance.

(e) A failure of the Contractor and Contracting Officer to agree that the instruction or direction is both within the requirements of the contract and does not constitute a change under the changes clause, or a failure to agree upon the contract action to be taken with respect to the instruction or direction, shall be subject to the Disputes clause of this contract.

(f) Any action(s) taken by the Contractor in response to any direction given by any person other than the Contracting Officer or the COTR shall be at the Contractor's risk.

(End of clause)

G.6 CONTRACTOR REQUESTS FOR GOVERNMENT-PROVIDED EQUIPMENT (DEVIATION) (NFS 1852.245-70) (SEP 2007); (ALTERNATE I) (SEP 2007) (DEVIATION)

(a) The Contractor shall provide all property required for the performance of this contract. The Contractor shall not acquire or construct items of property to which the Government will have title under the provisions of this contract without the Contracting Officer's written authorization. Property which will be acquired as a deliverable end item as material or as a component for incorporation into a deliverable end item is exempt from this requirement.

(b)(1) In the event the Contractor is unable to provide the property necessary for performance, and the Contractor requests provision of property by the Government, the Contractor's request shall--

(i) Justify the need for the property;

(ii) Provide the reasons why Contractor-owned property cannot be used;

(iii) Describe the property in sufficient detail to enable the Government to screen its inventories for available property or to otherwise acquire property, including applicable manufacturer, model, part, catalog, National Stock Number or other pertinent identifiers;

(iv)Combine requests for quantities of items with identical descriptions and estimated values when the estimated values do not exceed **$100,000** per unit; and

(v) Include only a single unit when the acquisition or construction value equals or exceeds **$100,000**.

(2) Contracting Officer authorization is required for items the Contractor intends to manufacture as well as those it intends to purchase.

(3) The Contractor shall submit requests to the Contracting Officer no less than **30 calendar days** in advance of the date the Contractor would, should it receive authorization, acquire or begin fabrication of the item.

(c) The Contractor shall maintain copies of Contracting Officer authorizations, appropriately cross-referenced to the individual property record, within its property management system.

(d) Property furnished from Government excess sources is provided as-is, where-is. The Government makes no warranty regarding its applicability for performance of the contract or its ability to operate. Failure of property obtained from Government excess sources under this clause is insufficient reason for submission of requests for equitable adjustments discussed in the

clause at FAR 52.245-1, Government Property.

(e) In the event the Contracting Officer issues written authorization to provide property, the Contractor shall screen Government sources to determine the availability of property from Government inventory or excess property.

(1) The Contractor shall review NASA inventories and other authorized Federal excess sources for availability of items that meet the performance requirements of the requested property.

(i) If the Contractor determines that a suitable item is available from NASA supply inventory, it shall request the item using applicable Center procedures.
(ii) If the Contractor determines that an item within NASA or Federal excess is suitable, it shall contact the Center Industrial Property Officer to arrange for transfer of the item from the identified source to the Contractor.

(2) If the Contractor determines that the required property is not available from inventory or excess sources, the Contractor shall note the acquisition file with a list of sources reviewed and the findings regarding the lack of availability. If the required property is available, but unsuitable for use, the Contractor shall document the rationale for rejection of available property. The Contractor shall retain appropriate cross-referenced documentary evidence of the outcome of those screening efforts as part of its property records system.

(End of clause)

G.7 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (DEVIATION) (NFS 1852.245-71) (SEPT 2007) (ALTERNATE I) (SEP 2007)

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

(i) NASA Procedural Requirements (NPR) 4100, NASA Materials Inventory Management Manual

(ii) NASA Procedural Requirements (NPR) 4200, NASA Equipment Management Procedural Requirements

(iii) NASA Procedural Requirement (NPR) 4300, NASA Personal Property Disposal Procedural Requirements

Property not recorded in NASA property systems must be managed in accordance with the requirements of FAR 52.245-1.

The Contractor shall establish and adhere to a system of written procedures to assure continued, effective management control and compliance with these user responsibilities. Such procedures must include holding employees liable, when appropriate, for loss, damage, or destruction of Government property.

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

(i) The Contractor shall not utilize the installation's central receiving facility for receipt of Contractor-acquired property. However, the Contractor shall provide listings suitable for establishing accountable records of all such property received, on a quarterly basis, to the Contracting Officer and the Supply and Equipment Management Officer.

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

(iii) The Contractor shall establish a record of the property as required by FAR 52.245-1, Government Property, and furnish to the Industrial Property Officer a DD Form 1149, Requisition and Invoice/Shipping Document, (or installation equivalent) to transfer accountability to the Government within 5 working days after receipt of the property by the Contractor. The Contractor is accountable for all Contractor-acquired property until the property is transferred to the Government's accountability.

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

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

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

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

_X_ (2) Office furniture.

_X_ (3) Property listed in ***J.4, Installation Accountable Property and Vehicles***

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

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

___ (4) Supplies from stores stock.

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

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

_X_ (7) Installation service facilities: None

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

_X_ (9) Cafeteria privileges for Contractor employees during normal operating hours (through the life of the food services contract)

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

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

(End of clause)

G.8 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (NFS 1852.245-73) (SEP 2007) (DEVIATION)

(a) The Contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance with the provisions of NFS 1845.505-14 (Reports of Government Property), the instructions on the form, NFS 1845.71 (Forms Preparation), and any supplemental instructions for the current reporting period issued by NASA.

(b)

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

(2) The Contractor shall mail the original signed NF 1018 directly to the cognizant NASA Center Deputy Chief Financial Officer, Finance, unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.

(3) One copy shall be submitted (through the Department of Defense (DOD) Property Administrator if contract administration has been delegated to DOD) to the following address: [Insert name and address of appropriate NASA Center office.], unless the Contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.

(c)

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

accurate and in compliance with the NASA FAR Supplement. If errors are discovered on NF 1018 after submission, the Contractor shall contact the cognizant NASA Center Industrial Property Officer (IPO) within 30 days after discovery of the error to discuss corrective action.

(2) The Contracting Officer may, in NASA's interest, withhold payment until a reserve not exceeding $25,000 or 5 percent of the amount of the contract, whichever is less, has been set aside, if the Contractor fails to submit annual NF 1018 reports in accordance with 1845.505-14, Reports of Government Property, and any supplemental instructions for the current reporting period issued by NASA. Such reserve shall be withheld until the Contracting Officer has determined that NASA has received the required reports. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

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

(End of clause)

G.9 IDENTIFICATION AND MARKING OF GOVERNMENT EQUIPMENT (NFS 1852.245-74) (SEP 2007) (DEVIATION)

(a) The Contractor shall identify all equipment to be delivered to the Government using NASA Technical Handbook (NASA-HDBK) 6003, Application of Data Matrix Identification Symbols to Aerospace Parts Using Direct Part Marking Methods/Techniques, and NASA Standard (NASA-STD) 6002, Applying Data Matrix Identification Symbols on Aerospace Parts Handbook. This includes deliverable equipment listed in the schedule and other equipment when NASA directs physical transfer to NASA or a third party. The Contractor shall identify property in both machine and human readable form unless the use of a machine readable-only format is approved by the NASA Industrial Property Officer.

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

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

(2) Unique Identification Number (License Tag)

(3) Unit Price

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

(d) For items physically transferred under paragraph (a) the following additional data is required:
(1) Date originally placed in service.

(2) Item condition.

(3) Date last serviced.

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

See Clause F.6, Shipping Instructions

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

(End of clause)

G.10 PROPERTY MANAGEMENT CHANGES (DEVIATION) (NFS 1852.245-75) (SEP 2007)

(a) The Contractor shall submit any changes to standards and practices used for management and control of Government property under this contract to the assigned property administrator and Industrial Property Officer (IPO), prior to making the change whenever the change --
(1) Employs a standard that allows increase in thresholds or changes the timing for reporting loss, damage, or destruction of property;

(2) Alters physical inventory timing or procedures;

(3) Alters recordkeeping practices;

(4) Alters practices for recording the transport or delivery of Government property; or

(5) Alters practices for disposition of Government property.

(b) The Contractor shall contact the IPO at:

Property Administrator/RC
12600 NASA Road
Las Cruces, NM 88012

Phone: (575) 524-5140
Email: Johnny.j.bernal@nasa.gov

(End of clause)

G.11 PHYSICAL INVENTORY OF CAPITAL PERSONAL PROPERTY (NFS 1852.245-78) (SEP 2007) (DEVIATION)

(a) In addition to physical inventory requirements under the clause at FAR 52.245-1, Government Property, the Contractor shall conduct annual physical inventories for individual property items with an acquisition cost exceeding **$100,000**.

(1) The Contractor shall inventory --

(i) Items of property furnished by the Government;

(ii) Items acquired by the Contractor and titled to the Government under the clause at FAR 52.245-1;

(iii) Items constructed by the Contractor and not included in the deliverable, but titled to the Government under the clause at FAR 52.245-1; and

(iv) Complete but undelivered deliverables.

(2) The Contractor shall use the physical inventory results to validate the property record data, specifically location, condition and use status, and to prepare summary reports of inventory as described in paragraph (c) of this clause.

(b)Unless specifically authorized in writing by the NASA Industrial Property Officer (IPO), the inventory shall be performed and posted by individuals other than those assigned custody of the items, responsibility for maintenance, or responsibility for posting to the property record. The Contractor may request a waiver from this separation of duties requirement from the NASA IPO, when all of the conditions in either (1) or (2) below are met.

(1) The Contractor utilizes an electronic system for property identification, such as a laser bar-code reader or radio frequency identification reader, and

(i) The programs or software preclude manual data entry of inventory identification data by the individual performing the inventory; and

(ii) The inventory and property management systems contain sufficient management controls to prevent tampering and assure proper posting of collected inventory data.

(2) The Contractor has limited quantities of property, limited personnel, or limited property systems; and,

(i) The Contractor provides written confirmation that the Government property exists in the recorded condition and location; and

(ii) The items continue to be used exclusively for performance of the contract or as otherwise authorized by the Contracting Officer.

(3) The Contractor shall submit the request to the cognizant property administrator and obtain approval from the IPO prior to implementation of the practice.

(c) The Contractor shall report the results of the physical inventory to the property administrator and the NASA Industrial Property Officer within **10 calendar days** of completion of the physical inventory. The report shall --
(1) Provide a summary showing number and value of items inventoried; and
(2) Include additional supporting reports of --
(i) Loss, damage or destruction, in accordance with the clause at FAR 52.245-1, Government Property;
(ii) Idle property available for reuse or disposition; and
(iii) A summary of adjustments made to location, condition, status, or user as a result of the physical inventory reconciliation.

(d) The Contractor shall retain all physical inventory records, including records of all transactions associated with inventory reconciliation. All records shall be subject to Government review and/or audit.

(End of clause)

G.12 OCCUPANCY MANAGEMENT REQUIREMENTS (DEVIATION) (NFS 1852.245-82) (SEP 2007)

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

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

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

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

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

(End of clause)

G.13 SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES OF FOREIGN CONTRACTORS (JPI 52.204-91) (JAN 2006) Reference NASA Procedural Requirement NPR 1600.1, Personal Identity Verification (PIV) Policy and Procedures

(a) An employee of a domestic Johnson Space Center (JSC), White Sands Test Facility (WSTF) Contractor or its subcontractor who is not a U.S. citizen (foreign national) may not be admitted to the JSC site for purposes of performing work without special arrangements. In addition, all employees or representatives of a foreign JSC/WSTF Contractor/subcontractor may not be admitted to the JSC site without special arrangements. For employees as described above, advance notice must be given to the Security Office of the host installation [primarily JSC or White Sands Test Facility (WSTF)] at least three weeks prior to the scheduled need for access to the site so that instructions on obtaining access may be provided. Contractors should be aware that approval for access to the site and issuance of a badge may take much longer than three weeks and sufficient lead time must be allowed to accommodate the approval process.

(b) All visit/badge requests for persons described in (a) above must be entered in the NASA Foreign National Management System (NFNMS) for acceptance, review, concurrence, and approval purposes. When an authorized company official requests a JSC or WSTF badge for site access, he/she is certifying that steps have been taken to ensure that its Contractor or subcontractor employees, visitors, or representatives will not be given access to export-controlled or classified information for which they are not authorized. These individuals shall serve as the Contractor's Representative(s) in certifying that all visit/badge request forms are processed in accordance with JSC and WSTF security and export control procedures. No foreign national, representative, or resident alien contractor/subcontractor employee shall be granted access into JSC or WSTF until approved and processed through the NFNMS. Unescorted access will not be granted unless a favorable National Agency Check (NAC) has been completed by the JSC Security Office, and an approved NASA Foreign National Visitor Security/Technology Control Plan (STTCP), (previously called the Access Control Plan) has been submitted and approved.

(c) The Contractor agrees that it will not employ for the performance of work on-site at JSC or WSTF any individuals who are not legally authorized to work in the United States. If the JSC or WSTF Industrial Security Specialist or the Contracting Officer has reason to believe that any employee of the Contractor may not be legally authorized to work in the United States and/or on the contract, the Contractor may be required to furnish copies of Form I-9 (Employment Eligibility Verification), U.S. Department of Labor Application for Alien Employment Certification, and any other type of employment authorization document.

The Contractor agrees to provide the information requested by JSC or WSTF Security Office in order to comply with NASA policy directives and guidelines related to foreign visits to NASA facilities so that (1) the visitor/employee/ representative may be allowed access to JSC or other NASA centers for performance of this contract, (2) required investigations can be conducted, and (3) required annual or revalidation reports can be submitted to NASA Headquarters. All requested information must be submitted in a timely manner in accordance with instructions provided by JSC or any other center to be visited.

(End of clause)

G.14 JSC HAZARDOUS MATERIALS USE (JPI 52.223-92) (May 2009)

(a) This clause is JSC-unique, and the requirements are in addition to any U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, or other state or Federal regulation or statute. Therefore, the following requirements **do not** supersede any statutory or regulatory requirements for any entity subject to this clause.

(b) "Hazardous materials," for the purposes of this clause, consist of the following:

(1) Those materials defined as "highly hazardous chemicals" in Occupational Safety and Health Administration Process Safety Management Regulation, 29 CFR 1910.119, without regard for quantity.

(2) Those "extremely hazardous substances" subject to the emergency planning requirements in the Environmental Protection Agency Emergency Planning and Community Right-to-Know Regulation, 40 CFR 355, Part 355, without regard for quantity.

(3) Those "hazardous substances" subject to the release notification requirements under Environmental Protection Agency's Emergency Planning and Community Right-to-Know Regulation, 40 CFR 302.4, without regard for quantity.

(4) Any radioisotope material or device that produces ionizing radiation.

(5) Any Class II, III, or IV laser as defined by the ANSI No. Z136.1 (1986)

(6) Any explosive or any pyrotechnics.

(7) Any pesticide.

(c) The Contractor shall develop and maintain an inventory listing the identity and quantity of hazardous materials stored or used onsite at JSC for the performance of the contract.

(d) The Contractor shall ensure that the proper training of its employees in the use and inherent hazards of these materials is accomplished prior to use.

(e) The Contractor shall notify (NS3) prior to any initial use or different application of these materials.

(f) The Contractor shall use all hazardous materials properly and take all necessary precautions to ensure no harm is done to humans or the environment.

(g) The Contractor shall insert the substance of this clause, including this paragraph with appropriate changes of designations of the parties, in subcontracts under which hazardous materials will be utilized, or may reasonably be expected to be utilized, onsite at JSC.

(h) In the event the Contractor fails or refuses to comply with any aspect of this clause, such failure or refusal may be considered a material breach of this contract.

(End of clause)

G.15 IDENTIFICATION OF EMPLOYEES (OCT 2006) (JPI 52.242-92)

At all times while on Government property, the Contractor, subcontractors, their employees, and agents shall wear badges which will be issued by the NASA Badging & Visitor Control Office, located in Building 110 at the Johnson Space Center (JSC), or at the Main Gate at the White Sands Test Facility (WSTF). JSC employee credentials and visitor badges will be issued only between the hours of 6:00 a.m. to 7:30 p.m., Monday through Friday, and 7:30 am to 3:00 pm on Saturday. WSTF employee badges will be issued only between the hours of 8 a.m. to 2 p.m., Monday through Friday. WSTF visitor badges will be issued on a 7-day-a-week, 24-hour-a-day basis. Resident aliens and foreign nationals/representatives shall be issued green foreign national badges.

Each individual who wears a badge shall be required to sign personally for the badge. The Contractor shall be held accountable for issued badges and all other related items and must assure that they are returned to the NASA Badging & Visitor Control Offices upon completion of work under the contract in accordance with Security Management Directive (SMD) 500-15, "Security Termination Procedures." Failure to comply with the NASA Contractor termination procedures upon completion of the work (e.g., return of badges, decals, keys, Controlled Access Area cards, clearance terminations, JSC Public Key

Infrastructure (PKI)/special program deletions, etc.) may result in final payment being delayed.

(End of clause)

[END OF SECTION]

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

Clause(s) at the beginning of this Section are incorporated 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 following contract clauses pertinent to this section of the contract are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

Clause Number	Date	Title
52.236-13	NOV 1991	ACCIDENT PREVENTION (ALTERNATE I)

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18)

Clause Number	Date	Title
1852.208-81	NOV 2004	RESTRICTIONS ON PRINTING AND DUPLICATION
1852.223-75	FEB 2002	MAJOR BREACH OF SAFETY OR SECURITY
1852.223-76	JUL 2003	FEDERAL AUTOMOTIVE STATISTICAL TOOL (FAST) REPORTING
1852.225-70	FEB 2000	EXPORT LICENSES (ALTERNATE I) (FEB 2000) INSERT: LYNDON B. JOHNSON SPACE CENTER/WHITE SANDS TEST FACILITY
1852.235-73	DEC 2006	FINAL SCIENTIFIC AND TECHNICAL REPORTS (ALTERNATE II)(DEC 2005)
1852.244-70	APR 1985	GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM

(End of Clauses Incorporated by Reference)

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

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

(b) The nature of this conflict shall be described in accordance with TEST-DRD-BP-01, OCI Avoidance Plan.

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

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

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

(d) In order that the Government may prevent conflicting roles which might bias the Contractor's judgment or objectivity and afford an unfair advantage to the Contractor, the Contractor shall submit an OCI avoidance plan, as required by DRD-TEST-BP-01. Failure to adhere to the approved OCI avoidance plan or keeping it up-to-date as new OCIs are identified may restrict concurrent or future procurements for the Contractor, its parent company, subsidiaries and affiliates. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer, Contracting Officer's Technical Representative and the Contractor, sufficient to avoid unfair competitive advantage or potential bias. This time shall in no case be less than the duration of the base period of the contract.

(End of clause)

H.3 TASK/DELIVERY ORDERING PROCEDURES (NFS 1852.216-80) (OCT 1996)

(a)Only the Contracting Officer may issue task/delivery orders to the Contractor,

providing specific authorization or direction to perform work within the general scope of the TEST Statement of Work (SOW). The Contractor may incur costs under this contract in performance of task/delivery orders and task/delivery order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.

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

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

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

(3) A request for a proposal from the Contractor to include:

(i) Contractor's proposed technical approach (this shall NOT merely restate Government's requirements)

(ii) Period of performance

(iii) Clearly discernable and appropriate cost information, including but not limited to a clear estimate using the rates established in Clause B.9 and B.10 and any other information required to determine the reasonableness of the Contractor's proposal.

(iv) The Contractor shall not simply copy the Government's requirements, a sound and ration technical approach shall be documented in the task/deliver order response.

(c) Within **5 business days (unless negotiated with the Contracting Officer and another time frame is explicitly and expressly stated in the task order)** after receipt of the Contracting Officer's request, the Contractor shall submit a proposal conforming to the request. The Contractor shall provide any resubmittals or supplemental data requested by the Government within **3 business days (unless otherwise negotiated with the Contracting Officer and another time frame is explicitly and expressly agreed upon)**. The Contractor's proposal will utilize the direct, indirect and fee rates established in Section B, FP and CR IDIQ Rates, specifically clauses B.9 and B.10, to determine the estimated costs for each IDIQ Delivery Order. Under no circumstances shall the rates exceed those listed in clauses B.9 and B.10.

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

(1) Date of the order.

(2) Contract number and order number.

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

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

(5) Maximum dollar amount authorized (cost and fee or price).

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

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

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

(e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 1 **business day** after receipt of the delivery order.

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

(g)The Contracting Officer may amend task/delivery orders in the same manner in which they were issued.

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

(i) Contractor shall submit data that communicates project status in accordance with SOW 2.7.2 "Support Project Execution and Control" and the Performance Report (DRD-TEST-PM-02) and Performance Assessment Plan (DRD-TEST-PM-01) and/or as specified in each task/delivery order.

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

(End of clause)

H.4 SAFETY AND HEALTH (NFS 1852.223-70) (APRIL 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 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 Contractor shall immediately notify and promptly report to the Contracting Officer or a designee any accident, incident, or exposure resulting in fatality, lost-time occupational injury, occupational disease, contamination of property beyond any stated acceptable limits set forth in the contract Schedule; or property loss of $25,000 or more, or Close Call (a situation or occurrence with no injury, no damage or only minor damage (less than $1,000) but possesses the potential to cause any type mishap, or any injury, damage, or negative mission impact) that may be of immediate interest to NASA, arising out of work performed under this contract. The Contractor is not required to include in any report an expression of opinion as to the fault or negligence of any employee. In addition, service contractors (excluding construction contracts) shall provide quarterly reports specifying lost-time frequency rate, number of lost-time injuries, exposure, and accident/incident dollar losses as specified in the contract Schedule.

(e) The Contractor shall investigate all work-related incidents, accidents, and Close Calls, to the extent necessary to determine their causes and furnish the Contracting Officer a report, in such form as the Contracting Officer may require, of the investigative findings and proposed or completed corrective actions.

(f)

(1) The Contracting Officer may notify the Contractor in writing of any noncompliance with this clause and specify corrective actions to be taken. When 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.

(2) If the Contractor fails or refuses to institute prompt corrective action in accordance with subparagraph (f)(1) of this clause, the Contracting Officer may invoke the stop-work order clause in this contract or any other remedy available to the Government in the event of such failure or refusal.

(g) The Contractor (or subcontractor or supplier) shall insert the substance of this clause, including this paragraph (g) and any applicable Schedule provisions and clauses, with appropriate changes of designations of the parties, in all solicitations and subcontracts of every tier, when one or more of the following conditions exist:

(1) The work will be conducted completely or partly on premises owned or controlled by the Government.

(2) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.

(3) The work, regardless of place of performance, involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).

(4) When the Contractor (or subcontractor or supplier) determines that the assessed risk and consequences of a failure to properly manage and control the hazard(s) warrants use of the clause.

(h) The Contractor (or subcontractor or supplier) may exclude the provisions of paragraph (g) from its solicitation(s) and subcontract(s) of every tier when it determines that the clause is not necessary because the application of the OSHA and DOT (if applicable) regulations constitute adequate safety and occupational health protection. When a determination is made to exclude the provisions of paragraph (g) from a solicitation and subcontract, the Contractor must notify and provide the basis for the determination to the Contracting Officer. In subcontracts of every tier above the micro-purchase threshold for which paragraph (g) does not apply, the Contractor (or subcontractor or supplier) shall insert the substance of paragraphs (a), (b), (c), and (f) of this clause).

(i) Authorized Government representatives of the Contracting Officer shall have access to and the right to examine the sites or areas where work under this contract is being performed in order to determine the adequacy of the Contractor's safety and occupational health measures under this clause.

(j) The Contractor shall continually update the safety and health plan when necessary. In particular, the Contractor shall furnish a list of all hazardous operations to be performed, and a list of other major or key operations

required or planned in the performance of the contract, even though not deemed hazardous by the Contractor. NASA and the Contractor shall jointly decide which operations are to be considered hazardous, with NASA as the final authority. Before hazardous operations commence, the Contractor shall submit for NASA concurrence for:

(1) Written hazardous operating procedures for all hazardous operations; and/or

(2) Qualification standards for personnel involved in hazardous operations.

(End of clause)

H.5 CROSS-WAIVER OF LIABILITY FOR INTERNATIONAL SPACE STATION ACTIVITIES (NFS 1852.228-76) (OCT 2009) (DEVIATION)

(a) The Intergovernmental Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America concerning Cooperation on the Civil International Space Station (IGA) for the International Space Station (ISS) contains a cross-waiver of liability provision to encourage participation in the exploration, exploitation, and use of outer space through the ISS. The Parties intend that this cross-waiver of liability be broadly construed to achieve this objective.

(b) As used in this clause, the term:

(1) "Agreement" refers to any NASA Space Act agreement that contains the cross-waiver of liability provision authorized by 14 CFR Part 1266.102.

(2) "Damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential damage.

(3) "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(4) "Partner State" includes each Contracting Party for which the IGA has entered into force, pursuant to Article 25 of the IGA or pursuant to any successor agreement. A Partner State includes its Cooperating Agency. It also includes any entity specified in the Memorandum of Understanding (MOU) between NASA and the Government of Japan's Cooperating Agency in the implementation of that MOU.

(5) "Party" means a party to a NASA Space Act agreement involving activities in connection with the ISS and a party that is neither the prime Contractor under this contract nor a subcontractor at any tier.

(6) "Payload" means all property to be flown or used on or in a Launch Vehicle or the ISS.

(7) "Protected Space Operations" means all Launch or Transfer Vehicle activities, ISS activities, and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA, MOUs concluded pursuant to the IGA, implementing agreements, and contracts to perform work in support of NASA's obligations under these Agreements. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch or Transfer Vehicles, the ISS, Payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. "Protected Space Operations" also includes all activities related to evolution of the ISS, as provided for in Article 14 of the IGA. "Protected Space Operations" excludes activities on Earth which are conducted on return from the ISS to develop further a Payload's product or process for use other than for ISS-related activities in implementation of the IGA.

(8) "Related Entity" means:

(i) A Contractor or subcontractor of a Party or a Partner State at any tier;

(ii) A user or customer of a Party or a Partner State at any tier; or

(iii) A Contractor or subcontractor of a user or customer of a Party or a Partner State at any tier. The terms "Contractor" and "subcontractor" include suppliers of any kind.

(9) "Transfer Vehicle" means any vehicle that operates in space and transfers Payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A "Transfer Vehicle" also includes a vehicle that departs from and returns to the same location on a space object.

(c)

(1) The Contractor agrees to a cross-waiver of liability pursuant to which it waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:

(i) A Party as defined in (B)(5) above;

(ii) A Partner State other than the United States of America;

(iii) A Related Entity of any entity identified in paragraph (c)(1)(i) or (c)(1)(ii) of this clause; or

(iv) The employees of any of the entities identified in paragraphs (c)(1)(i) through (c)(1)(iii) of this clause.

(2) In addition, the Contractor shall, by contract or otherwise, extend the

cross-waiver of liability set forth in paragraph (c)(1) of this clause to its subcontractors at any tier by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause; and

(ii) Require that their subcontractors waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause.

(3) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this clause, this cross-waiver of liability shall not be applicable to:

(i) Claims between the Government and its own Contractors or between its own Contractors and subcontractors;

(ii) Claims made by a natural person, his/her estate, survivors or subrogees (except when a subrogee is a Party to an Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(iii) Claims for Damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for Damage resulting from a failure of the Contractor to extend the cross-waiver of liability to its subcontractors and related entities, pursuant to paragraph (c)(2) of this clause; or (vi) Claims by the Government arising out of or relating to the Contractor's failure to perform its obligations under this contract.

(5) Nothing in this clause shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable.

(End of clause)

H. 6 CROSS-WAIVER OF LIABILITY FOR SCIENCE OR SPACE EXPLORATION ACTIVITIES UNRELATED TO THE INTERNATIONAL SPACE STATION (NFS 1852.228-78) (OCT 2009) (DEVIATION)

(a) The purpose of this clause is to extend a cross-waiver of liability to NASA contracts for work done in support of Agreements between Parties involving Science or Space Exploration activities, unrelated to the International Space Station (ISS), but which involve a launch. This cross-waiver of liability shall be broadly construed to achieve the objective of furthering participation in

space exploration, use, and investment.

(b) As used in this clause, the term:

(1) "Agreement" refers to any NASA Space Act agreement that contains the cross-waiver of liability provision authorized in 14 CFR 1266.104.

(2) "Damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential Damage;

(3) "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries Payloads or persons, or both.

(4) "Party" means a party to a NASA Space Act agreement for Science or Space Exploration activities, unrelated to the ISS, but which involve a launch and a party that is neither the prime Contractor under this contract nor a subcontractor at any tier hereto.

(5) "Payload" means all property to be flown or used on or in a Launch Vehicle.

(6) "Protected Space Operations" means all Launch or Transfer Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an Agreement for Science or Space Exploration activities, unrelated to the ISS, but which involve a launch. Protected Space Operations begins at the signature of the Agreement and ends when all activities done in implementation of the agreement are completed. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch or Transfer Vehicles, Payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment, and related facilities or services. Protected Space Operations excludes activities on Earth which are conducted on return from space to develop further a Payload's product or process other than for the activities within the scope of an Agreement.

(7) "Related entity" means:

(i) A Contractor or subcontractor of a Party at any tier;

(ii) A user or customer of a party at any tier; or

(iii) A Contractor or subcontractor of a user or customer of a Party at any tier. The terms "Contractors" and "subcontractors" include suppliers of any kind.

(c) Cross-waiver of liability:

(1) The contractor agrees to a waiver of liability pursuant to which it waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity,

or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The waiver shall apply to any claims for damage, whatever the legal basis for such claims, against:

(i) A Party;

(ii) A Party to another NASA Agreement or contract that includes flight on the same Launch Vehicle;

(iii) A Related Entity of any of the entities identified in (c)(1)(i) or (c)(1)(ii) of this clause; or

(iv) The employees of any of the entities identified in (c)(1)(i) through (c)(1)(iii) of this clause.

(2) The Contractor agrees to extend the cross-waiver of liability as set forth in paragraph (c)(1) of this clause to its own subcontractors at all tiers by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause; and

(ii) Require that their Related Entities waive all claims against the entities or persons identified in paragraph (c)(1)(i) through (c)(1)(iv) of this clause.

(3) For avoidance of doubt, this cross-waiver includes a cross-waiver of claims arising from the *Convention on International Liability for Damage Caused by Space Objects*, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this clause, this cross-waiver of liability shall not be applicable to:

(i) Claims between the Government and its own Contractors or between its own Contractors and subcontractors;

(ii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to an Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health, or death of such person;

(iii) Claims for Damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for damages resulting from failure of the Contractor to extend the cross-waiver of liability to its subcontractors and related entities, pursuant to paragraph (c)(2) of this clause; or

(vi) Claims by the Government arising out of or relating to a Contractor's failure to perform its obligations under this contract.

(5) Nothing in this clause shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable.

(End of clause)

H.7 RESERVED

H.8 KEY PERSONNEL AND FACILITIES (NFS 1852.235-71) (MAR 1989)

(a) The personnel and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

(b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.

(c) The list of personnel and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

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Key Facilities: N/A

(End of clause)

H.9 OBSERVANCE OF LEGAL HOLIDAYS (NFS 1852.242-72) (AUG 1992) (ALTERNATE I) (SEPT 1989)

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

New Year's Day

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

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

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

(c) On-site personnel assigned to this contract shall not be granted access to the installation during the holidays in paragraph (a) of the clause, except as follows: the Contractor shall provide sufficient on-site personnel to perform round-the-clock requirements of critical work already in process, unless otherwise instructed by the Contracting Officer or authorized representative. If the Contractor's on-site personnel work during a holiday other than those in paragraph (a) of this clause, no form of holiday or other premium compensation shall be reimbursed as either a direct or indirect cost. However, this does not preclude reimbursement for authorized overtime work that would have been overtime regardless of the status of the day as a holiday.

(d) The Contractor shall place identical requirements, including this paragraph, in all subcontracts that require performance of work on-site, unless otherwise instructed by the Contracting Officer

(End of clause)

H.10 SMALL BUSINESS SUBCONTRACTING GOALS (JSC 52.219-90) (OCT 2006)

For purposes of this clause, the terms, "HUBZone Small Business Concern," "Small Disadvantaged Business Concern," "Service-Disabled, Veteran-Owned Small Business Concern, "Veteran-Owned Small Business Concern,"" "Women-Owned Small Business Concern," and "Historically Black College or University (HBCU)" are defined in paragraph 2.101 of the Federal Acquisition Regulation.

The total small business goal, expressed as a percent of total contract value including options, is **23 percent**. The small business percentage goal includes

the following goals expressed as a percent of total contract value:

Small Disadvantaged Business Concerns	8.0 percent
Woman-Owned Small Business Concerns	4.0 percent
HUBZone Small Business Concerns	0.1 percent
Veteran-Owned Small Business Concern	4.5 percent
Service-Disabled, Veteran-Owned Small Business Concern	3.0 percent
HBCU's (includes other minority institutions)	0.3 percent

(End of clause)

H.11 ENVIRONMENTAL AND ENERGY CONSERVATION REQUIREMENTS (JSC 52.223-93) (MAY 2008)

(a) The Contractor shall ensure that all work performed and equipment used to fulfill the requirements of this contract are in compliance with all Federal, state, and local regulations and public laws, and the following NASA JSC/WSTF directives: WSTF Environmental Management System Manual (MSM); NPR 8570.1, Energy Efficiency and Water Conservation; WSTF's Energy and Water Conservation; and the WSTF Standard Procedure (WSP) 22-0024, WSTF Energy Efficiency and Water Conservation Management Program. The Contractor shall provide data on affirmative procurement, waste reduction activity, energy efficient product procurement, and ozone depleting substances in accordance with DRD-TEST-EN-01, Environmental Compliance Plan.

(b) The Government remains the owner and operator of record for all environmental activities conducted at NASA owned properties unless otherwise documented in a signed agreement between NASA and the Contractor. The Contractor is advised that activities performed at WSTF and associated facilities are subject to Federal, state and local regulatory agency inspections to review compliance with environmental laws and regulations. For on-site issues, WSTF's Environmental Program Manager will be the single point of contact with Federal and state regulatory agencies and their representatives unless otherwise directed by the Contracting Officer or the Environmental Program. The Contractor shall immediately notify the Environmental Program Manager when contacted by external regulatory agency representatives and shall cooperate fully. The Contractor shall complete, maintain, and make available to the Contracting Officer, WSTF Environmental Program, WSTF Energy Manager, or regulatory agency personnel all documentation relating to environmental compliance matters under applicable laws. The Contractor shall immediately notify the Environmental Program Manager upon issuance of a Notice of Violation or noncompliance to the Contractor.

(c) Should a Notice of Violation, Notice of Noncompliance, Notice of Deficiency,

or similar regulatory agency notice be issued to the Government as a facility owner/operator on account of the actions or inactions of the Contractor or one of its subcontractors in the performance of work under this contract, the Contractor shall fully cooperate with the Government in correcting any problems and defending against regulatory assessment of any civil fines or penalties arising out of such actions or inactions.

(End of clause)

H.12 ADMINISTRATIVE LEAVE (JPI 52.242-94) (SEP 2008)

(a) When the NASA installation grants administrative leave to its Government employees (e.g., as a result of inclement weather, potentially hazardous conditions, or other special circumstances), the following personnel should also be dismissed upon notification of a center closure provided by the Contracting Officer:

Contractor personnel working on-site; and Contractor personnel dedicated to the contract effort who are working off-site within 10 miles of JSC/WSTF; and unable to perform their NASA contract duties at their off-site location because their normal place of business has been or is expected to be negatively impacted by an emergency situation (e.g. has sustained damage, has been evacuated, etc.). However, the Contractor shall provide sufficient on-site personnel to perform round-the-clock requirements of critical work already in process, unless otherwise instructed by the Contracting Officer or authorized representative.

(b) Administrative leave granted under this clause shall be subject to modification or termination by the Contracting Officer and in all instances shall be subject to the availability of funds. The cost of salaries and wages to the Contractor for the period of any such excused absence shall be a reimbursable item of cost under this contract for effected employees in accordance with the Contractor's established accounting policy.

(1) If a labor hour-based contract, administrative leave granted under this clause shall be accounted for consistent with productive hours under this contract for employees in accordance with the Contractor's established accounting policy.

(2) For fixed price contracts based on other than labor hours for deliverables, the Contracting Officer and Contractor shall as a precondition to any reimbursement negotiate an advanced agreement to determine the appropriate method in which to grant administrative leave under this clause.

(3) All invoices requesting payment under this clause shall be marked as "Administrative Leave in accordance with FAR 52.242-94, Administrative Leave." All such invoices paid will be subject to review, audit, and revision when routine operations re-commence.

(d) The Contractor shall include this clause in all services subcontracts that include personnel in the categories described in (a) above.

(End of clause)

H.13 COMPLIANCE WITH APPLICABLE CENTER POLICIES AND PROCEDURES

The Contractor and subcontractor personnel (regardless of tier) working on-site at NASA Centers shall comply with applicable center policies and procedures. The Contractor shall keep itself and subcontractors up-to-date with the latest revisions of Center policies and procedures. The Contractor shall promptly take corrective action upon receipt of notice from the Contracting Officer of noncompliance with any applicable center policy or procedure.

(End of clause)

H.14 RESERVED

H.15 ASSOCIATE CONTRACTOR AGREEMENTS (ACA) FOR WSTF ACTIVITIES

(a) The success of the TEST Contract is dependent on the efforts of multiple Contractors. In accordance with paragraph (e) of task order 1TAMGMT, Contract Management, the Contractor shall develop ACAs with the following interfaces:

i. The contractor that provides staffing and supplies for the WSTF Clinic, Industrial Hygiene, and staffing of the Columbia Fitness Center
MSIC – Medical Services/Dispensary (MSIC)
OMOHC - Occupational Medicine and Occupational Health Contract

ii. The contractors that provide IT support services at WSTF (end user services, desktop management, data center services, communication services, applications services, web based services, and media services)
JIMMS - JSC Information Management and Media Services
JETS - JSC Enabling Technology and Security
UNITeS - Unified NASA Information Technology Services
NISN - NASA Integrated Network Services
ITAMS - Information Technology and Multimedia Services
I3P - Information Technology Infrastructure Integration Program

iii. The contractor that provides quality and safety support services to the S&MA Office at WSTF
SMASSC - Safety and Mission Assurance Support Services

iv. The contractor that provides Environmental compliance and restoration services at WSTF.

ECO – Environmental Compliance & Operations

The Contractor shall, at a minimum develop ACAs with the interfaces listed above. The Contractor shall develop, maintain and adhere to the ACA's with any other interfaces the Contractor deems necessary to avoid negatively impacting the WSTF Mission.

The Contractor will provide a copy of all ACAs to the TEST Contracting Officer (CO) and Contracting Officer's Technical Representative (COTR). Any additional ACA required shall be developed, modified and kept current at no additional cost to the Government.

(b) The Contractor shall document agreements with other associate Contractors described in (a) above via associate Contractor agreements. The Government will not be a party in such Associate Contractor Agreements. All costs associated with such agreements are included in the negotiated price of this contract In order to achieve efficient and effective implementation of WSTF operations; the Contractor shall establish the means for coordination and exchange of information with associate Contractors. The information to be exchanged shall be that required by the Contractors in the execution of their respective contract requirements. The Contractors are strongly encouraged to seek out and foster cooperative efforts that will benefit WSTF with increased safety, efficiency, and productivity.

(c) Given the unique role of this contract in developing, operating, maintaining and utilizing WSTF, the Contractor will engage in cooperative relationships that facilitate effective management of the overall TEST effort. This joint cooperation will be evaluated as part of the contract award fee process, as defined in the Performance Evaluation Plan (Attachment J.1) for the contract. Successful performance will be determined by the Government's assessment of the overall and combined performance of the operation and utilization requirements in the contracts, as modified.

(d) The Contractor is not relieved of any contract requirements or entitled to any adjustments to the contract terms because of the failure to resolve a disagreement with an associate Contractor. Liability for the improper disclosure of any proprietary data contained in or referenced by any agreement shall rest with the parties to the agreement, and not the Government.

(e) To ensure successful implementation and utilization of WSTF, the Contractors shall establish formal guidelines to address coordination, cooperation and communication. All program elements shall work in a coordinated fashion.

Each Contractor shall establish the means for the exchange of such data and communications as needed in order to keep other project elements fully informed and to minimize Government involvement.

(End of clause)

H.16 REQUIREMENTS FOR COST TRACKING AND ACCOUNTING AND ASSOCIATED BUSINESS SYSTEMS

Costs for the Space Shuttle, ISS, Constellation and future Space Programs shall be tracked and reported separately in order to comply with requirements that accurate and timely reporting of ISS and other Space Program costs to the Congress can be accomplished by NASA. These costs are to be reported in accordance with the requirements of NFS 1852.242-73, Contractor Financial Management Reporting. The data must be in suitable format and adequate detail to fulfill obligations placed on NASA. Any cost associated with these requirements shall be negotiated via task order and are included as part of the cost to develop, maintain, revise, and track costs associated with DRD-TEST-BP-04, NF533 Cost and Data Reporting.

Additionally, throughout performance of this contract, the Contractor shall employ an accounting and financial system capable of accurately collecting, segregating and recording costs by the contract and unique to each task order in accordance with the SOW requirements, the 533, Performance Assessment Plan and Performance Reporting DRDs and as specified in the task/delivery order.

(End of clause)

H.17 NON-GOVERNMENT USE OF WSTF FACILITIES

The Government may allow non-exclusive, non-NASA use of WSTF facilities by the Contractor under this contract. If found appropriate by the Government the Contractor and Government shall enter into a Facility Reimbursable Agreement (FRA) which will outline the terms and conditions for use of the Government property, as well as the benefit the Government will derive from the Contractor's non-NASA use of designated property through rental receipts. The Government reserves the right to disallow use of WSTF facilities and equipment by the Contractor under this agreement, if the use should be negotiated directly between the Government and the non-NASA entity.

After the FRA is approved, individual undertakings will be approved through an Annex to the FRA. The Annex will outline responsibilities, financial obligations, and terms of use. The Contractor's use of WSTF property for such purposes shall be subject to the terms and conditions of this contract. WSTF Safety and Environmental policy shall be adhered to by all facility users. Through the FRA,

the Contractor shall assume responsibility for the quality and success of the resulting product.

The Government recognizes the benefit it derives from the Contractor's non-NASA use of designated property through rental receipts as defined under the FRA and that this benefit through the Contractor's ability to provide non-NASA use services to its customers is dependent upon the reliability of the Contractor's access to the designated property.

The property authorized for non-NASA use along with the terms and conditions for the use of this designated equipment will be set forth in the FRA. Any dispute associated with this clause and/or the Contractor's exercise of its authority for non-NASA use of the designated property shall be subject to the "Disputes" clause of this contract.

The Contractor's of WSTF property under such agreement shall not, at any time, interfere with Government work. The Government reserves the right to enter into other reimbursable agreements with other entities. Such agreements (e.g., Internal Task Agreements, Space Act Agreements) may require Contractor support. In the case that Contractor support is required in the execution of these other agreements; the Contractor shall support these efforts via IDIQ delivery orders issued by the Contracting Officer. As a matter of protocol and courtesy, the Government will provide notice before entering into other reimbursable agreements that would interfere with performance of an FRA or any other Contractor work. The Government's intent is to avoid interfering with the execution of Contractor agreements.

The Contractor shall develop, maintain and adhere to their External Customer Plan. In accordance with TEST-DRD-CM05, External Customers Plan and Report.

(End of clause)

H.18 REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFEROR

The completed provision FAR 52.204-8, annual Representations and Certifications, including any amended representation(s) made at paragraph (b) of the provision; and other representations, certifications and other statements contained as set forth in the Contractor's proposal number NNJ11HA02C dated September 20, 2010 are hereby incorporated into the resultant contract by reference with the same force and effects as if it were given in full text reference in this resulting contract.

(End of clause)

H.19 CONTRACTOR ON-SITE REPRESENTATIVE

The Contractor shall at all times for the duration of the contract have a designated representative permanently located at WSTF with complete authority to decide (in a timely fashion) all matters related to this contract, including the ability to receive and execute, on behalf of the Contractor, such contract modifications, notices, policy directives, etc., as may be issued pursuant to the terms of and associated with the performance of this contract. The Contractor shall identify this designated on-site representative by name and official title below.

Keith Beck	General Manager
Name of Contractor On-Site Representative	Official Title of Representative

(End of clause)

H.20 MOTOR VEHICLE MANAGEMENT

(a) Operation & Management of Motor Vehicles: The Contractor shall safely operate General Services Administration (GSA) and commercially leased motor vehicles as necessary to support the performance of the contract. Such needed vehicles are to be operated in the manner most efficient and economical to the Government. If deemed necessary, additional vehicles may be obtained from the GSA Interagency Motor Pool and/or leased from commercial sources subject to prior approval and authorization by the JSC/WSTF Transportation Officer. When the acquisition of commercially leased vehicles is deemed appropriate, such acquisition shall be authorized by the JSC/WSTF Transportation Officer and approved in advance by the Contracting Officer. The number and type of vehicles necessary to support this contract will be determined by the NASA Transportation Officer and are listed in section J.4 (List of Installation-Accountable Property and Vehicles).

(a) The Contractor shall assure that all operators of Government-owned vehicles possess valid state licenses. The Contractor will furnish GSA and the Contracting Officer a copy of their third part automobile liability insurance policy, as defined in NFS 1852.228-75 entitled "Minimum Insurance Coverage," covering any and all leased GSA motor vehicles.

(b) The Contractor shall be liable for, and shall indemnify and hold harmless the Government against, all actions or claims for loss of or damage to property or the injury or death of persons, resulting from the fault, negligence, or wrongful act or omission of the Contractor, its agents, or its employees.

(End of clause)

H.21 REPROCUREMENT PACKAGE

The Contractor shall provide a Data Reprocurement Package in accordance with DRD-TEST-PC-01, Reprocurement Data Package. The cost of providing the entirety of the information, resources and effort required to produce aforementioned DRD shall be negotiated through the task/delivery order process.

(End of clause)

H.22 RESERVED

H.23 CORPORATE NOTIFICATIONS

Unless otherwise directed through requirements within this contract, the Contractor shall notify the Contracting Officer of the following issues (which may have the potential to affect employee morale and/or impact performance on the TEST Contract) as they are identified:

(a) Changes to Corporate Offices or Officers;

(b) Payroll issues;

(c) Indications of Company Instability;

(d) Invoicing issues;

(e) Any other issues that may impact contract performance

(End of clause)

H.24 PERFORMANCE METRICS

A key component of the TEST Contract will be the ability to effectively provide management visibility into efficiency and productivity of the contract. This requirement necessitates the creation of a meaningful set of performance measures and metrics that drive corrective action and continuous process improvement. The creation and evolution of contract metrics will be achieved through a Government/Contractor partnership that will determine appropriate measures based on contract objectives and performance standards. This partnering shall continue throughout the life of the contract to ensure the metrics remain valid and relevant to Government priorities and Contractor performance. The Contractor will submit metrics to the Government as required by DRD-TEST-

PM-01, and DRD-TEST-PM-02, and in accordance with the SOW and/or task/delivery orders. The Contractor's performance against these metrics will be evaluated as part of the Performance Evaluation Plan.

(End of clause)

H.25 RESERVED

H.26 RESERVED

H.27 CONTRACTOR PURCHASING

The Statement of Work (SOW) and task/delivery orders describe the work to be performed. The Contractor may determine a need to procure supplies and services from outside vendors which are incidental to performing this SOW and associated task/delivery orders. The prime Contractor is responsible for performing and managing any and all required purchasing activities in accordance with this contract. These purchasing activities should promote competition to the maximum extent possible and promote best value purchases as defined in FAR 2.101-Definitions. These purchasing functions are limited to necessary and incidental items tied direction to performance of this contract. In accordance with FAR Part 31 – Contract Cost Principles and Procedures, the Contractor (including the prime and any and all teaming partners) is authorized to hereby enter into an advanced agreement whereby all parties involved agree that indirect rates, with the exception of G&A, are unallowable charges to this contract for material, service and all other procurement mechanisms (whether performed by the prime or teaming partners).

Any material or service procurements conducted in performance of this contract (including task/delivery orders) are not subject to any burdened costs and/or indirect rate costs, with the exception of G&A, including but not limited to: ODCs, Fee, material handling fees, SREs, or any other rates, costs, fees, or a combination thereof associated with the performance, management and oversight of procurement functions. New Mexico Gross Receipts Tax (NMGRT) may be added, when not exempt under New Mexico State Type 9 and/or 15 Nontaxable Transaction Certificate, or any other exemption.

H.28 WORK BREAKDOWN STRUCTURE

A Government-provided Work Breakdown Structure (WBS) is being provided to the Contractor for informational purposes. In accordance with DRD-TEST-CM-01 and Section 2.1 of the SOW and associated task order, the Contractor shall develop, provide, and maintain a Contract Work Breakdown Structure (CWBS)

Dictionary. The CWBS shall serve as the framework for Contract planning, budgeting, cost reporting, schedule resource loading, and schedule status reporting to WSTF Management.

The CWBS in Attachment J-10 shall be utilized for recording of all contract related costs.

During this contract, the CWBS shall be updated by the Contractor, as necessary, to reflect new work, modifications/changes, changes in work element distribution, and configuration changes.

The Contractor shall be responsible for traceability of subcontractor data supporting its CWBS elements.

(End of clause)

H.29 COLLECTIVE BARGAINING AGREEMENTS

The Contractor shall provide the Contracting Officer with the copies (electronic copy and hard copy) of any collective bargaining agreements, and any amendments thereto, which arise at award or during the course of this contract and which apply to Contractor employees working under this contract. The Contractor shall provide a "cents per hour" equivalency cost for each fringe benefit included in such bargaining agreements, including any prospective increases in the same.

Prior to the expiration of this contract, and in anticipation of a solicitation of a follow-on contract, the Contractor shall provide, upon request by the Contracting Officer, a copy of the current collective bargaining agreements, and any amendments thereto, and the current "cents per hour" equivalency cost for each fringe benefit included in the collective bargaining agreement, including any prospective increase in same. As well as any and all information required in accordance with DRD-TEST-BP-03

(End of clause)

H.30 RESERVED

H.31 COMPUTING SERVICES

(a) The Contractor shall utilize on-site, and Contractor-provided computing services identified below, using the Agency desktop services contract, as follows:

(1) Desktops, workstations, laptops, office automation software, printers, peripherals, PDAs, Blackberries, cell phones, pagers, and associated services (e.g., user accounts, e-mail, and directory services) needed to support Contractor personnel will be provided by NASA through the Agency desktop services contract.

(2) For any IT resources identified under paragraph (a)(1) above that the Contractor desires to purchase outside of the Agency desktop services contract, the Contractor shall submit a request for waiver through the Contracting Officer's Technical Representative to the Center-specific Chief Information Officer (CIO) for approval, in accordance with established Center processes. Agency desktop services are Government-provided.

(b) The Contractor may utilize other Government-Wide Acquisition Contracts (GWACs) for acquisition of IT-related items in accordance with FAR Part 51 and NASA FAR Supplement Part 1851. For items authorized to be purchased outside of the Agency desktop services contract, the Contractor has the authority to purchase hardware, software, and maintenance agreements under NASA's Solutions for Enterprise-Wide Procurement (SEWP) contracts. These items shall be titled to the Government unless otherwise directed by the CO. The SEWP catalog can be accessed on the World Wide Web at http://www.sewp.nasa.gov.

(1) All restricted commercial computer software procured by the Contractor pursuant to this clause shall be delivered to the Government with restricted rights as provided under FAR 52.227-19(c)(2), Commercial Computer Software License.

(c) The Contractor shall not be restricted by this clause when purchasing other component parts (e.g., cable, connectors, hubs, switches, racks, servers) necessary to provide the services under this contract.

(End of clause)

H.32 INFORMATION MANAGEMENT TOOL

The Contractor shall provide the Government with access to any information management tool(s) used in the performance of the TEST Contract NNJ11HA02C to the Government at no direct licensing cost. If applicable, Jacobs Enterprise Management System (JEMS), Task Order System Report (TOSR), Overtime Report, and Staffing estimate tools shall be delivered to the Government with limited rights in accordance with Alternate III of FAR 52.227-14, Rights in Data General Clause.

(End of clause)

H.33 ASSIGNMENT OF LICENSE/MAINTENANCE AGREEMENTS

The Contractor shall ensure that all license/maintenance agreements entered into in support of this contract shall contain the following flow down clause to ensure the assignment of all license/maintenance agreements to the GOVERNMENT and/or third-party Contractor at the end of the contract period of performance.

"Seller hereby agrees to permit assignment of this license/maintenance agreement, and all rights thereof to NASA/White Sands Test Facility, or to another party that may be selected and assigned at the sole discretion of the GOVERNMENT."

(End of clause)

H.34 PERMITS AND RESPONSIBILITIES FOR WORK

The Contractor shall, without additional expenses to the Government, obtain all licenses and permits required for the performance of the work. The Contractor shall be responsible for all damages to persons or property that occurs as a result of the person's fault or negligence in connection with the performance of the work.

(End of clause)

H.35 MOTOR VEHICLE OPERATION ON SITE

Specific guidance and regulations pertaining to motor vehicle operation onsite is provided under WSTF Standard Procedure (WSP) 24.0002.F- Vehicle Control, Traffic Regulations, and Parking.

(End of clause)

H.36 SMALL DISADVANTAGED BUSINESS PARTICIPATION – CONTRACT TARGETS

(a) FAR 19.1202-4(a), Small Disadvantaged Business Participation Program Procedures, requires that SDB subcontracting targets be incorporated in the Contract. Targets for this contract are as follows:

*NAICS Industry Subsectors	Dollar Target	Percent of Contract Value
541710	$20,347,034	10%
Total		
*North American Industry Classification System (NAICS) Industry Subsectors as determined by the Department of Commerce as being underrepresented in		

accordance with FAR 19.201(b)

(b) FAR 19.1202-4(b), Small Disadvantaged Business Participation Program Procedures, requires that SDB concerns that are specifically identified by the Offeror be listed in the contract when the identification of such subcontractors was evaluated as part of the subfactor on Small Business Utilization. SDB concerns (subcontractors) specifically identified by the Offeror are as follows:

Name of Concern(s): GeoControl Systems

The Contractor shall notify the Contracting Officer of any substitutions of the firms listed if the replacement Contractor is not an SDB concern.

(c) If the prime Offeror is an SDB the target for the work it intends to perform as the prime Contractor is as follows:

*NAICS Industry Subsectors	Dollar Target	Percent of Contract Value
	N/A	

(End of clause)

H.37 RESERVED

H.38 GOVERNMENT SURVEILLANCE

In order for NASA to perform its role in the provision of highly reliable range services and assure that all reasonable steps have been taken to ensure the highest practical probability of safety and mission success, NASA must be provided an adequate level of surveillance into the Contractor's efforts on elements outlined in the Statement of Work.

Government surveillance team members shall have open access, on a non-interference basis, to all areas in which range services is being performed and will interface directly with their Contractor counterparts. They will participate as technical consultants and provide assistance as agreed to at working group meetings, Integrated Product Team meetings, design/development and specification reviews, configuration control board meetings, surveys, audits and program reviews. All team members shall document problems, concerns and issues, and where applicable, collect data and metrics. Contractor surveillance information shall flow from individual team members through their project segment managers to respective surveillance leads. Selected surveillance issues will then be presented to Government surveillance leads (Government

Surveillance Leads may be identified as part of the Government's internal surveillance plan and/or procedures). Information gained from these formal and informal exchanges of ideas and collection of data will be compiled and evaluated as a continuous measure of contract performance.

The Contractor shall define the process that will be used to acknowledge and be responsive to NASA inquires, requests, and recommendations within the scope of contract requirements.

Individuals providing Government surveillance do not have the authority to, and shall not, offer any recommendations that:

- Constitutes an assignment of additional work outside the Statement of Work;
- Constitutes a change as defined in the changes clause;
- Cause increase or decrease of the total price, or the time required for contract performance;
- Changes any of the expressed terms, conditions, or specifications of the contract; or
- Interferes with the Contractor's rights to perform the terms and conditions of the contract.

Any action(s) taken by the Contractor in response to any Government surveillance recommendation shall be at the Contractor's risk.

(End of clause)

H.39 CONTRACTOR PROCUREMENT PRACTICES AND PROCEDURES

In accordance with SOW section 2.2.2 Purchasing and task order 1TABPRO – Business Processes, the Contractor shall develop, implement, and maintain formal policies, practices, and procedures used in the award of subcontracts consistent with this clause, the Contract, and the Federal Acquisition Regulations (FAR). Where specific requirements do not otherwise apply, the Contractor purchasing system or process shall provide for appropriate measures to:

- Procure quality products and services at fair and reasonable prices using effective competitive techniques
- Minimize acquisition lead-time and administrative cost of purchasing
- Reduce performance risks associated with subcontractors
- Use self-assessment and benchmarking techniques to support continuous improvement in purchasing
- Ability and availability to participate in and support internal and external audits as required
- Ensure that all applicable contracting mechanisms and subcontracts contain all flow down clauses, including terms and conditions and any other clauses necessary to carry out the requirements of the prime contract

- Maintain an organization plan or process that establishes clear lines of authority and responsibility
- Purchase orders or contracts and all other contracting mechanisms are based on authorized requisitions and include complete history files and are closed-out in a timely manner
- Establish and maintain adequate documentation to provide a complete and accurate history of purchase transactions to support vendors selected and prices paid
- Use competitive sourcing to the maximum extent practicable and ensure debarred or suspended contractors are properly excluded from contract award
- Timely payment and tracking of invoices and closeout procedures
- Evaluate price, quality, delivery, technical capabilities and financial capabilities of competing vendors
- Require appropriate justification for any sole or single source award
- Perform appropriate cost or price analysis and technical evaluation for each subcontractor and supplier proposal or quote
- For purchases over $100,000, utilize as guidance, FAR 15.406-3 Documenting the Negotiation
- Seek, take and document appropriate purchase discounts
- Ensure proper type of contract selection and prohibit issuance of cost-plus-percentage-of-cost subcontracts
- Maintain subcontract surveillance to ensure timely delivery of an acceptable product and procedures to notify the Government of potential subcontract problems that may impact delivery, quantity, or price.
- Document and justify reasons for subcontract changes that affect cost or price.
- Notify the Government of the award of an auditable subcontract and perform adequate audits of those subcontracts.
- Enforce adequate policies on conflict of interest, gifts, and gratuities, including the requirements of the Anti-Kickback Act of 1986 (41 U.S.C. 51-58)

The Government reserves the right at any time to require that the Contractor submit for review and/or approval any or all purchases made in the performance of this contract. The Government may conduct periodic reviews and assessments of the contractor's management and performance of all facets of the purchasing function, including the contractor's compliance with NASA's requirements and contractual obligations, its approved system, policies and methods. The Government may periodically request a copy of the Contractor's self-assessment and benchmarking techniques used to support continuous improvements in purchasing.

(End of clause)

H.40 ADDITIONAL EXPORT CONTROL REQUIREMENTS

In addition to the requirements set forth in NFS 1852.225-70 EXPORT LICENSES and NPR 2190.1 NASA Export Control Program, the contractor shall perform the following tasks when they facilitate exports of NASA hardware, software or technical data according to the Export Administration Regulations, International Traffic in Arms Regulations or any other U.S. export control regulations (e.g. Nuclear Regulatory Commission, Drug Enforcement Agency etc.) pursuant to this contract:

1. Provide to the Johnson Space Center (JSC) Export Services Team (EST), in writing, an "Advanced Notification of Export" (ANE) for all program related exports (hardware, software and technical data) where NASA is considered the "U.S. Principal Party in Interest" (USPPI)". The requirements below shall be met by the contractor and its subcontractors, respectively, when accomplishing the following activities:

   a. Submitting requests for NASA to apply for an export license with the Department of Commerce or Department of State for use under the contract activity in support of the International Space Station Program.

   b. Submitting notice of the contractor's intent to use Department of Commerce or Department of State export licenses obtained by NASA as they apply to the contract activity in support of the International Space Station Program.

   c. Submitting notice of the contractor's intent to use any export license exceptions or exemptions as they apply to the contract activity in support of the International Space Station Program.

2. For all program related exports (hardware, software or technical data), submit the equivalent information described below to the Center Export Administrator (CEA) at the geographically closest NASA Space Flight Center (JSC, Marshall Space Flight Center (MSFC) or Kennedy Space Center (KSC)) according to the policies and procedures of that center (check with the cognizant Contracting Officer or CEA). A courtesy copy of equivalent information submitted to MSFC or KSC shall be provided to the JSC CEA's office. Provide copies of shipping documents for shipments made under a NASA Export License, exemption or exception to the appropriate CEA within two weeks after the shipment.

a. The contractor shall submit requests for NASA to apply for a license at least 7 months prior to the need date to export. Note that the agencies which approve the licenses can take up to 6 months or more to process them.
b. The contractor shall submit an ANE in a formal letter, fax or e-mail (e-mail is preferred), containing the information described below (as applicable), addressed to the CEA's Office in accordance with the submission schedule below. The schedule provides a minimum amount of time required to process the information, however license requests may take longer than 6 months to process by the controlling agency.

Required Information	**License Application**	**Use of License**	**Use Exemption/Exception**
Submission Schedule	7 months prior to need date	At least 30 days prior to planned export date	At least 30 days prior to planned export date
Description of Commodity (as it appears on the license)	X	X	X
Specific End Use	X		X
1) NASA license number (include date of expiration), International Traffic in Arms Regulation (ITAR) license exemption (e.g. 125.4(b)(3)) or Export Administration Regulation (EAR) exception (e.g. GOV, RPL, TMP, ENC, etc.). *		X	X
2) Quantity and description as it appears on the applicable license.	X	X	X
3) Date of planned export	X	X	X
4) Origin of export (Company and city).	X	X	X

5) Intermediate and Ultimate Consignees, End User (full name and address), and Destination of export (Country, city and company).	X		
6) Point of contact with current phone number and e-mail address (for technical questions – must be a representative of the contractor originating the export).	X	X	X
7) Contractor Point of contact, current e-mail address and phone number for CEA's use to send response	X	X	X
8) Export Classification Control Number (ECCN) under the Export Administration Regulations or category under the United Sates Munitions List regulations	X		X
9) The technical rationale used to support the classification	X		X
10) Requirement to export (i.e., MOU, contract number, meeting minutes). Upon request by the CEA or CO, the contractor shall provide a copy of the requirement within 3 working days	X		X

11) Additional information as necessary to clarify the export	X	X	X
12) A copy of the completed Pro Forma Invoice (JSC Form 1735) or equivalent form/ document attached to an email if prepared for the export	X	X	X
13) A copy of the completed electronically signed JSC Form 1724 (Export Control Request and Approval Worksheet) or equivalent form	X Signed by Civil Servant - Export Rep	X Copy of Signed form	X Signed by Civil Servant - Export Rep
NASA Point of Contact	X		X
Specific End Use	X	X	X

* Additional information is required for these exceptions.

i. If using RPL, provide the license number, or copy of records confirming export authorization for the item being replaced.

ii. If using ENC, provide reference to the manufacturer's record verifying eligibility for ENC (e.g. full internet address (URL), e-mail from manufacturer or copy of Commerce Department communication to manufacturer.

iii. If using TMP, provide the expected return date.) **

c. After all the information is submitted, the cognizant CEA's office will respond to the contractor or its subcontractor with a status within ten (10) working days. It is the CEA's goal to provide a notice of approval or other disposition within 10 working days for "Use of License" and "Use of Exemption/Exception" to the contractor or its subcontractors who are exporting on behalf of NASA. Once approved, NASA will provide the destination control statement to use on all export documentation via e-mail or hardcopy letter.

3. In addition to other applicable export exemptions, the contractor or its subcontractors are authorized to export hardware, software or data to ISS

International Partner (IP) governmental offices that meet the conditions of license exception GOV (15 CFR 740.11(b)(2)(iii)(A)).

4. ** For temporary exports (TMP), the contractor or its subcontractors shipping on behalf of NASA shall submit written notice to the CEA and CO within five (5) business days of the date that the item was actually returned, along with the incoming documentation.

5. The contractor or its subcontractors shall keep those records required by Department of Commerce and Department of State regulations for all exports and make them available upon request to NASA and its representatives.

6. These requirements do not apply to contractor or subcontractor commercial contract related exports or exports pursuant to Technical Assistance Agreements or other license authorizations received by the contractor or its subcontractors and for which the contractor or its subcontractors will be the USPPI . and/or "exporter of record".

7. These requirements do not apply to exports for which there is "No License Required" (e.g. EAR99, 9A004 to Canadian International Partners on ISS, etc.)

8. The contractor and its subcontractors shall report to the NASA JSC EST, in writing, any potential export issues (including those related to support of sustaining engineering and operations of ISS) that cannot be resolved by the contractor or its subcontractors, respectively. Such report and/or notification of issues and technical tasks should be reported to the NASA JSC EST at least three (3) months in advance of requested action.

9. Upon discovery of unforeseen adverse export issues, the contractor shall immediately notify NASA JSC EST by telephone with a follow up e-mail or hardcopy letter of said issue and shall report to the NASA JSC EST, in writing, as the facts become known.

10. This clause applies when the contractor or its subcontractors elect to export NASA owned Government Furnished Equipment and Property (GFE, GFP) (including data, software or hardware). In such instances, the contractor or its subcontractors are the USPPI. They shall provide verifiable evidence that a valid export license, exemption or exception has been processed and approved (as applicable). They shall also provide this information for additional property that is not GFE or GFP that the contractor or its subcontractors elect to include with the GFE and GFP.

(End of clause)

[END OF SECTION]

SECTION I – CONTRACT CLAUSES

I.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

Clause(s) at the beginning of this Section are incorporated 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 following contract clauses pertinent to this section are hereby incorporated by reference:

*Indicates Firm-Fixed-Price Clause
**Indicates Cost Reimbursement Clause
No asterisk indicates the clause applies to both Firm-Fixed-Price and Cost Reimbursement

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

Clause Number	Date	Title
52.202-1	JUL 2004	DEFINITIONS
52.203-3	APR 1984	GRATUITIES
52.203-5	APR 1984	COVENANT AGAINST CONTINGENT FEES
52.203-6	SEP 2006	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	JUL 1995	ANTI-KICKBACK PROCEDURES
52.203-8	JAN 1997	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	JAN 1997	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	SEP 2007	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS

52.203-13	DEC 2008	CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT
52.203-14	DEC 2007	DISPLAY OF HOTLINE POSTER(S)
52.204-2	AUG 1996	SECURITY REQUIREMENTS
52.204-4	AUG 2000	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER
52.204-7	APR 2008	CENTRAL CONTRACTOR REGISTRATION
52.204-9	SEP 2007	PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL
52.204-10	JUL 2010	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS
52.208-9	OCT 2008	CONTRACTOR USE OF MANDATORY SOURCES OF SUPPLY OR SERVICES
52.209-6	SEP 2006	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
52.211-5	AUG 2000	MATERIAL REQUIREMENTS
52.211-10*	APR 1984	COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK
52.211-15	APR 2008	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS
52.215-2	MAR 2009	AUDIT AND RECORDS- NEGOTIATION
52.215-8	OCT 1997	ORDER OF PRECEDENCE – UNIFORM CONTRACT FORMAT
52.215-10	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA
52.215-11	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA –MODIFICATIONS
52.215-12	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA

52.215-13	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA – MODIFICATIONS
52.215-14	OCT 1997	INTEGRITY OF UNIT PRICES
52.215-15	OCT 2004	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-17	OCT 1997	WAIVER OF FACILITIES CAPITAL COST OF MONEY
52.215-18	JUL 2005	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS
52.215-21	OCT 1997	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA – MODIFICATIONS
52.215-23	OCT 2009	LIMITATIONS ON PASS-THROUGH CHARGES
52.216-7**	DEC 2002	ALLOWABLE COST AND PAYMENT
52.216-18	OCT 1995	ORDERING (a) Any supplies or services to be furnished under this contract shall be ordered by issuance of delivery or task orders or activities identified in the Statement of Work (SOW). Such orders may be issued within the time frame specified in Clause F.5, "Completion of Work".
52.216-22	OCT 1995	INDEFINITE QUANTITY (d) See clause F.4 Place and Period of Performance
52.217-8	NOV 1999	OPTION TO EXTEND SERVICES The Contracting Officer may exercise the option by written notice to the Contractor within 60 calendar days prior to the Option start date.
52.217-9	MAR 2000	OPTION TO EXTEND THE TERM OF THE CONTRACT (a) The Government may extend the term of this contract by written notice to the Contractor no later than 30 calendar days prior to the Option start date, provided that the Government gives the Contractor a preliminary written notice of its intent to extend at

		least 60 calendar days before the contract expires. The preliminary notice does not commit the Government to an extension. (c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 5 years.
52.219-4	JUL 2005	NOTICE OF PRICE EVALUATION PREFERENCE FOR HUB ZONE SMALL BUSINESS CONCERNS
52.219-8	MAY 2004	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-9	APR 2008	SMALL BUSINESS SUBCONTRACTING PLAN; (ALTERNATE II) (OCT 2001)
52.219-16	JAN 1999	LIQUIDATED DAMAGES – SUBCONTRACTING PLAN
52.219-25	APR 2008	SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM – DISADVANTAGED STATUS AND REPORTING
52.219-28	APR 2009	POST-AWARD SMALL BUSINESS PROGRAM REPRESENTATION
52.222-1	FEB 1997	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES
52.222-2**	JUL 1990	PAYMENT FOR OVERTIME PREMIUMS (a) The use of overtime is authorized under this contract if the overtime premium does not exceed **TBD**, or the overtime premium is paid for work defined within sections (a)(1) through (a)(4) of this clause.
52.222-3	JUN 2003	CONVICT LABOR
52.222-4	JUL 2005	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION
52.222-6	JUL 2005	DAVIS-BACON ACT
52.222-7	FEB 1988	WITHHOLDING OF FUNDS
52.222-8	FEB 1988	PAYROLLS AND BASIC RECORDS (DEVIATION)
52.222-9	JUL 2005	APPRENTICES AND TRAINEES

52.222-10	FEB 1988	COMPLIANCE WITH COPELAND ACT REQUIREMENTS
52.222-11	JUL 2005	SUBCONTRACTS (LABOR STANDARDS)
52.222-12	FEB 1988	CONTRACT TERMINATION – DEBARMENT
52.222-13	FEB 1988	COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS
52.222-14	FEB 1988	DISPUTES CONCERNING LABOR STANDARDS
52.222-15	FEB 1988	CERTIFICATION OF ELIGIBILITY
52.222-16**	FEB 1988	APPROVAL OF WAGE RATES
52.222-19	AUG 2009	CHILD LABOR - COOPERATION WITH AUTHORITIES AND REMEDIES
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	MAR 2007	EQUAL OPPORTUNITY
52.222-27	FEB 1999	AFFIRMATIVE ACTION COMPLIANCE REQUIREMENT FOR CONSTRUCTION
52.222-29	JUN 2003	NOTIFICATION OF VISA DENIAL
52.222-35	SEP 2006	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-36	JUN 1998	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES
52.222-37	SEP 2006	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-41	NOV 2007	SERVICE CONTRACT ACT OF 1965
52.222-43*	SEP 2009	FAIR LABOR STANDARDS ACT AND SERVICE CONTRACT ACT – PRICE ADJUSTMENT (MULTIPLE YEAR AND OPTION CONTRACTS)
52.222-50	FEB 2009	COMBATING TRAFFICKING IN PERSONS

52.222-51	NOV 2007	EXEMPTION FROM APPLICATION OF SERVICE CONTRACT ACT TO CONTRACTS FOR MAINTENANCE, CALIBRATION, OR REPAIR OF CERTAIN EQUIPMENT – REQUIREMENTS
52.222-53	FEB 2009	EXEMPTION FROM APPLICATION OF SERVICE CONTRACT ACT TO CONTRACTS FOR CERTAIN SERVICES - REQUIREMENTS
52.222-54	SEP 2009	EMPLOYMENT ELIGIBILITY VERIFICATION
52.223-2	DEC 2007	AFFIRMATIVE PROCUREMENT OF BIO-BASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS
52.223-3	JAN 1997	HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA; (ALTERNATE I) (JUL 1995)
52.223-5	AUG 2003	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION; (ALTERNATE I) (AUG 2003) (ALTERNATE II) (AUG 2003)
52.223-6	MAY 2001	DRUG-FREE WORKPLACE
52.223-10	AUG 2000	WASTE REDUCTION PROGRAM
52.223-12	MAY 1995	REFRIGERATION EQUIPMENT AND AIR CONDITIONERS
52.223-14	AUG 2003	TOXIC CHEMICAL RELEASE REPORTING
52.223-15	DEC 2007	ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS
52.223-17	MAY 2008	AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS
52.224-1	APR 1984	PRIVACY ACT NOTIFICATION
52.224-2	APR 1984	PRIVACY ACT
52.225-1	FEB 2009	BUY AMERICAN ACT - SUPPLIES

52.225-13	JUN 2008	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
52.227-1	DEC 2007	AUTHORIZATION AND CONSENT
52.227-2	DEC 2007	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-4	DEC 2007	PATENT INDEMNITY – CONSTRUCTION CONTRACTS
52.227-11	DEC 2007	PATENT RIGHTS – OWNERSHIP BY THE CONTRACTOR
52.227-14	DEC 2007	RIGHTS IN DATA – GENERAL; (ALTERNATE III) (DEC 2007)
52.227-16	JUN 1987	ADDITIONAL DATA REQUIREMENTS
52.228-2	OCT 1997	ADDITIONAL BOND SECURITY
52.228-5*	JAN 1997	INSURANCE – WORK ON A GOVERNMENT INSTALLATION
52.228-7**	MAR 1996	INSURANCE – LIABILITY TO THIRD PERSONS
52.228-11	SEP 2009	PLEDGES OF ASSETS
52.228-14	DEC 1999	IRREVOCABLE LETTER OF CREDIT
52.228-15	NOV 2006	PERFORMANCE AND PAYMENT OF BONDS-CONSTRUCTION
52.229-3*	APR 2003	FEDERAL, STATE, AND LOCAL TAXES
52.229-10**	APR 2003	STATE OF NEW MEXICO GROSS RECEIPTS AND COMPENSATING TAX
52.230-2	OCT 2008	COST ACCOUNTING STANDARDS
52.230-6	MAR 2008	ADMINISTRATION OF COST ACCOUNTING STANDARDS
52.232-1*	APR 1984	PAYMENTS
52.232-5*	SEP 2002	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS

52.232-9	APR 1984	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-11*	APR 1984	EXTRAS
52.232-17	OCT 2008	INTEREST
52.232-18	APR 1984	AVAILABILITY OF FUNDS
52.232-19	APR 1984	AVAILABILITY OF FUNDS FOR THE NEXT FISCAL YEAR
52.232-22**	APR 1984	LIMITATION OF FUNDS
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	OCT 2008	PROMPT PAYMENT; (ALTERNATE I) (FEB 2002)
52.232-27	OCT 2008	PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS
52.232-33	OCT 2003	PAYMENT BY ELECTRONIC FUNDS TRANSFER – OTHER THAN CENTRAL CONTRACTOR REGISTRATION
52.233-1	JUL 2002	DISPUTES; (ALTERNATE I) (DEC 1991)
52.233-3**	AUG 1996	PROTEST AFTER AWARD; (ALTERNATE I) (JUN 1985)
52.233-4	OCT 2004	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM
52.236-3*	APR 1984	SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK
52.236-5	APR 1984	MATERIAL AND WORKMANSHIP
52.236-6*	APR 1984	SUPERINTENDENCE BY THE CONTRACTOR
52.236-7	NOV 1991	PERMITS AND RESPONSIBILITIES
52.236-8*	APR 1984	OTHER CONTRACTS
52.236-9*	APR 1984	PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

52.236-12*	APR 1984	CLEAN UP
52.236-14*	APR 1984	AVAILABILITY AND USE OF UTILITY SERVICES
52.236-15*	APR 1984	SCHEDULES FOR CONSTRUCTION CONTRACTS
52.236-18**	APR 1984	WORK OVERSIGHT IN COST-REIMBURSEMENT CONSTRUCTION CONTRACTS
52.236-19**	APR 1984	ORGANIZATION AND DIRECTION OF THE WORK
52.236-21*	FEB 1997	SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (ALTERNATE I)
52.236-26**	FEB 1995	PRECONSTRUCTION CONFERENCE
52.237-2	AUG 1984	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION
52.237-3	JAN 1991	CONTINUITY OF SERVICES
52.239-1	AUG 1996	PRIVACY OR SECURITY
52.242-1**	AUG 1984	NOTICE OF INTENT TO DISALLOW COSTS
52.242-3**	MAY 2001	PENALTIES FOR UNALLOWABLE COSTS
52.242-4**	JAN 1997	CERTIFICATION OF FINAL INDIRECT COSTS
52.242-13	JUL 1995	BANKRUPTCY
52.242-14*	APR 1984	SUSPENSION OF WORK
52.243-1*	AUG 1987	CHANGES – FIXED PRICE; (ALTERNATE II) (APR 1984)
52.243-2**	AUG 1987	CHANGES – COST REIMBURSEMENT; (ALTERNATE II) (APR 1984); (ALTERNATE III) (APR 1984), (ALTERNATE V) (APR 1984)
52.243-4*	JUN 2007	CHANGES
52.243-6	APR 1984	CHANGE ORDER ACCOUNTING
52.244-2**	JUN 2007	SUBCONTRACTS

52.244-5	DEC 1996	COMPETITION IN SUBCONTRACTING
52.244-6	AUG 2009	SUBCONTRACTS FOR COMMERCIAL ITEMS (ALTERNATE I) (JUN 2010)
52.245-1	JUN 2007	GOVERNMENT PROPERTY
52.245-9	JUN 2007	USE & CHARGES
52.246-21*	MAR 1994	WARRANTY OF CONSTRUCTION
52.246-24	FEB 1997	LIMITATION OF LIABILITY – HIGH VALUE ITEMS
52.246-25	FEB 1997	LIMITATION OF LIABILITY – SERVICES
52.247-1	FEB 2006	COMMERCIAL BILL OF LADING NOTATIONS
52.247-14	APR 1984	CONTRACTOR RESPONSIBILITY FOR RECEIPT OF SHIPMENT
52.247-15	APR 1984	CONTRACTOR RESPONSIBILITY FOR LOADING AND UNLOADING
52.247-21	APR 1984	CONTRACTOR LIABILITY FOR PERSONAL INJURY AND/OR PROPERTY DAMAGE
52.247-63	JUN 2003	PREFERENCE FOR U.S. FLAG AIR CARRIERS
52.247-64	FEB 2006	PREFERENCE FOR PRIVATELY OWNED U.S. FLAG COMMERCIAL VESSELS
52.248-1	FEB 2000	VALUE ENGINEERING
52.248-3	SEP 2006	VALUE ENGINEERING – CONSTRUCTION
52.249-2*	MAY 2004	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE); (ALTERNATE I) (SEP 1996)
52.249-3	MAY 2004	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (DISMANTLING, DEMOLITION, OR REMOVAL OF IMPROVEMENTS
52.249-4*	APR 1984	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (SERVICES) (SHORT FORM)

52.249-6**	MAY 2004	TERMINATION (COST-REIMBURSEMENT); (ALTERNATE I) (SEP 1996)
52.249-8*	APR 1984	DEFAULT (FIXED-PRICE SUPPLY AND SERVICE)
52.249-10*	APR 2004	DEFAULT (FIXED-PRICE CONSTRUCTION)
52.249-14**	APR 1984	EXCUSABLE DELAYS
52.251-1	APR 1984	GOVERNMENT SUPPLY SOURCES
52.251-2**	JAN 1991	INTERAGENCY FLEET MANAGEMENT SYSTEM VEHICLES AND RELATED SERVICES
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) PROVISIONS

CLAUSE NUMBER	DATE	TITLE
1852.203-70	JUN 2001	DISPLAY OF INSPECTOR GENERAL HOTLINE POSTERS
1852.216-89**	JUL 1997	ASSIGNMENT AND RELEASE FORMS
1852.219-74	SEP 1990	USE OF RURAL AREA SMALL BUSINESS
1852.219-75	MAY 1999	SMALL BUSINESS SUBCONTRACTING REPORTING
1852.219-77	MAY 2009	NASA MENTOR PROTÉGÉ PROGAM
1852.223-74	MAR 1996	DRUG AND ALCOHOL-FREE WORKPLACE
1852.227-14	DEC 2007	RIGHTS IN DATA - GENERAL
1852.228-75	OCT 1988	MINIMUM INSURANCE COVERAGE
1852.235-70	DEC 2006	CENTER FOR AEROSPACE INFORMATION
1852.237-70	DEC 1988	EMERGENCY EVACUATION PROCEDURES
1852.243-71	MAR 1997	SHARED SAVING

(End of Clauses Incorporated by Reference)

I.2 APPROVAL OF CONTRACT (FAR 52.204-1) (DEC 1989)

This contract is subject to the written approval of the JSC Procurement Officer and shall not be binding until so approved.

(End of clause)

I.3 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (FAR 52.204-9) (SEP 2007)

(a) The Contractor shall comply with agency personal identity verification procedures identified in the contract that implement Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24, and Federal Information Processing Standards Publication (FIPS PUB) Number 201.

(b) The Contractor shall insert this clause in all subcontracts when the subcontractor is required to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system.

(End of clause)

I.4 REQUIRED SOURCES FOR HELIUM AND HELIUM USAGE DATA (FAR 52.208-8)(APR 2002)

(a) *Definitions.*

"Bureau of Land Management," as used in this clause, means the Department of the Interior, Bureau of Land Management, Amarillo Field Office, Helium Operations, located at 801 South Fillmore Street, Suite 500, Amarillo, TX 79101-3545.

"Federal helium supplier" means a private helium vendor that has an in-kind crude helium sales contract with the Bureau of Land Management (BLM) and that is on the BLM Amarillo Field Office's Authorized List of Federal Helium Suppliers available via the Internet at http://www.nm.blm.gov/www/amfo/amfo_home.html.

"Major helium requirement" means an estimated refined helium requirement greater than 200,000 standard cubic feet (scf) (measured at 14.7 pounds per square inch absolute pressure and 70 degrees Fahrenheit temperature) of gaseous helium or 7510 liters of liquid helium delivered to a helium use location per year.

(b) Requirements—

(1) Contractors must purchase major helium requirements from Federal helium suppliers, to the extent that supplies are available.

(2) The Contractor shall provide to the Contracting Officer the following data within 10 days after the Contractor or subcontractor receives a delivery of helium from a Federal helium supplier—

(i) The name of the supplier;

(ii) The amount of helium purchased;

(iii) The delivery date(s); and

(iv) The location where the helium was used.

(c) *Subcontracts*. The Contractor shall insert this clause, including this paragraph (c), in any subcontract or order that involves a major helium requirement.

(End of clause)

I.5 ORDER LIMITATIONS (FAR 52.216-19) (OCT 1995)

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

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

(1) Any order for a single item in excess of the NTE amount established in B.8, Minimum/Maximum IDIQ Potential Contract Value of this Contract;

(2) Any order for a combination of items in excess of the NTE amount established in B.6, Contract Funding of this contract; or

(3) A series of orders from the same ordering office within 5 calendar days that together call for deliveries exceeding the NTE amount established in B.8, Minimum/Maximum IDIQ Potential Contract Value of this Contract of this contract.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within **5 calendar days** after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

I.6 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (FAR 52.222-42) (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332. This statement can be found in Attachment J.3, and is for informational purposes only, and should not be considered as a wage determination.

(End of clause)

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

(a) The Contractor shall notify the Contracting Officer or designee, in writing, 5 days prior to the delivery of, or prior to completion of any servicing required by this contract of, items containing either (1) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in Title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (2) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. Such notice shall specify the part or parts of the items which contain radioactive materials, a description of the materials, the name and activity of the isotope, the manufacturer of the materials, and any other information known to the Contractor which will put users of the items on notice as to the hazards involved (OMB No. 9000-0107).

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

(1) Be submitted in writing;

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

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

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

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

(End of clause)

I.8 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED PRODUCTS (FAR 52.223-9) (MAY 2008)

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

"Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material."

"Recovered material" means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material content; and

(2) Submit this estimate to the WSTF Environmental Program Manager.

(End of clause)

I.9 OZONE-DEPLETING SUBSTANCES (FAR 52.223-11) (MAY 2001)

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

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

(2) Class II, including, but not limited to, hydrochlorofluorocarbons.

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

Warning

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

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

(End of clause)

I.10 BUY AMERICAN ACT—CONSTRUCTION MATERIALS(FAR 52.225-9)(Feb 2009)

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

"Commercially available off-the-shelf (COTS) item"—

(1) Means any item of supply (including construction material) that is—

(i) A commercial item (as defined in paragraph (1) of the definition at FAR 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in section 3 of the Shipping Act of 1984 (46 U.S.C. App. 1702), such as agricultural products and petroleum products.

"Component" means an article, material, or supply incorporated directly into a construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

"Cost of components" means—

(3) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(4) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

"Domestic construction material" means—

(1) An unmanufactured construction material mined or produced in the United States;

(2) A construction material manufactured in the United States, if—

(i) The cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic; or

(ii) The construction material is a COTS item.

"Foreign construction material" means a construction material other than a domestic construction material.

"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements the Buy American Act (41 U.S.C. 10a - 10d) by providing a preference for domestic construction material. In accordance with 41 U.S.C. 431, the component test of the Buy American Act is waived for construction material that is a COTS item (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b) (2) and (b) (3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows:

NONE

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b) (2) of this clause if the Government determines that—

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b) (3) of this clause shall include adequate information for Government evaluation of the request, including—

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b) (3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) *Data*. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON

Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:			
Foreign construction material	_____	_____	_____
Domestic construction material	_____	_____	_____
Item 2:	_____	_____	_____
Foreign construction material	_____	_____	_____
Domestic construction material			

[*List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.*]
[*Include other applicable supporting information.*]
[* *Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).*]

(End of clause)

I.11 SUBMISSION OF TRANSPORTATION DOCUMENTS FOR AUDIT (FAR 52.247-67) (FEB 2006)

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

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

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

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

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

WSTF Transportation Officer/RC

(End of clause)

I.12 CLAUSES INCORPORATED BY REFERENCE (FAR 52.252-2) (FEB 1998)

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

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

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

(End of clause)

I.13 SECURITY CLASSIFICATION REQUIREMENTS (NFS 1852.204-75) (SEP 1989)

Performance under this contract will involve access to and/or generation of classified information, work in a security area, or both, up to the level of SECRET. See FAR clause 52.204-2 (Security Requirements) in this contract and DD Form 254, Contract Security Classification Specification, Attachment J.6.

(End of clause)

I.14 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES (NFS 1852.204-76) (OCT 2009)

(a) The Contractor shall protect the confidentiality, integrity, and availability of NASA Electronic Information and IT resources and protect NASA Electronic Information from unauthorized disclosure.

(b) This clause is applicable to all NASA Contractors and subcontractors that process, manage, access, or store unclassified electronic information, to include Sensitive But Unclassified (SBU) information, for NASA in support of NASA's missions, programs, projects and/or institutional requirements. Applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL) provided as an attachment to the contract. The documents listed in the ADL can be found at: www.nasa.gov/offices/ocio/itsecurity/index.html. For policy information considered sensitive, the documents will be identified as such in the ADL and made available through the Contracting Officer.

(c) Definitions

(1) IT resources means any hardware or software or interconnected system or subsystem of equipment, that is used to process, manage, access, or store electronic information.

(2) NASA Electronic Information is any data (as defined in the Rights in Data clause of this contract) or information (including information incidental to contract administration, such as financial, administrative, cost or pricing, or management information) that is processed, managed, accessed or stored on an IT system(s) in the performance of a NASA contract.

(3) IT Security Management Plan -- This plan shall describe the processes and procedures that will be followed to ensure appropriate security of IT resources that are developed, processed, or used under this contract.

(4) IT Security Plan – this is a FISMA requirement; see the ADL for applicable requirements.

Within 30 days after contract award, the Contractor shall develop and deliver an IT Security Management Plan. The delivery address and approval authority will be included in the ADL.

All Contractor personnel requiring physical or logical access to NASA IT resources must complete NASA's annual IT Security Awareness training. Refer to the IT Training policy located in the IT Security website at https://itsecurity.nasa.gov/policies/index.html.

(d) The Contractor shall afford Government access to the Contractor's and subcontractors' facilities, installations, operations, documentation, databases, and personnel used in performance of the contract. Access shall be provided to the extent required to carry out a program of IT inspection (to include vulnerability testing), investigation and audit to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA Electronic Information or to the function of IT systems operated on behalf of NASA, and to preserve evidence of computer crime.

(e) At the completion of the contract, the Contractor shall return all NASA information and IT resources provided to the Contractor during the performance of the contract in accordance with retention documentation available in the ADL. The Contractor shall provide a listing of all NASA Electronic information and IT resources generated in performance of the contract. At that time, the Contractor shall request disposition instructions from the Contracting Officer. The Contracting Officer will provide disposition instructions within 30 calendar days of the Contractor's request.

(f) The Contracting Officer may waive specific requirements of this clause upon request of the Contractor. The Contractor shall provide all relevant

information requested by the Contracting Officer to support the waiver request.

The Contractor shall insert this clause, including this paragraph in all subcontracts that process, manage, access or store NASA Electronic Information in support of the mission of the Agency.

(End of clause)

I.15 OMBUDSMAN (NFS 1852.215-84) (OCT 2003) (ALTERNATE I) (JUN 2000)

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

(b) If resolution cannot be made by the contracting officer, interested parties may contact the installation ombudsman,

Melanie W. Saunders
2101 NASA Parkway
Houston, TX 77058
melanie.saunders-1@nasa.gov
phone: 281.483.0490 fax: 281-483-2200

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

(End of clause)

I.16 NASA 8 PERCENT GOAL (NFS 1852.219-76) (JUL 1997)

(a) Definitions.

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

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

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

"Women-owned small business concern," as used in this clause, means a small business concern (1) which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and (2) whose management and daily business operations are controlled by one or more women.

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

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

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

(End of clause)

I.17 ACCESS TO SENSITIVE INFORMATION (NFS 1852.237-72)(JUN 2005)

(a) As used in this clause, ``sensitive information'' refers to information that a Contractor has developed at private expense, or that the Government has generated that qualifies for an exception to the Freedom of Information Act, which is not currently in the public domain, and which may embody trade secrets or commercial or financial information, and which may be sensitive or privileged.

(b) To assist NASA in accomplishing management activities and administrative functions, the Contractor shall provide the services specified elsewhere in this contract.

(c) If performing this contract entails access to sensitive information, as defined above, the Contractor agrees to--

(1) Utilize any sensitive information coming into its possession only for the purposes of performing the services specified in this contract, and not to improve its own competitive position in another procurement.

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

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

(4) Preclude access and disclosure of sensitive information to persons and entities outside of the Contractor's organization.

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

(6) 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.

(7) 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.

(d) The Contractor will comply with all procedures and obligations specified in its Organizational Conflicts of Interest Avoidance Plan, which this contract incorporates as a compliance document.

(e) The nature of the work on this contract may subject the Contractor and its employees to a variety of laws and regulations relating to ethics, conflicts of interest, corruption, and other criminal or civil matters relating to the award and administration of Government contracts. Recognizing that this contract establishes a high standard of accountability and trust, the Government will carefully review the Contractor's performance in relation to the mandates and restrictions found in these laws and regulations. Unauthorized uses or disclosures of sensitive information may result in termination of this contract for default, or in debarment of the Contractor for serious misconduct affecting present responsibility as a Government Contractor.

(f) The Contractor shall include the substance of this clause, including this paragraph (f), suitably modified to reflect the relationship of the parties, in all subcontracts that may involve access to sensitive information

(End of clause)

I.18 RELEASE OF SENSITIVE INFORMATION (NFS 1852.237-73) (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 NFS 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 TBD. 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 NFS 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 NFS 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 NFS 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)

I.19 UPDATES OF INFORMATION REGARDING RESPONSIBILITY MATTERS (FAR 52.209-8) (APR 2010)

(a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIIS) on a semi-annual basis, throughout the life of the contract, by entering the required information

in the Central Contractor Registration database at http://www.ccr.gov (see FAR 52.204-7).

(b)(1) The Contractor will receive notification when the Government posts new information to the Contractor's record.

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

(3) With the exception of the Contractor, only Government personnel and authorized users performing business on behalf of the Government will be able to view the Contractor's record in the system. Public requests for system information will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

(End of clause)

I.20 PIV CARD ISSUANCE PROCEDURES

In accordance with FAR clause **52.204-9**, Personal Identity Verification of Contractor Personnel

FIPS 201 Appendix A graphically displays the following procedure for the issuance of a PIV credential.

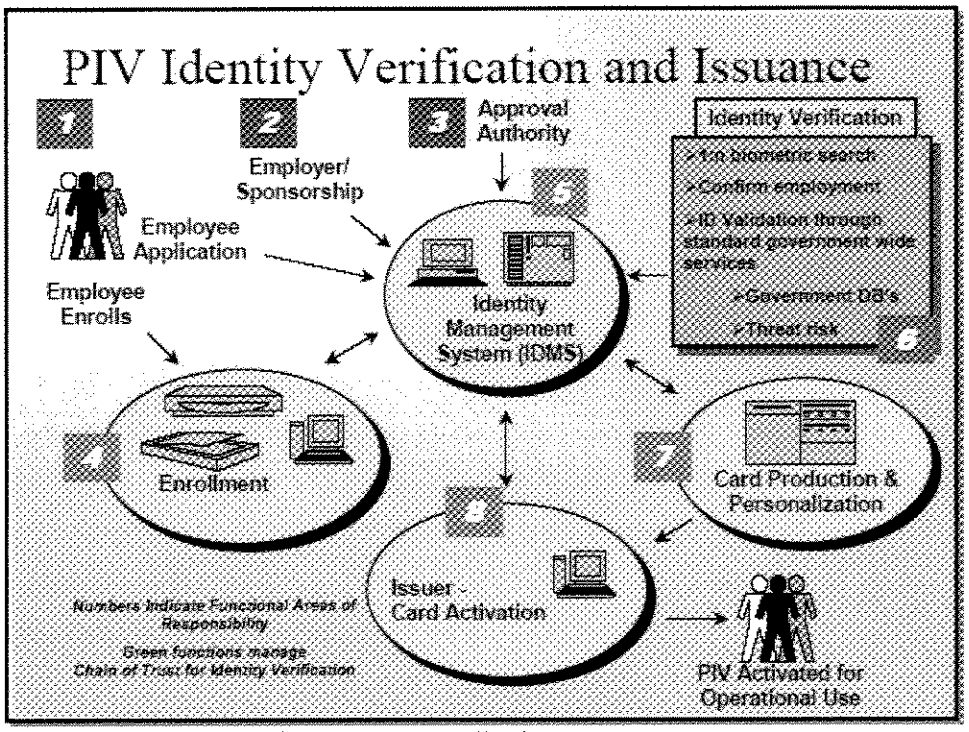

Figure A-1, FIPS 201, Appendix A

The following steps describe the procedures for the NASA Personal Identity Verification Card Issuance (PCI) of a PIV credential:

Step 1:

The contractor's Corporate Security Officer (CSO), Program Manager (PM), or Facility Security Officer (FSO) submits a formal letter that provides a list of contract employees (applicant) names requesting access to the NASA Contracting Officer's Technical Representative (COTR). In the case of a foreign national applicant, approval through the NASA Foreign National Management System (NFNMS) must be obtained for the visit or assignment before any processing for a PIV credential can take place. Further, if the foreign national is not under a contract where a COTR has been officially designated, the foreign national will provide the information directly to their visit/assignment host, and the host sponsor will fulfill the duties of the COTR mentioned herein. In each case, the letter shall provide notification of the contract or foreign national employee's (hereafter the "applicant") full name (first, middle and last), social security number (SSN) or NASA Foreign National Management System Visitor Number if the foreign national does not have a SSN, and date of birth. If the contract employee has a current satisfactorily completed National Agency Check with Inquiries (NACI) or an equivalent or higher degree of background investigation, the letter shall indicate the type of investigation, the agency completing the investigation, and date the investigation was completed. Also, the letter must specify the risk/sensitivity level associated with the position in which each applicant will be working (NPR 1600.1, §4.5 is germane) Further, the letter shall also acknowledge that contract employees may be denied access to

NASA information or information systems based on an unsatisfactory background investigation/adjudication. .

After reviewing the letter for completeness and concurring with the risk/sensitivity levels, the COTR/host must forward the letter to the Center Chief of Security (CCS). The CCS shall review the OPM databases (e.g., DCII, PIP, et al.), and take appropriate steps to validate the applicant's investigation status. Requirements for a NACI or other investigation shall be initiated only if necessary.

Applicants who do not currently possess the required level of background investigation shall be directed to the e-QIP web site to complete the necessary background investigation forms online. The CCS shall provide to the COTR/host information and instructions on how to access the e-QIP for each contract or foreign national employee requiring access

Step 2:

Upon acceptance of the letter/background information, the applicant will be advised that in order to complete the investigative process, he or she must appear in-person before the authorized PIV registrar and submit two forms of identity source documents in original form. The identity source documents must come from the list of acceptable documents included in Form I-9, Employment Eligibility Verification, one which must be a Federal[1] or State issued picture identification. Fingerprints will be taken at this time. The applicant must appear **no later than** the entry on duty date.

When the applicant appears, the registrar will electronically scan the submitted documents; any document that appears invalid will be rejected by the registrar. The registrar will capture electronically both a facial image and fingerprints of the applicant. The information submitted by the applicant will be used to create or update the applicant identity record in the Identity Management System (IDMS).

Step 3:

Upon the applicant's completion of the investigative document, the CCS reviews the information, and resolves discrepancies with the applicant as necessary. When the applicant has appeared in person and completed fingerprints, the package is electronically submitted to initiate the NACI. The CCS includes a request for feedback on the NAC portion of the NACI at the time the request is submitted.

Step 4:

Prior to authorizing physical access of a contractor employee to a federally-controlled facility or access to a Federal information system, the CCS will ensure that a check has been performed with the National Crime Information Center (NCIC) and Interstate Identification Index. In the case of a foreign national, a national check

[1] A non-PIV government identification badge, including the NASA Photo Identification Badge, MAY NOT BE USED for the original issuance of a PIV vetted credential

of the Bureau of Immigration and Customs Enforcement (BICE) database will be performed for each applicant. If this process yields negative information, the CCS will immediately notify the COTR/host of the determination regarding access made by the CCS.

Step 5:

Upon receipt of the completed NAC, the CCS will update IDMS from the NAC portion of the NACI and indicate the result of the suitability determination. If an unsatisfactory suitability determination is rendered, the COTR will advise the contractor that the employee is being denied physical access to all federally-controlled facilities and Federal information systems.

Based on a favorable NAC and NCIC/III or BICE check, the CCS will authorize the issuance of a PIV federal credential in the Physical Access Control System (PACS) database. The CCS, based on information provided by the COTR/host, will determine what physical access the applicant should be granted once the PIV issues the credential.

Step 6:

Using the information provided by the applicant during his or her in-person appearance, the PIV card production facility creates and instantiates the approved PIV card for the applicant with an activation date commensurate with the applicant's start date.

Step 7:

The applicant proceeds to the credential issuance facility to begin processing for receipt of his/her federal credential.

The applicant provides to the credential issuing operator proof of identity with documentation that meets the requirements of FIPS 201 (DHS Employment Eligibility Verification (Form I-9) documents. These documents **must** be the same documents submitted for registration.

The credential issuing operator will verify that the facial image, and optionally reference finger print, matches the enrollment data used to produce the card. Upon verification of identity, the operator will locate the employee's record in the PACS database, and modify the record to indicate the PIV card has been issued. The applicant will select a PIN for use with his or her new PIV card. Although root data is inaccessible to the operator, certain fields (hair color, eye color, et al.) may be modified to more accurately record the employee's information.

The applicant proceeds to a kiosk or other workstation to complete activation of the PIV card using the initial PIN entered at card issuance.

ALTERNATIVE FOR APPLICANTS WHO DO NOT HAVE A COMPLETED AND ADJUDICATED NAC AT THE TIME OF ENTRANCE ON DUTY

Steps 1 through 4 shall be accomplished for all applicants in accordance with the process described above. If the applicant is unable to appear in person until the time of entry on duty, or does not, for any other reason, have a completed and adjudicated NAC portion of the NACI at the time of entrance on duty, the following interim procedures shall apply.

1. If the documents required to submit the NACI have not been completed prior to EOD, the applicant will be instructed to complete all remaining requirements for submission of the investigation request. This includes presentation of I-9 documents and completion of fingerprints, if not already accomplished. If the applicant fails to complete these activities as prescribed in NPR 1600.1 (Chapters 3 and 4), it may be considered as failure to meet the conditions required for physical access to a federally-controlled facility or access to a Federal information system, and result in denial of such access.

2. Based on favorable results of the NCIC, the applicant shall be issued a temporary NASA identification card for a period not-to-exceed six months. If at the end of the six month period the NAC results have not been returned, the agency will at that time make a determination if an additional extension will be granted for the temporary identification card.

3. Upon return of the completed NAC, the process will continue from Step 5.

(End of clause)

I.21 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT (DEVIATION) (FAR 52.222-99)(JUNE 2010)

(a) During the term of this contract, the Contractor shall post a notice, of such size and in such form, and containing such content as prescribed by the Secretary of Labor, in conspicuous places in and about its plants and offices where employees covered by the National Labor Relations Act engage in activities relating to the performance of the contract, including all places where notices to employees are customarily posted both physically and electronically, in the languages employees speak, in accordance with 29 CFR 471.2 (d) and (f).
   (1) Physical posting of the employee notice shall be in conspicuous places in and about the Contractor's plants and offices so that the notice is prominent and readily seen by employees who are covered by the National Labor Relation Act and engage in activities related to the performance of the contract.
   (2) If the Contractor customarily posts notices to employees electronically, then the Contractor shall also post the required notice electronically by

displaying prominently, on any website that is maintained by the Contractor and is customarily used for notices to employees about terms and conditions of employment, a link to the Department of Labor's website that contains the full text of the poster. The link to the Department's website, as referenced in (b)(3) of this section, must read, "Important Notice about Employee Rights to Organize and Bargain Collectively with Their Employers."

(b) This required notice, printed by the Department of Labor, may be–

(1) Obtained from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW, Room N-5609, Washington, DC 20210, (202) 693-0123, or from any field office of the Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Provided by the Federal contracting agency, if requested];

(3) Downloaded from the Office of Labor-Management Standards web site at www.dol.gov/olms/regs/compliance/EO13496; or

(4) Reproduced and used [as] exact duplicate copies of the Department of Labor's official poster.

(c) The required text of the Employee Notification referred to in this clause is located at Appendix A, Subpart A, 29 CFR Part 471.

(d) The Contractor shall comply with all provisions of the Employee Notice and related rules, regulations, and orders of the Secretary of Labor.

(e) In the event that the Contractor does not comply with the requirements set forth in paragraphs (a) through (d) of this clause, this contract may be terminated or suspended in whole or in part, and the Contractor may be suspended or debarred in accordance with 29 CFR 471.14 and FAR Subpart 9.4. Such other sanctions or remedies may be imposed as are provided by 29 CFR Part 471, which implements E.O. 13496 or as otherwise provided by law.

(f) Subcontracts. (1) The Contractor shall include the substance of this clause, including this paragraph (f), in every subcontract that exceeds $10,000 and will be performed wholly or partially in the United States, unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 3 of Executive Order 13496 of January 30, 2009, so that such provisions will be binding upon each subcontractor.

(2) The Contractor is not permitted to procure supplies or services in a way designed to avoid the applicability of Executive Order 13496 or this subpart.

(3) The Contractor shall take such action with respect to any such subcontract as may be directed by the Secretary of Labor as a means of enforcing such provisions, including the imposition of sanctions for non compliance.

(4) However, if the Contractor becomes involved in litigation with a subcontractor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of clause)

[END OF SECTION]