OMB Approval No. 2700-0042

AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT KLB 9/5/06

1. CONTRACT ID CODE	PAGE OF PAGES
NAS9-03056	1 | 406

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(if applicable)*
Modification 83			

6. ISSUED BY CODE

NASA Lyndon B. Johnson Space Center
Attn: Michael D. Ballard Mail Code BH
2101 NASA Parkway
Houston, Texas 77058

7. ADMINISTERED BY *(if other than item 6)* CODE

APPROVED
JSC PROCUREMENT OFFICER
9/14/06
DATE

8. NAME AND ADDRESS OF CONTRACTOR *(No., Street, County, State, and ZIP Code)*

LOCKHEED MARTIN SPACE OPERATIONS COMPANY
Attn: Karen Beuchaw
2625 Bay Area Boulevard
Houston, TX 77058

CODE		FACILITY CODE
(X)	9A. AMENDMENT OF SOLICITATION NO.	9B. DATED *(SEE ITEM 11)*
X	10A. MODIFICATION OF CONTRACT/ORDER NO. NAS9-03056	10B. DATED *(SEE ITEM 13)* 9/30/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is ☐ is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning ☐ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECIEVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING and APPROPRIATION DATA *(if required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.(x)

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF:
X	D. OTHER *(Specify type of modification and authority)* Mutual Agreement Both Parties 10 U.S.C. 2304 (c) (1) KLB 9/5/06

E. **IMPORTANT:** Contractor is not X is required to sign this document and return 3 copies to the issuing office.

14. Description of amendment/modification *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The purpose of this modification is to:

1. Increase contract value from $244,310,041 by $179,217,545 to $423,527,586.
2. Extend the period of performance from 9/30/06 to 9/30/08.
3. Add Options 4, 5 and 6, each with a one year period of performance.

The contract is replaced in its entirety with the attached, changes are vertically bar-marked. A contract value recapitulation is also attached.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*	16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*
Ken Reightler, President Space Ops	Cynthia W. Maclean

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
K S Reightler	8/29/06	BY Cynthia W. Maclean	9/5/06
(Signature of person authorized to sign)		*(Signature of Contracting Officer)*	

Contract Value Recapitulation

	Value Prior to Modification 83	Value of Modification 83	New Contract Value
Cost	$ 224,008,217	$ 164,419,766	$ 388,427,983
Fee	$ 20,301,824	$ 14,797,779	$ 35,099,603
Total	$ 244,310,041	$ 179,217,545	$ 423,527,586

SECTION B
SUPPLIES OR SERVICES AND PRICES/COSTS

Modification 83

B. 1 ESTIMATED COST AND AWARD FEE (NASA 1852.216-85) (SEP 1993)

(a) The estimated cost of this contract is **$388,427,983**. The maximum available award fee, excluding base fee, if any, is **$35,099,603.** The base fee is $0. Total estimated cost, base fee, and maximum award fee are **$423,527,586**.

(b) The estimated cost and award fee for this contract are divided as follows. Award Fee is not applicable for the Phase-In period.

Estimated Cost (Completion Form and Level of Effort)	$388,276,756
Phase-In Cost	$151,227
Issued IDIQ Task/Delivery Orders (See Attachment J-11)*	$0
Total Estimated Cost	$388,427,983
Maximum Available Award Fee	$35,099,603
TOTAL CONTRACT VALUE	$423,527,586

* NOTE: Amounts for estimated cost and award fee for cost reimbursable IDIQ task/delivery orders issued will be periodically updated unilaterally as these IDIQ task/delivery orders are issued/amended.

(End of clause)

B.2 CONTRACT FUNDING (NASA 1852.232-81) (JUN 1990)

(a) For the purpose of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract for all efforts is $204,838,823.00. This allotment is for all MSOC efforts and covers the following estimated period of performance: September 30, 2003 to August 18, 2006

(b) An additional amount of $18,602,699.01 is obligated under this contract for all efforts for payment of fee.

(End of clause)

C. 1 STATEMENT OF WORK

The contractor shall, in a manner consistent with and subject to the terms and conditions hereof, furnish all resources necessary to provide Mission Support Operations in accordance with the following Statement of Work. The contractor shall perform activities in accordance with the Space Shuttle Termination Plan set forth in Section J, Attachment J-10. The contractor shall perform IDIQ Modification Services in accordance with Section J, Attachment J-11.

(End of clause)

Mission Support Operations Contract

Statement of Work

1.0 Mission Support Operations Contract (MSOC)

1.1 Program Management

1.2 Financial & Contract Performance

1.2.1 Financial Interface
1.2.1.1 Financial Reporting Form NF533
1.2.1.2 Integrated Financial Management Program (IFMP)
1.2.1.3 Assorted Financial Information

1.2.2 Technical Interfaces
1.2.2.1 Earned Value
1.2.2.2 Information Technology (I/T) Plan

1.3 Administrative Services & Support

1.3.1 Administrative Services
1.3.1.1 Human Resources / Personnel Management
1.3.1.2 Contract Administration
1.3.1.3 Subcontract Administration
1.3.1.4 Procurement

1.3.2 Support Services
1.3.2.1 Security
1.3.2.2 Safety and Health Management
1.3.2.3 Environmental Management
1.3.2.4 Quality Assurance

1.4 Data Requirements Descriptions (DRD's) and Applicable Documents

1.4.1 DRD's documenting contractors systems
1.4.2 Applicable Documents

1.5 Technical Services & Support

1.5.1 Mission Services Function

1.5.1.1 Mission Control Center Houston (MCC-H), Houston Support Room (HSR), and Backup Command and Control (BCC)
1.5.1.1.1 Management
1.5.1.1.2 Modification & Systems Engineering
1.5.1.1.3 Maintenance & Sustaining Engineering
1.5.1.1.4 Operations
1.5.1.1.5 Facility Operations
1.5.1.1.6 Performance Standards
1.5.1.1.7 Test & Checkout

1.5.1.1.8 Interface Support
1.5.1.1.9 Certification and Training
1.5.1.1.10 Metrics/Data & Reports
1.5.1.1.11 Requirements Documentation & Facility DRD's

1.5.1.2 Integrated Planning System (IPS)
1.5.1.2.1 Management
1.5.1.2.2 Modification & Systems Engineering
1.5.1.2.3 Maintenance & Sustaining Engineering
1.5.1.2.4 Operations
1.5.1.2.5 Facility Operations
1.5.1.2.6 Performance Standards
1.5.1.2.7 Test & Checkout
1.5.1.2.8 Interface Support
1.5.1.2.9 Certification and Training
1.5.1.2.10 Metrics/Data & Reports
1.5.1.2.11 Requirements Documentation & Facility DRD's

1.5.2 Mission Support Services Function

1.5.2.1 Reserved

1.5.2.2 Common Development Environment (CDE)
1.5.2.2.1 Management
1.5.2.2.2 Modification & Systems Engineering
1.5.2.2.3 Maintenance & Sustaining Engineering
1.5.2.2.4 Operations
1.5.2.2.5 Facility Operations
1.5.2.2.6 Reserved
1.5.2.2.7 Test & Checkout
1.5.2.2.8 Interface Support
1.5.2.2.9 Certification and Training
1.5.2.2.10 Metrics & Reports
1.5.2.2.11 Requirements Documentation & DRD's

1.5.2.3 Ground Systems Development Environment (GSDE)
1.5.2.3.1 Management
1.5.2.3.2 Modification & Systems Engineering
1.5.2.3.3 Maintenance & Sustaining Engineering
1.5.2.3.4 Operations
1.5.2.3.5 Facility Operations
1.5.2.3.6 Reserved
1.5.2.3.7 Test & Checkout
1.5.2.3.8 Interface Support
1.5.2.3.9 Certification and Training

1.5.2.3.10 Reserved
1.5.2.3.11 Requirements Documentation & DRD's

1.5.3 Reserved

1.5.4 Program Support Services (Level-of-Effort)

1.5.4.1 GSCB

1.5.4.2 Security Analysis and Response Team (SART)
1.5.4.2.1 Security Engineering Support
1.5.4.2.2 Documentation Support
1.5.4.2.3 Travel

1.5.4.3 Network and Communications Analysis Integration Team (NACAIT)
1.5.4.3.1 Network Program Requirement Document (NPRD) Documentation Support
1.5.4.3.2 Travel

1.5.4.4 Reserved

1.5.4.5 Program Requirements Document (PRD)
1.5.4.5.1 PRD Documentation Support
1.5.4.5.2 Travel

1.5.4.6 Human Space Flight (HSF) Network Operations Integration
1.5.4.6.1 Certification of Flight Readiness (CoFR)
1.5.4.6.2 Project Management Documentation Support
1.5.4.6.3 Interface Control Document (ICD) Support

1.5.4.7 Program Level Change Engineering Support & Integration
1.5.4.7.1 System Engineering

1.5.4.8 Architectural and Engineering Support
1.5.4.8.1 Documentation
1.5.4.8.2 Travel

1.5.5 Technical Administration Support

1.5.5.1 Resources
1.5.5.1.1 Property – Government Furnished Equipment (GFE)
1.5.5.1.2 Property – capital
1.5.5.1.3 Technical documentation
1.5.5.1.4 Equipment Replacement

1.5.5.2 Configuration Management
1.5.5.2.1 Change Authorization & Tracking

1.5.5.2.2 Anomaly Status & tracking
1.5.5.2.3 Technical documentation

1.5.5.3 Safety
1.5.5.3.1 Personnel
1.5.5.3.2 Physical
1.5.5.3.3 Safety, Reliability and Quality Assurance (SR&QA)
1.5.5.3.4 Environmental

1.5.5.4 Security
1.5.5.4.1 Reserved
1.5.5.4.2 Personnel
1.5.5.4.3 Information Technology (IT) Security
1.5.5.4.4 Communications Security (COMSEC) and Classified Data Computation
1.5.5.4.5 Physical
1.5.5.4.6 Reserved

List of Appendices

Appendix A Acronym List
Appendix B Glossary

1.0 Mission Support Operations Contract (MSOC)

The Statement of Work (SOW) describes the work to be performed under the MSOC. The basic purpose of this contract is to provide operations support system maintenance, sustaining engineering, modification and integration products and functions for command and control systems, planning systems and flight preparation systems which will be utilized to support the Johnson Space Center (JSC) National Aeronautics and Space Administration (NASA) human spaceflight mission.

To accomplish this function for the JSC/NASA human spaceflight mission, the currently defined command and control systems and planning systems for which the Contractor will have operations support, system maintenance , sustaining engineering, modification and integration responsibilities include the Mission Control Center Houston (MCC-H), the Integrated Planning System (IPS), the Houston Support Room/Backup Command and Control Center (HSR/BCC).

The goals and expectations for this contract are as follows:

- Provide excellent quality and reliable mission and support services at a minimum cost.
- Define and integrate process and facility improvements for the purposes of reducing costs without the reduction in SOW requirements.

1.1 Program Management

The contractor shall:

- Perform all the necessary program management functions including technical and business management in order to plan, implement, track, report and deliver the required services described in this SOW.
- Provide all personnel and other resources, except as otherwise specified in the contract, necessary to accomplish these functions.
- Prepare and submit management reports and support program management reviews (DRD-MSOC-JSC-0012) in accordance with the Mission Support Operations Contract Work Breakdown Structure (CWBS), (DRD MSOC-JSC-0001).
- Submit a Management Plan (DRD MSOC-JSC-0002), Risk Management Plan (DRD MSOC-JSC-0003), Contract Configuration Management Plan (DRD MSOC-JSC-0004) and an Organizational Conflicts of Interest Avoidance Plan (DRD MSOC-JSC-0082)
- Prepare and submit a Space Shuttle Termination Plan (DRD MSOC-JSC-00016).

All program management systems and processes shall be operational on the contract start date.

1.2 Financial and Contract Performance

The contractor shall provide and maintain a financial and contract performance management system for the planning, tracking, accumulation, monitoring, contract cost and contract performance to meet the budgeting, cost reporting, billing and disclosure requirements of the contract. All financial and contract performance monitoring systems shall be fully operational at contract start. Financial and contract performance management systems:

- Shall provide financial and contract performance reporting 10 working days after the close of the contractor's monthly accounting calendar.
- Shall provide all information at a total government cost.
- Shall provide all information consistent with the Contract Work Breakdown Structure (CWBS).
- Shall be capable of providing information at assorted CWBS levels.
- All systems shall be capable of separate tracking of financial adjustments for all external contracts using National Aeronautics and Space Administration (NASA) resources.

Financial, contract and administrative management systems shall be integrated, with changes formally approved/authorized through defined and documented procedures.

The contractor shall provide Financial Management Reports (DRD MSOC-JSC-0020), Wage/Salary and Fringe Benefit Data (DRD MSOC-JSC-0021) and Workforce Reports (DRD MSOC-JSC-0024).

1.2.1 Financial Interface

The contractor's financial system shall interface with the approved governments systems, and be capable of cost allocation to customers based on government approved allocations methodologies. Cost reporting shall be compatible and capable of uploading cost accrual information into NASA's Integrated Financial system and shall automatically map to NASA's program coding structure.

1.2.1.1 Financial Reporting Form NF533

Reports shall fully comply with the most current version of NASA Procedures and Guidelines (NPG) 9501.2C. Any supplemental cost data shall be reconcilable back to the NF533 for the same accounting period.

1.2.1.2 Integrated Financial Management Program (IFMP)

The Contractor's financial system shall support NASA's full cost accounting and enterprise funding. Customer Report DRD-0015 will provide full cost information.

1.2.1.3 Assorted Financial Information

The contractor shall provide financial planning and historical information along with the technical support information as required to support the budget process (e.g. Program Operating Plan (POP), monthly operating budget and performance call, Construction of Facilities (CoF) budget calls) and support special requests for budget impacts. The contractor shall provide a Fiscal Year Operating Plan (DRD MSOC-JSC-0022), a Program Operating Plan (POP) (DRD MSCO-JSC-0022) and Travel Plan (DRD MSOC-JSC-0023) in support of this assorted financial information requirement. NASA shall specify the format and content of the contractor's input and supporting rationale guidelines.

1.2.2 Technical Interfaces

The contractor's technical system shall interface with the approved Government systems.

1.2.2.1 Earned Value

The contractor shall provide Performance Measurement Plan and Reports (DRD MSOC-JSC-0006). The contractor shall manage and report technical performance measurement of the work using an integrated and time correlated cost, schedule, content and quality performance management system. This system shall:

- Comply with the latest version of NASA Policy Directive 9501.3 Performance Measurement System Criteria.
- Develop, maintain and report technical performance metrics and data reports.

1.2.2.2 Information Technology (I/T) Plan

The contractor shall provide an Information Technology Plan and Reports (DRD MSOC-JSC-0010).

The contractor shall provide a Government Property Management Plan (DRD MSOC-JSC-0008) to describe the method of administering Government property.

1.3 Administrative Services and Support

The contractor shall provide administrative support and services to address the management; administration, operations and reporting required in support of the contractor's personnel.

1.3.1 Administrative Services

The contractor shall provide the administrative services required to support the contract's personnel and provide effective contract administrative services.

1.3.1.1 Human Resources / Personnel Management

The contractor shall provide for the administration, management, operations and documentation support of the contractor's personnel.

1.3.1.2 Contract Administration

The contractor shall provide contract administration to address the management, operations and documentation requirements for the management of this contract. Communications of these requirements, with NASA, shall be via use the Transmittal/Information Request Form (TIRF), JSC Form JF994. The TIRF will be used for general communications, submission of documentation, and as a cover for all technical direction. The TIRF will also be used as a receipt/acknowledgment of and response to direction.

1.3.1.3 Subcontract Administration

The contractor shall provide, document and implement a Small Business Subcontracting Plan and Reports (DRD MSOC-JSC-0009).

The contractor shall include in the Management Plan (DRD MSOC-JSC-0002) subcontract administration.

1.3.1.4 Procurement

The contractor shall provide procurement services to meet contract administration and technical support requirements.

1.3.2 Support Services

The contractor shall provide the support services required to comply with all city, state, Federal, international and NASA interface, management and reporting requirements for the services required to protect the safety, security, health and quality of the work environment under this contract.

1.3.2.1 Security

The contractor shall provide:

- A Contractor Security Management Plan (DRD MSOC-JSC-0080).
- An Emergency Preparedness and Disaster Recovery Plan (DRD MSOC-JSC-0011) for all facilities and systems within the scope of this contract.

The contractor shall establish effective and comprehensive industrial, physical, administrative, information, communications and Information Technology (IT) security programs in accordance with the National Industrial Security Program Operating Manual, NASA site-specific regulations and DD Form 254.

In addition to any other requirements of this contract, all individuals who perform tasks as a system administrator or have authority to perform tasks normally performed by system administrator shall be required to demonstrate knowledge appropriate to those tasks. This demonstration, referred to as the NASA System Administrator Security Certification, is a NASA funded two-tier assessment to verify that system administrators are able to -

1. Demonstrate knowledge in system administration for the operating systems for which they have responsibility.

2. Demonstrate knowledge in the understanding and application of Network and Internet Security.

Certification is granted upon achieving a score above the certification level on both an Operating System test and the Network and Internet Security Test. The Certification earned under this process will be valid for three years. The criteria for this skills assessment has been established by the NASA Chief Information Officer. The objectives and procedures for this certification can be obtained by contacting the IT Security Awareness and Training Center at (216) 433-2063.

A system administrator is one who provides IT services, network services, files storage, web services, etc. to someone else other than themselves and takes or assumes the responsibility for the security and administrative controls of that service or machine. A lead system administrator has responsibility for information technology security (ITS) for multiple computers or network devises represented within a system; ensuring all devices assigned to them are kept in a secure configuration (patched/mitigated); and ensuring that all other system administrators under their lead understand and perform ITS duties. An individual that has full access or arbitrative rights on a system or machine that is only servicing themselves does not constitute a "system administrator" since they are only providing or accepting responsibility for their system. An individual that is only servicing themselves is not required to obtain a System Administrator Certification.

1.3.2.2 Safety and Health Management

To ensure compliance with pertinent NASA policies and requirements and Federal, state and local regulations for safety health, and emergency preparedness, the contractor shall develop, document and implement a safety and health program.

The contractor shall:

- Develop and implement an approach to ensure the protection of personnel, property, equipment, and the environment in contractor products and activities generated in support of institutional and space flight program objectives.
- Submit for NASA approval their Safety and Health Plan (DRD MSOC-JSC-0030).
- On a yearly basis provide a Safety and Health Program Self Evaluation (DRD MSOC-JSC-0031).

- Provide Monthly Safety and Health Metrics (DRD MSOC-JSC-0032) for NASA review.

To ensure compliance with pertinent NASA policies and requirements and federal, state, and local regulations for safety, health, environmental protection, and fire protection, the contractor shall develop and implement a safety and health program in accordance with a NASA-approved safety and health plan.

The contractor shall:

- Perform tasks to ensure the protection of personnel, property, equipment, and the environment in contractor products and activities generated in support of institutional and space flight program objectives.
- Implement system safety engineering tasks for flight and institutional program activities and products in accordance with the schedule and applicable flight and institutional requirements as documented in the contractor's System Safety Program Plan (SSPP), (DRD MSOC-JSC-0033), which are approved by NASA.
- Develop and implement risk management techniques (including risk assessment) to be applied to hazards derived from analyses of activities and products for the purpose of eliminating or controlling hazards as specified in NASA policies and requirements for hazard reduction. The JSC Safety and Health Handbook provides detailed requirements and instructions regarding safety and health procedures and policies at JSC and is incorporated by reference into all JSC contracts when performance is on site at a JSC facility.
- Provide a Safety Lessons Learned (DRD MSOC-JSC-0046) for each reported safety incident.

1.3.2.3 Environmental Management

The contractor is responsible for complying with all applicable international, Federal, state, and local environmental requirements, and for submitting to the appropriate environmental regulatory agencies any required official correspondence (e.g., permits/permit applications, negotiated agreements, requests for information from/to regulatory agencies).

1.3.2.4 Quality Assurance

The contractor shall establish a quality program that complies with International Organization for Standardization document American Society for Quality Control (ASQC) ISO-9000-2000 – Model for Quality Assurance in Design/Development, Production, Installation, and Servicing.

Third-party certification / registration is required.

The contractor shall:

- Provide for their own hardware and software quality assurance (Quality Assurance, Quality Engineering and Software Quality Assurance).

- Develop a Quality Plan (DRD MSOC-JSC-0041) for on-site and off-site resources within this contract.
- Collect and compile information derived from contractor data (test results, analysis reports, inspection records, discrepancy data, nonconformance data, delivery logs, etc.) to demonstrate that the products and services delivered to the government are in compliance with the requirements and specifications as specified in this contract. The delivery of the compliance information will be at the request of the government, either specifically through this contract or on request of the appropriate government interface.
- Comply with Non-conformance Record (DRD MSOC-JSC-0045) reporting.
- Provide a Government Industry Database for Electronic Parts (GIDEP) and NASA Advisory Problem Data Sharing and Utilization Program Documentation and Reporting (DRD MSOC-JSC-0044).

The contractor shall submit procurement documents to the designated NASA quality representative for determination of the need for Government Source Inspection (GSI) prior to release of the procurement.

- Procurements, which require GSI, shall include the following statements: "All work on this order is subject to inspection and test by the Government at any time and place. The Government quality representative who has been delegated quality assurance functions on this procurement shall be notified immediately upon receipt of this order. The Government representative shall also be notified 48 hours in advance of the time articles or materials are ready for inspection or test."
- Procurements, which do not require GSI, shall include the following statement: "The Government has the right to inspect any or all of the work included in this order at the supplier's plant."

At off-site facilities, the Government representative shall approve all dispositions of nonconforming product except rework to specification. On-site disposition is covered in NT-CWI-003.

The contractor may negotiate use of Receiving Inspection and Test Facility (RITF) receiving inspection services for metallic and nonmetallic material properties analysis, destructive physical analysis, failure analysis of electronic components, and screen burn-in of electrical and electronic parts and components. The contractor may negotiate use of RITF training services for nondestructive evaluation, hand soldering, and electrostatic discharge, and other special processes for personnel certification.

The following standards shall be used in the design and manufacture and maintenance of electrical/electronic equipment applications in this contract:

- Soldering, Through-Hole Technology use NASA-STD-8739.3 - "Soldered Electrical Connections"
- Soldering, Surface Mount Technology use NASA-STD-8739.2 - "Workmanship Standard for Surface Mount Technology"

- Crimping, Cable and Harness use NASA-STD-8739.4 - "Crimping, Interconnecting Cables, Harnesses and Wiring"
- Conformal Coating and Staking use NASA-STD-8739.1- "Workmanship Standard for Staking and Conformal Coating of Printed Wiring Boards and Electronic Assemblies"
- Fiber Optics use NASA-STD-8739.5 - "Fiber Optic Terminations, Cable Assemblies, and Installation"
- Electrostatic Discharge Control (ESD) use ANSI/ESD S20.20-1999: Development of an Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices).
- Rigid Printed Wiring Board (PWB) Design use IPC-2221- "Generic Standard on Printed Board Design" and IPC-2222- "Sectional Design Standard for Rigid Organic Printed Boards"
- Rigid Printed Wiring Board (PWB) use IPC-6011-"Generic Performance Specification for Printed Boards", IPC-6012- "Qualification and Performance Specification for Printed Boards" and S312-P-003B- "GSFC, Procurement Specification for Rigid Printed Boards for Space Applications and Other High Reliability Users"

Costs Related to Quality: - The contractor shall maintain and use quality data cost data as a management element of the Quality Management System. These data shall serve the purpose of identifying the cost of prevention of non-conforming products (e.g., labor and material involved in product defects caused by defective work, correction of defective work and for quality assurance exercised by the contractor at the subcontractor's or vendor's facility). The contractor shall determine the specific quality cost data to be maintained and used. These data shall, on request, be identified and made available to NASA.

Audits: - The contractor shall conduct internal audits to ensure contract requirements are fully complied with. Additionally, the contractor shall perform process audits upon request from the JSC Contracting Officer. Process audits shall be performed to provide a candid assessment of processes to identify generic system anomalies and areas for improvement.

Calibration: - Inspection, Measuring, and Test Equipment (IM&TE), which affect quality, shall be controlled in accordance with ISO 10012-1, Quality Assurance Requirements for Measuring Equipment. If the JSC Measurements Standards and Calibration Laboratory are used for calibration services, JSC's System Level Procedure 4.11 Control of Inspection, Measuring and Test Equipment shall be used.

Software Quality Assurance: - Software Quality Assurance requirements are applicable to the following categories of software and firmware:

- All mission ground support software and firmware, i.e., software and firmware that are an integral part of the operational mission (support of the program);
- Software support tools that are used in development of flight and critical ground support software and firmware;
- Manufacturing processes of mission critical hardware, and

- Test and integration of mission critical hardware, software, and firmware.

The contractor shall develop and prepare a Software Quality Assurance Plan and Reports (DRD MSOC-JSC-0042).

The contractor shall develop Acceptance Review Packages (DRD MSOC-JSC-0071).

1.4 Data Requirements Description (DRD) and Applicable Documents

All referenced documents include the current version. The contractor is obligated to comply with updated versions.

1.4.1 DRD's documenting the contractors systems/processes.

DRD List:

DRD Number	DRD Title
MSOC-JSC-0001	Contract Work Breakdown Structure and Dictionary
MSOC-JSC-0002	Management Plan
MSOC-JSC-0003	Risk Management Plan
MSOC-JSC-0004	Contract Configuration Management Plan
MSOC-JSC-0005	Phase-In Plan
MSOC-JSC-0006	Performance Measurement Plan and Reports
MSOC-JSC-0007	Metric and Status Reports
MSOC-JSC-0008	Government Property Management Plan
MSOC-JSC-0009	Small Business Subcontracting Plan and Reports
MSOC-JSC-0010	Information Technology (IT) Plan and Reports
MSOC-JSC-0011	Emergency Preparedness and Disaster Recovery Plan
MSOC-JSC-0012	Reports/Reviews
MSOC-JSC-0013	Reprocurement Data Package
MSOC-JSC-0014	Property Financial Reporting
MSOC-JSC-0015	Customer Reporting
MSOC-JSC-016	Space Shuttle Termination Plan
0017-0019	(Reserved)
MSOC-JSC-0020	Financial Management Reports
MSOC-JSC-0021	Wage/Salary & Fringe Benefits
MSOC-JSC-0022	Fiscal Year Operating Plan
MSOC-JSC-0023	Travel Plan
MSOC-JSC-0024	Workforce Reports
0025-0029	(Reserved)
MSOC-JSC-0030	Safety and Health Plan
MSOC-JSC-0031	Safety and Health Program, Self-evaluation
MSOC-JSC-0032	Safety Metrics (Monthly)

MSOC-JSC-0033	System Safety Program Plan
0034-0040	(Reserved)
MSOC-JSC-0041	Quality Plan
MSOC-JSC-0042	Software Quality Assurance Plan & Reports
0043	(Reserved)
MSOC-JSC-0044	GIDEP and NASA advisory Problem data Sharing and Utilization Program Documentation and Reporting
MSOC-JSC-0045	Non-conformance Record
MSOC-JSC-0046	Safety Lessons Learned
0047-0049	(Reserved)
MSOC-JSC-0050	Certificate of Flight Readiness Endorsement
MSOC-JSC-0051	Integrated Planning System (IPS) Facility Operations Procedures
MSOC-JSC-0052	Deleted
MSOC-JSC-0053	Training and Certification Plan
0054-0059	(Reserved)
MSOC-JSC-0060	Change Control Process Plan
MSOC-JSC-0061	Configuration Management Plan
MSOC-JSC-0062	Level A and B Requirements
MSOC-JSC-0063	Interface Control Documents
0064	(Reserved)
MSOC-JSC-0065	System Lifecycle Process
MSOC-JSC-0066	Equipment Replacement Plan
MSOC-JSC-0067	Integrated Planning System (IPS) Future Facility Change Plan
MSOC-JSC-0068	Test and Verification Plan
MSOC-JSC-0069	Test and Verification Procedures
MSOC-JSC-0070	Test and Verification Report
MSOC-JSC-0071	Acceptance Review Package
MSOC-JSC-0072	Design Review Package
MSOC-JSC-0073	Design Specifications
MSOC-JSC-0074	IPS Operations Concept
0075-0079	(Reserved)
MSOC-JSC-0080	Contractor Security Management Plan
MSOC-JSC-0081	Facility Security Plan
MSOC-JSC-0082	Organizational Conflicts of Interest Avoidance Plan

1.4.2 Applicable Documents

Applicable Documents List for SR&QA:

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This list of documents form a part of the requirements, to the extent specified within the Statement of Work and associated Data Requirements Description. Unless otherwise specified the latest authorized version shall be used.

ISO-9000-2000	Quality Systems, Aerospace Model for Quality Assurance in Design, Development, Production, Installation, and Servicing
JPG 1700.1	JSC Safety & Total Health Handbook
JSC 17773, as revised	Instruction for Preparation of Hazard Analysis for JSC Ground Operations
NASA-STD-8719.13A	NASA Software Safety Standard
NASA-STD-2101-91	NASA Software Documentation Standard
NASA-STD-2201-93	Software Assurance Standard
NASA STD-8719.11	Safety for Fire Protection
NASA-STD-8739.4*	Crimping, Interconnecting Cables, Harnesses and Wiring
NASA-STD-8739.1*	Workmanship Standard for Staking and Conformal Coating of Printed Wiring Boards and Electronic Assemblies
NASA-STD-8739.2*	Workmanship Standard for Surface Mount Technology
NASA-STD-8739.5 *	Fiber Optic Terminations, Cable Assemblies, and Installation
NPG 1700.1 (V1-B & V2)*	Guidelines for Mishap Investigation
NSTS 5300.4 (1D-2)	Safety, Reliability, Maintainability and Quality Provisions for the Space Shuttle Program
NASA-STD-8739.3*	Soldered Electrical Connections"
NPD 2820.1	NASA Software Policies
NPD 8730.2	NASA Parts Policy
NPG 7120.5	Program and Project Management Process and Requirements
NPG 8735.1	Procedure for Exchanging Parts, Materials, and Safety Problem Data Utilizing the Government Industry Data Exchange Program and NASA Advisories
SO300-BT-PRO-010	GIDEP Operations Manual
SO300-BT-GYD-010	GIDEP Requirements Guide
SSP 30309, *	Safety Analysis and Risk Assessment Requirements Document
SSP 30312	EEE Parts Management and Implementation Plan
SSP 30695	Acceptance Data Package Requirements
ANSI/ESD S20.20-1999*	Development of an Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
IPC-2221*	Generic Standard on Printed Board Design" and IPC-2222- "Sectional Design Standard for Rigid Organic Printed Boards
IPC-6011*	Generic Performance Specification for Printed Boards", IPC-6012- "Qualification and Performance Specification for Printed Boards

S312-P-003B * GSFC, Procurement Specification for Rigid Printed Boards for Space Applications and Other High Reliability Users

* Referenced in the SOW, all other listings are referenced in DRDs MSOC-JSC-0041 through MSOC-JSC-0046.

1.5 Technical Services and Support

Technical Services and Support are those functions and services provided to meet the Johnson Space Center (JSC) human space flight mission. This includes assumption of on-going functions and services, including all modification, systems engineering, sustaining engineering, maintenance and operations activities. Services are categorized as:

- Mission Services
- Mission Support Services
- Site Support Services
- Program Support Services
- Technical Administration Support
- Space Shuttle Termination

1.5.1 Mission Services Function

The mission services function provides mission operations and planning ground systems. To accomplish this function, the Mission Control Center (MCC) or as now designated MCC Houston (MCC-H) [in order to distinguish from multiple International Partner (IP) and supporting control centers for Space Station operations—note that many documents still maintain only the MCC designation], Integrated Planning System (IPS), Houston Support Room/Backup Command and Control Center (HSR/BCC) are currently used.

1.5.1.1 MCC-H, HSR and BCC

The MCC-H is an integrated spacecraft command and control facility that is able to support multiple space flight programs. The MCC-H provides command, telemetry, trajectory, real time mission re-planning, weather, video, and voice communications to support mission operations. The MCC-H is comprised of the systems and subsystems defined in the MCC Level A Requirements (eg, Consolidated Communications Facility (CCF), Mission Data Storage System Complex (MDSC), Internal Data Distribution System (IDDS), Platform and System Services (PSS), External Interface Subsystem (EIS), Command Subsystem, Front End Processing (FEP) Telemetry Subsystem, Trajectory, Digital Voice Interface Subsystem, Timing Subsystem, Configuration Management Subsystem, Data Display and Computation, External Data Distribution, Data Archival, Video Distribution Subsystem, Electronic Documentation, Communication Assets Scheduling, and Orbital Communications Adapter (OCA) Ground System). The Limited Station Operations System (LSOS) is a capability

provided for continuous operations of the ISS from the MCC-H in Houston, Texas, while required maintenance is performed on the primary systems.

The majority of the MCC-H is physically located at the Johnson Space Center in Building 30. Certain MCC-H equipment, provided for and maintained via this contract, are in locations other than the Building 30 complex, as defined in the hardware equipment list.

The HSR and BCC are a combined facility, both located in Russia. The HSR is an integrated ground facility that supports spacecraft planning, analysis, and telemetry monitoring and voice exchange for the ISS mission. The HSR provides access to capabilities of the MCC-H for the United States (US) ISS Flight Control Consultant group in Russia.

The BCC provides the backup command and control functions to support NASA ISS Operations in case of an outage of the US command and control capability.

Data Display and Computation system software (commonly referred to as user applications) is not included in the scope of this contract, except for the Operations Support Team (OST) and Ground Controller (GC) applications, which are included in the software lines of code count in this contract. However, the interfaces to the data display and computation system are included.

1.5.1.1.1 Management

In support of the MCC-H Mission services, the contractor shall:

- Maintain and provide upgrades to the MCC-H ground systems
  - Ensure MCC-H functionality per the Level A and B requirements (section 1.5.1.1.11, table 1.5.1.1.11)
  - Provide operations support
  - Provide security services.
  - Provide program and technical services support.
  - Provide mission planning that includes meeting support, travel, interface negotiation and end-to-end ground systems integration

MCC-H Mission services consist of system engineering, modification, maintenance, sustaining engineering, operations, facility operations, facility resource scheduling, performance standards, test and checkout, interface support, certification, training, travel, reports and requirement documentation.

The contractor is responsible for configuration management and documentation maintenance of the MCC-H, BCC and HSR architecture baselines, Level A, and Level B system/subsystem requirements. NASA owns the MCC-H architecture and the requirements (i.e., signature approvals) and is responsible for approving any changes to the MCC-H architecture or the requirements baseline. Where changes to the baseline introduce tradeoffs between existing MCC-H requirements or between existing MCC-H requirements and performance improvements, the NASA MCC-H project management shall be the deciding official,

including the authority to change or waive the MCC-H requirement, through the CM process defined in section 1.5.5.2.

The Contractor is responsible for MCC-H, HSR and BCC ground systems integration and operations to ensure mission readiness of the ground systems and supporting the space flight operations contractor in the Certificate of Flight Readiness (CoFR) process. Readiness Review data requirements are established by the Flight Director Office. The contractor shall provide a Certificate of Flight Readiness Endorsement (DRD MSOC-JSC-0050).

1.5.1.1.2 Modification and Systems Engineering

For the MCC-H, BCC, and HSR the contractor shall provide systems engineering, modification engineering and service integration for all systems and subsystems as defined in the Level A and B requirements for these facilities. These services shall include modification, upgrade or replacement of the MCC-H hardware and software systems and interfaces.

The contractor shall provide supporting services that include technical analyses, cost assessment, "make/buy" decisions, and other specific activities necessary to accomplish the provisioning of services.

Typical systems engineering functions include:

- Integrated service elements and spacecraft solutions
- End-to-end Mission, Data and Center Unique service integration
- Requirements management, analysis and requirements/design trade studies
- Establishing systems engineering processes
- Operations and development systems standards support, coordination, and control
- Integrated architecture baseline configuration management and planning
- Design analyses, architecture trade-off, and Make or Buy assessments
- System-level functional designs development
- Engineering strategies development
- Service capacity, performance, and life cycle cost forecasting
- External interface negotiation and design
- Facilitate and coordinate designs across the contract, that are consistent with the NASA strategic architecture directions
- Evaluating and testing commercial off-the-shelf (COTS) software and hardware products including development and engineering tools
- Facility and Ops Support Team Operations concept development
- Proactive end-to-end risk analysis management and abatement
- Security engineering and analysis

The contractor shall:

- Provide system-engineering support of all modification requests per the Change Process defined in section 1.5.5.2.

- Receive NASA approval for all modifications that require a change to the MCC-H architecture or requirements.
- Provide a Design Review (DRD MSOC-JSC-0072) for all approved modifications.
- Document in the Design Specification (DRD MSOC-JSC-0073 all approved modifications and changes to the MCC-H Architecture).

Performance standards for the response to NASA driven modification requests are defined in section 1.5.1.1.6

The contractor shall:

- Perform hardware and software modifications to MCC-H systems and subsystems, including both custom and COTS hardware and software, per the change mechanism defined in section 1.5.5.2. The contractor is responsible for providing all hardware and software required to implement the modifications, unless otherwise specified through the change mechanism.
- Provide coordination of COTS software tools integration.
- Provide integration and coordination with external organizations for interface changes due to modifications.
- Provide sustaining engineering for all modifications to hardware and software.
- Perform operational analysis and system engineering of all modifications.
- Perform integration of all modifications with the current system and external organizations.
- Perform verification testing of all modifications per section 1.5.1.1.7 Test and Checkout.

The contractor shall:

- Provide delivery of modifications as a base service. The contractor is responsible for 2 deliveries per year for each MCC-H system/subsystem, as defined in paragraph 1.5.1.1, for modifications that are a requirement or architecture change. These deliveries may bundle several systems/subsystems or maintain separate deliveries as is most efficient. All other modifications shall be released as an independent modification delivery to operations per the Systems Lifecycle Process upon successful test completion.
- Provide modifications that are a requirement or architecture change in the delivery methodology per the Systems Lifecycle Process (DRD MSOC-JSC-0065).
- Maintain a schedule for all modifications. The NASA project manager approves schedule content and delivery date.
- Provide coordination of each delivery or independent modification delivery with external organizations and NASA.
- Receive NASA acceptance of the delivery with the Acceptance Review Package (DRD MSOC-JSC-0071).

The contractor shall provide an annual Fiscal Year Operating Plan (DRD MSOC-JSC-0022) that defines the modification content for the upcoming Fiscal Year. The scope for the modification content is dependent upon the NASA modification budget.

1.5.1.1.3 Maintenance and Sustaining Engineering

The contractor shall provide maintenance and sustaining engineering of the facility and the associated systems and subsystems per the configuration management process defined in Section 1.5.5.2. This includes associated hardware and software, both COTS and custom. Included shall be any transferred maintenance, operations and sustaining from the previous contract (refer to the bidders library for a listing of equipment and software). The performance expectation shall be to the level of facility, system and subsystem availability and reliability as specified by associated MCC-H System and Subsystem Level A and B Requirements and in SOW section 1.5.1.1.6 Performance Standards.

The contractor shall provide system engineering support of all sustaining engineering functions per the Change Process defined in section 1.5.5.2.

The contractor shall maintain a Design Specification (DRD MSOC-JSC-0073) for all sustaining engineering functions.

Performance of maintenance and sustaining engineering shall include the provision of: spares and a spares depot as required, maintenance agreements with hardware and software suppliers, software licenses, resolution of anomaly reporting for the software and equipment and its operations, calibration of test equipment, per JSC SLP4.11, Rev. B, Quality Management System (QMS) requirements, installation equipment, technical personnel to perform maintenance and repairs and sustaining engineering. Included is installation of new equipment and interface cabling, removal of obsolete equipment and cabling as agreed to by NASA, and the Equipment replacement (reference section 1.5.5.1.4 Equipment Replacement & Depreciation) for the facility. All processes used by the Contractor shall be in compliance with NASA, Federal, and State Standards as specified in the contract.

The Contractor shall provide integration and installation of Government Furnished Equipment (GFE) and software.

NASA is responsible for providing building power and plant engineering and operations in accordance with requirements documents, including the Mission Operation Directorate (MOD)/Center Operation Directorate (COD) Memorandum of Understanding (JSC-27049). The contractor shall be responsible for technical power and coordination of plant engineering and operations in accordance with requirements documents.

In performance of maintenance and sustaining engineering, the contractor shall:

- Provide coordination of Commercial-off-the-shelf (COTS) software tools integration.
- Provide integration and coordination with external organizations for interface changes.
- Perform operational analysis and system engineering of all updates.

- Perform integration with the current system and external organizations.
- Perform verification testing of all updates, including testing of IT security capabilities, per section 1.5.1.1.7 Test and Checkout.
- Provide technical support of the Meteorological Interactive Data Distribution Subsystem (MIDDS) to the Marshall Space Flight Center (MSFC).

The contractor shall:

- Provide releases of sustaining updates and changes as a base service per the Systems Lifecycle Process (DRD MSOC-JSC-0065). The contractor is responsible for up to 6 releases per year of each MCC-H system or subsystem. Sustaining changes that are independent from the release can be released to operations, per the Systems Lifecycle Process, upon successful test completion.
- Maintain a schedule for all sustaining updates and changes. The NASA project manager approves schedule content and delivery date.
- Provide coordination of each sustaining update and change with external organizations and NASA.
- Document test results per section 1.5.1.1.7 Test and Checkout.
- Report to NASA test completion success prior to release to operations.
- Provide to NASA at any time a copy of the MCC-H, HSR and BCC software (source and executables, including scripts and configurables). NASA shall accept responsibility for any export control of the software.

The contractor shall provide an annual Fiscal Year Operating Plan (DRD MSOC-JSC-0022) that defines the sustaining bases of estimate & content for the upcoming Fiscal Year to meet the sustaining requirements.

1.5.1.1.4 Operations

The contractor shall provide mission control operations services that include the capabilities to conduct mission operations. Services include facilitating the command, control and monitoring for launch vehicle, spacecraft, payloads, ground systems, subsystems and networks as specified in section 1.5.1.1.11 for both real-time and non-real-time operations. Additionally, support shall be provided to the Space Flight Meteorology Group.

The contractor shall:

- Provide a Training and Certification Plan (DRD MSOC-JSC-0053) to describe the contractor's plans for training and certification of operational support personnel for the MCC-H and IPS facilities.
- Provide trained and certified personnel required to support the capabilities to operate, control, setup and change configurations and operational status for ground systems, subsystems, support systems, external interfaces and networks. This includes system and subsystem software and hardware configurations, allocation of equipment and system/subsystem status and control.

Supporting services shall be provided to the flight support teams, headed by the Flight Director or designee, as required for operations and the execution of the Mission Control functions.

Mission Services shall include support to the multi-lateral and bi-lateral International Partner (IP) meetings [e.g., Ground Segment Control Board (GSCB), Security Analysis and Response Team (SART), Network and Communications Analysis Team (NACAIT) Integration Verification and Test (IV and T), Ground Segment Technical Interchange Meetings (TIMs), Joint Operations Panels (JOPs), etc.] to establish technical and operational interfaces and procedures with both the NASA and International Partner (IP) Mission Control Centers.

Supporting services shall also be provided to the NASA MOD IT Security Management as required for operations and support, execution, interpretation and analysis of the Mission Security Capabilities.

1.5.1.1.5 Facility Operations

The contractor shall provide MCC-H facility operation mission services consistent with the following mission support operational requirements:

- On Console, support up to 3-concurrent operations 456/hrs/week:
  - 1st operations – 24x7 = 168hrs
  - 2nd operations – 24x6 = 144 hrs (24x7 during Shuttle missions)
  - 3rd operations – 24x6 = 144 hrs
  - This staffing level is to include any off console work
- Security level - Mission Critical Security System Services
- Operational MCC-H: During shuttle missions: the second operation is 24x7 consistent with a shuttle flight rate of 4-7 flights per year (avg. flight = 10 days).
- On-call and special request for support is to be provided as required to meet special peak or critical periods of activity

The contractor shall provide HSR/BCC facility operation:

- Mission Critical Security Services
- 1 shift x 5 days. On call and special requests can be made 24x7
- In the event of a MCC-H deactivation and BCC activation, after the additional staffing arrives on-site (72 hours, consistent with Flight Control Team plans), provide 24x7 Telecom/Controller support for up to 60 days.

1.5.1.1.6 Performance Standards

The contractor provides ground systems services for mission control in accordance with requirements documents. The mission control ground systems support from the MCC-H perform unique critical functions and require a higher-level performance standard. Higher availability and reliability performance standards are defined as:

Required Service: Provide ground systems services for mission control.

Std of Excellence:	100% availability of critical and non-critical functions as defined in JSC-12804, MCC-H Level A Requirements.
Expectation:	99.5% availability of critical functions as defined in JSC-12804, MCC-H Level A Requirements, and in no case impact safety, mission success, or major program schedule milestones. There is to be 98% availability of non-critical functions, and in no case impact safety, mission success, or major program schedule milestones.
Required Service:	Provide ground systems services for mission control.
Std of Excellence:	99.95% reliability for 20 hours of critical functions as defined in JSC-12804, MCC-H Level A Requirements, with a maximum restore time of 1 minute.
Expectation:	99.5% reliability for 20 hours of critical functions as defined in JSC-12804, MCC-H Level A Requirements, with a maximum restore time of 1 minute

The contractor provides support for modification design and cost definition per the change mechanism defined in section 1.5.5.2. The response standards for a Type 1 Design Review (per DRD MSOC-JSC-0072) are defined as:

Required Service:	Provide SFDR and initial cost impact for NASA driven modifications
STD of Excellence:	Complete design and cost response in 8 weeks from SR submittal for 95% of the yearly modifications
Expectation:	Complete design and cost response in 10 weeks from SR submittal for 95% of the yearly modifications. SR submittal is defined as the time when the NASA Project manager or designee where applicable, submits the SR to the CM process for tracking.

The contractor provides modification and implementation of maintenance support for MCC-H software. Current MCC-H subsystems are assumed to be mature software unless 50% or more is changed in one year. The standards, for each MCC Subsystem, for Anomaly Report (AR) density in Kilo (i.e. 1000) Lines of Source Code (KSLOC) are as follows:

Required Service:	Maintain at or below the following "Open" anomaly density (AR/KSLOC) for new and existing MCC-H software.
Std of Excellence:	1 Anomaly per 8 KSLOC for mature software (greater than 2 years old) and 1 anomaly per 2 KSLOC for code less than 2 years old.
Expectation:	1 Anomaly per 5 KSLOC for mature software (greater than 2 years old) and 1 anomaly per 1 KSLOC for code less than 2 years old.

The standards for the response to Support Request (SR) implementation of hardware and software changes are defined as:

Required Service:	Implementation of hardware and software changes response. Implementation completion is defined as Return to Operations (RTO) for hardware changes and the release or delivery of a software change.
Std of Excellence:	Implementation of hardware or software reconfigurations or modifications shall be completed by the negotiated SR Operational Need Date (OND).
Expectation:	Implementation of hardware or software reconfigurations or modifications, that are priority 1 flight specific, shall be completed by the negotiated Operational Need Date (OND) for the flight specified.

The standards for the response to Support Request (SR) RTO/delivery/release of hardware and software changes are defined as:

Required Service:	RTO/delivery/release of hardware and software changes by the approved delivery/release date. Approved RTO/delivery/release date is defined as the negotiated and NASA Project Manager approved date that the contractor is expected to complete the SR implementation.
Std of Excellence:	Delivery/release of hardware and software changes shall be no longer than 14 days from the approved RTO/delivery/release date (impacts due to flight window changes or other exceptions are excluded with NASA Project Manager approval)
Expectation:	Delivery/release of hardware and software changes shall be no longer than 30 days from the approved RTO/delivery/release date (impacts due to flight window changes are excluded with NASA project manager approval.)

1.5.1.1.7 Test and Checkout

The contractor shall:

- Provide verification per the Test and Verification Plan and Procedures (DRD MSOC-JSC-0068 and DRD MSOC-JSC-0069) of all releases due to modification or maintenance changes, including IT Security capabilities.

- Provide verification of the operational MCC-H environment.
- Report test status and provide a Test and Verification Report (DRD MSOC-JSC-0070).
- Receive NASA approval of completing verification.
- Provide necessary test tools to complete verification.
- Be responsible for scheduling all required test resources.

The contractor shall:

- Perform performance testing on all major modification and sustaining releases per the Test and Verification Plan (DRD MSOC-JSC-0068), including IT security capabilities.
- Continually collect performance data and perform performance analysis of the MCC-H systems and subsystems for trend analysis.

- The Contractor shall provide inputs to the International Ground System Specification (IGSS) verification compliance matrix.

The contractor is responsible for verification of all IP Interface Control Documents, including IT security capabilities. This includes joint testing with the IP facility.

1.5.1.1.8 Interface Support

Management - The contractor shall:

- Provide support for Interface Control Documentation (ICD), (DRD MSOC-JSC-0063) for all MCC-H interfaces defined in the MCC-H Level A requirements.
- Ensure continued services and compatibility for all external network interfaces.
- Support International Technical Interchange Meetings (TIMs).

User - The contractor shall:

- Provide support for the Data Display and Computation system interfaces to user applications.
- Provide support for performance analysis and testing of the interfaces.
- Support troubleshooting of the interface

Technical - The contractor shall:

- Provide support for the maintenance, operations, and integration of all MCC-H interfaces as defined in the MCC-H Level A requirements.

Subcontract agreements- The contractor shall:

- The contractor is hereby authorized to utilize any excess capacity for the purposes of entering into an agreement with The Canadian Space Agency (CSA) on a non-interference and reimbursable basis. The contractor shall obtain payment directly from CSA and shall reimburse the Government via a credit to this contract on a revenue sharing basis of 50/50. The contractor recognizes that the Government reserves the right to exercise priority for use of its facility and property.

NASA is responsible for the Integrated Network Services (INS), which is an institutional information management system, and for the Mission Support Local Area Network (LAN), which provides interconnectivity between the user labs on site at JSC and within the MCC-H. The contractor shall:

- Coordinate INS and MSL network connectivity requirements through the NASA line management organization, Mission Operations Directorate (MOD).

1.5.1.1.9 Certification and Training

The contractor shall establish their training and certification plan for Maintenance and Operations personnel adhering to Occupational Safety and Health Administration (OSHA) and JSC safety standards and guidelines. The plan should generally follow the guidelines of the flight control team certification requirements that are defined in the NASA Mission Operations Directorate, Space Flight Personnel Certification Plan (DA-WI-16).

1.5.1.1.10 Metrics/Data and Reports

The contractor shall provide metrics and reports per DRD MSOC-JSC-0007 Metrics and Status Reports.

The contractor shall provide metrics reports providing insight into the facility operations:

- Process Integrity metrics – monthly and quarterly
- Availability - monthly

The Contractor shall provide data reports providing insight into the facility status:

- Performance – quarterly

The Contractor shall provide management reports and meeting support, providing insight into the overall facility:

- Activity Report - weekly
- Facility Status Report - daily
- Progress Report - monthly
- Project Integration Meeting - monthly
- Delivery Schedules Report - monthly
- Work Plan Report – daily and monthly
- DRD Status Report – monthly
- Project Status Reviews – monthly
- DV and Contractor tag-ups - biweekly
- MCC Control Board (CB)- weekly
- Equipment Replacement Working Group (ERWG) – weekly
- Process Integrity Metrics Review – quarterly
- MOD Flight Readiness Review (FRR) – per flight and increment
- MOD Flight Operations and Integration Group (FOIG) - weekly

- MOD Facility Status Telecon –daily
- MOD Product Integration Board (MPIB)- weekly
- MOD Subsystem User and status meetings
- Operational Readiness Test (ORT) working group meeting – twice weekly
- Test and Operations Board (T&O) – weekly
- MOD Integrated Scheduling meeting – weekly
- MOD Ops Cadre – weekly
- MOD MCC-H Recon Integration meeting – biweekly
- Command Hazard Report - yearly

The contractor shall provide support for agendas and minutes of Control Board and Panel, Project Integration Meeting, and Project Status Review meetings.

1.5.1.1.11 Requirements Documentation and Facility DRD's

The Contractor shall adhere to the latest revision of the following requirements documents: (changes to the level of support will be incorporated through the initiation and approval of SRs):

- ISSP International Ground Segment Specifications, SSP-54500
- ISSP Requirements Document, PRD/OR/PSP/OD 30000
- Internal Partner Protocol Agreements
- Requirements for Network, MCC-H Communications Systems, Ground Facilities, and Consulting Groups for Joint US/Russian Manned Space flight, WG-3/RSC E/NASA/005/3233
- SSP 50200-01 Station Program Implementation Plan Vol. 1: Station Program Management Plan
- SSP 50200-02 Station Program Implementation Plan Vol. 2: Program Planning and Manifesting
- SSP 50110 Multi-Increment Manifest Document
- Space Shuttle Program Requirements Document (Flight Operations Vol. I and II, Launch and Landing Vol. I and II), PRD/OR/PSP/OD 20000
- Space Shuttle Program, NSTS-07700 Volumes 8 and 14
- IPS Functional Requirements, JSC-13565
- ISS Orbital Volume I and II PRD/OR/PSP/OD 30000
- Software Management Plan USA000622
- Critical Processor Certification Policy USA002295
- Facility Management Policy USA002955
- MCC-H and IPS Operational Change Control Procedures SFOC-FL2333
- Flight Controllers Operations Handbook (FCOH)

The Contractor shall establish, maintain, adhere to, and publish the following facility documents and DRD's:

- All documents defined in Table 1.5.1.1.11 (adherence only for SFOC/SOC documents)

- Level A and B requirements (DRD MSOC-JSC-0062)
- Interface Control Documents (DRD MSOC-JSC-0063)
- Systems Lifecycle Process
- Test and Verification Plan
- Test and Verification Procedures
- Test Reports
- Interface Control Documents
- Design Notebook and Specifications
- Non Maintainable Equipment Replacement Plan
- Equipment Replacement Schedule and Manpower Plan "Roadmap" (DRD MSOC-JSC-0022)
- Design Review
- Fiscal Year Operating Plan and Program Operating Plan (POP)
- Security Plan
- CoFR Endorsement
- Acceptance Review
- Change Control Process

Table 1.5.1.1.11	MCC-H SYSTEMS LEVEL A/B/C REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
MCC-H System	**Level A Requirements Documents**
Mission Control Center (MCC) Level A Requirements	JSC – 12804
MCC-H System	**Level B/C Requirements Documents**
Telemetry System	LOR-TR1296 – Consolidated Communications Facility (CCF) System Definition Document, Volume 1, System Requirements JSC-13499 – Consolidated Communications Facility (CCF) Front-End Processing Subsystem (FEPS) Subsystem Requirements, Volumes I – XII, XV JSC-13497 – Consolidated Communications Facility (CCF) Consolidated Communications Interface Subsystem (CCIS) Subsystem Requirements, Volumes I - II JSC-13504 – Consolidated Communications Facility (CCF) Consolidated Distribution Subsystem (CDS) Subsystem Requirements, Volumes I - IV JSC-13509 – Consolidated Communications Facility (CCF) Test and Checkout Subsystem (TCS) Subsystem Requirements JSC-37504 – Mission Control Center Tracking and Data Relay Satellite System Real-Time Manager Functional Requirements JSC-37567 – Space Station Training Facility (SSTF) Front End Processing Subsystem (FEPS) ISS Ku-Band Simulated Zone of Exclusion (ZOE) Downlink Requirements
Command System	JSC-62655 – Mission Control Center Command Subsystem Requirements
Voice System	JSC-11028 – Digital Voice Intercommunications Subsystem, Level B/C Requirements JSC-37503 – Consolidated Communications Facility (CCF) Voice Subsystem Air/Ground Voice Equipment Requirements, Volumes I - III
Video System	JSC-13613 – Mission Control Center (MCC) Platform Services (PS) Video Subsystem (VS) Requirements

Table 1.5.1.1.11 (continued)	MCC-H SYSTEMS LEVEL A/B/C REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
Trajectory System	SFOC-FL0864 – Trajectory System Upgrade Project System Requirements Review USA-001662 – Trajectory Server System Requirements Specification SFOC-FL1493 – MCC Trajectory Server Application Requirements JSC-22396 – MCC Upgrade Host Software Level B Requirements SOC-RQ-600283B - MCC Level B/C Requirements for Shuttle System Monitoring and Control SOC-RQ-600287A - MCC Level B/C Requirements for Shuttle Operations Volume II - Trajectory Related Information Processing Software
Platform Services	JSC-37512 - Mission Control Center (MCC) Platform Services (PS) Subsystem Requirements JSC-13567, Volume I – Mission Control Center (MCC) Workstation and Server Platform (WSP) Subsystem Requirements, Workstation and Servers JSC-13567, Volume II – Control Center Complex Workstation and Server Platform Subsystem Requirements, General Purpose (GP) Tools JSC-13567, Volume III – Control Center Complex Workstation and Server Platform Subsystem Requirements, MPSR/Institutional Rooms Console Housings CSOC-JSC-REQ-000809 – Software Requirements Specification 2D Distributed Earth Model Orbiter Simulation (2D DEMOS) Application Software and Workstation Hardware JSC-13333 – Mission Control Center (MCC) Internal Data Distribution (IDD) Subsystem Requirements JSC-13562 – Control Center Complex Data Distribution and Workstation Platform System Strip Chart Recorder Subsystem Functional Requirements
Timing System	JSC-13334 – Mission Control Center (MCC) Timing Subsystem (TSS) Subsystem Functional Requirements
Operations Configuration Management System	JSC-37507 – Mission Control Center Operational Configuration Management Subsystem Requirements

Table 1.5.1.1.11 (continued)	MCC-H SYSTEMS LEVEL A/B/C REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
Status and Control System	JSC-37557 – Mission Control Center (MCC) Health and Status (HS) Subsystem Requirements
Data Archive System	JSC-62858 – Level B Operational Data Reduction Complex (ODRC) System Requirements Document
User Planning System (UPS) / Electronic User (EU) Application System	SFOC-FL2192 – Level B/C Requirements: User Planning System/Electronic User (UPS/EU) Application System Requirements for Control Center Complex (CCC)
Meteorological Interactive Data Display System (MIDDS)	SFOC-FL2189 – MIDDS and WDS Software Requirements Specification CSOC-JSC-RD-2768 – MIDDS Level B Requirements Document (In-work)
Orbital Communication Adapter (OCA) Ground System	JSC-28865 – Orbital Communications Adapter Ground System Level B Requirements
Information Sharing Protocol External Interface (ISPX)	JSC-62729 – Information Sharing Protocol External Interface (ISPX) Level B Requirements
External Interface System (EIS)	CSOC-JSC-RD-002524 - Mission Control Center Platform Services System External Interface Server (EIS) Subsystem Requirements
Electronic Documentation Project (EDP)	JSC-26679 - Electronic Documentation Project (EDP) Level B Requirements
Security Services	JSC-62510 – Mission Control Center (MCC) Security Data Processing Services Requirements Document JSC-13341 – Mission Control Center (MCC) Operating Systems (OS) and Security Services Subsystem Requirements

Table 1.5.1.1.11 (continued)	MCC-H SYSTEMS LEVEL A/B/C REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
Houston Support Room (HSR) Backup Control Center (BCC)	JSC-37558 – Backup Control Center (BCC) Houston Support Room (HSR) Platform Services System (PSS) Subsystem Requirements JSC-37559 – Backup Control Center (BCC) Houston Support Room (HSR) Telecommunications System (TS) Subsystem Requirements, Volume I, Voice Intercom Equipment JSC-37571 – Telecommunications System (TS) Backup Control Center (BCC) Subsystem Requirements, Volumes I – II
Goddard Space Flight Center (GSFC)	JSC-11534, Volume I – JSC/GSFC Operational Communications ICD for Mission Control Center Systems, Volumes I - XIV
George C. Marshall Space Flight Center (MSFC)	External Interface Control Document – JSC/ITF/SLS-MSFC Operational Communications ICD for Simulation of Mission Control Center Systems
Lewis Research Center (LeRC)	SSP-45003 – Space Station Control Center (SSCC) to Lewis Research Center (LeRC) Engineering Support Center (ESC) Interface Control Document (ICD)
Shuttle Mission Training Facility (SMTF)	External Interface Control Document – JSC Mission Control Center (MCC)/Integrated Training Facility (ITF) Operational Communications ICD for Simulation of Mission Control Center Systems
Integrated Planning System (IPS)	JSC-13555 – Integrated Planning System (IPS) and Mission Control Center Interface Control Document
Station Verification Facility (SVF)	JSC-50026 – Station Verification Facility (SVF) to Space Station Control Center (SSCC) and Electronic Systems Test Laboratory (ESTL) External Interface Control Document (ICD)
ISS Mission Operations Directorate (MOD) Avionics Reconfiguration System (IMARS)	JSC-37555 – Integrated Planning System (IPS) International Space Station (ISS) Mission Operations Directorate (MOD) Avionics Reconfiguration Subsystem (IMARS) Data Products Interface Specification
Electronic Systems Test Laboratory (ESTL)	JSC-13241 – Control Center Complex (CCC) to Electronic Systems Test Laboratory (ESTL) Interface Control Document (ICD)
Payload Operations Control Center (POCC)	JSC-11534, Volume IV – JSC Remote Payload Operations Control Center (POCC) Operational Communications Interface Control Document (ICD) for Mission Control Center Systems

Table 1.5.1.1.11 (continued)	MCC-H SYSTEMS LEVEL A/B/C REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
Huntsville Operations Support Center (HOSC)	SSP-45001 – SSCC to Huntsville Operations Support Center (HOSC) Interface Control Document (ICD), Part I
Canadian Space Agency (CSA)	SSP-45004 – Space Station Control Center to Canadian Space Agency Interface Control Document, Part I
Russian Space Agency (RSA)	SSP-50057 – Space Station Control Center to Russian Space Agency Ground Segment Interface Control Document, Part I
European Space Agency (ESA)	SSP-45011 – Space Station Control Center to European Space Agency Ground Segment Interface Control Document, Part I
Japan Aerospace Exploration Agency (JAXA)	SSP-45012 – Space Station Control Center to Japan Aerospace Exploration Agency (JAXA) Ground Segment, Part I
Italian Space Agency (ASI)	SSP-50612 – Space Station Control Center / Space Station Processing Facility to Italian Space Agency Ground Segment Interface Control Document

1.5.1.2 Integrated Planning System (IPS)

The IPS provides the planning and analysis tools required to support long-range mission and vehicle assessments, trajectory design, mission and increment planning, pre-mission contingency analysis, Robotics planning and analysis, ISS avionics reconfiguration, and direct mission support. The IPS is a distributed system at NASA and is currently located, but not limited to JSC, Buildings 30 (A, M, S, L), 4N, 5, 35, 585, 595 Gemini, and 600 Gemini. The SCSC equipment in Russia is not part of the IPS, but shall be maintained by the contractor. IPS also includes ISS Mission Operations Directorate Automated Reconfiguration Software (IMARS) equipment and the Robotics Planning Facility, as subsystems or components of the IPS configuration.

Primary areas of functionality provided by IPS include Space Shuttle Flight Design and Dynamics, ISS Avionics reconfiguration, ISS Resource Utilization Planning and System Models, ISS Procedures Development and Control, and functions common to both Space Shuttle and ISS including Flight Dynamics Planning and Analysis, Consolidated Planning System, Planning Information Management (PIM), and Robotics planning and analysis.

IPS is allocated to two segments: the Application Segment and the Platform Segment. The Application Segment is partitioned into Space Shuttle Flight Design and Dynamics (FD&D), ISS flight planning and analysis, Robotics planning and analysis, ISS reconfiguration processing, and common software applications that provide Multi-program tools for planning and analysis. The Platform Segment provides the hardware, COTS, and non-COTS software

to support the Application Segment. The Platform Segment is defined to include the subsystems designed to enforce system-wide policies. In addition, the Platform Segment consolidates and integrates common lower-level services needed by the Application Segment subsystems.

1.5.1.2.1 Management

In support of the IPS services, the contractor shall:

- Maintain and provide upgrades to the IPS systems and subsystems, Ensure IPS functionality per the Level A and B requirements (section 1.5.1.2.11, table 1.5.1.2.11),
- Provide operations support, and
- Provide program and technical services support.

IPS services consist of system engineering, modification, maintenance, sustaining engineering, operations, facility operations, performance standards, test and checkout, interface support, certification, training, travel, reports and requirement documentation.

The contractor is responsible for configuration management and documentation maintenance of the IPS architecture baseline, Level A, and Level B system/subsystem requirements. NASA owns the IPS architecture and the requirements (i.e., signature approvals) and is responsible for approving any changes to the IPS architecture or the requirements baseline. Where changes to the baseline introduce tradeoffs between existing IPS requirements or between existing IPS requirement and performance improvements, the NASA IPS project management shall be the deciding official, including the authority to change or waive the IPS requirement, through the CM process defined in section 1.5.5.2.

The Contractor is responsible for IPS systems integration and operations to ensure mission readiness of the systems and subsystems and supporting the space flight operations contractor in the Certificate of Flight Readiness (CoFR) Endorsement (DRD MSOC-JSC-0050). The Flight Director Office establishes the readiness review data requirements.

1.5.1.2.2 Modification and Systems Engineering

For the IPS the contractor shall provide systems engineering, modification engineering and service integration for all systems and subsystems, including all hardware and software, as defined in the Level B requirements for these facilities, and per the change mechanism of section 1.5.5.2. These services shall include modification, upgrade or replacement of the IPS hardware and software systems and subsystems and interfaces.

The contractor shall provide supporting services that include technical analyses, cost assessment, "make/buy" decisions, and other specific activities necessary to accomplish the provisioning of services.

The Contractor shall also provide operations analysis, systems engineering, integration, testing, logistics, custom software/hardware development and coordination of COTS tools for IPS.

Typical systems engineering functions include:

- Integrated service elements and spacecraft solutions
- End-to-end Mission, Data and Center Unique service integration
- Requirements management, analysis and requirements/design trade studies
- Establishing systems engineering processes
- Operations and development systems standards support, coordination, and control
- Integrated architecture baseline configuration management and planning
- Design analyses, architecture trade-off, and Make or Buy assessments
- System-level functional designs development
- Engineering strategies development
- Service capacity, performance, and life cycle cost forecasting
- External interface negotiation and design
- Evaluating and testing commercial off-the-shelf (COTS) software and hardware products including development and engineering tools
- Operations concept development
- Proactive end-to-end risk analysis management and abatement
- Facilitate and coordinate designs across the contract, that are consistent with the NASA strategic architecture directions
- Security engineering and analysis

The contractor shall:

- Provide system-engineering support of all modification requests per the Change Process defined in section 1.5.5.2.
- Receive NASA approval, per section 1.5.5.2, for all modifications that require a change to the IPS architecture or requirements.
- Provide Design Review (DRD MSOC-JSC-0072) for all approved modifications.
- Document in the Design Specification (DRD MSOC-JSC-0073) all approved modification changes to the IPS Architecture.

Performance standards for the response to NASA driven modification requests are defined in section 1.5.1.2.6

The contractor shall:

- Perform hardware and software modifications to IPS systems and subsystems, including both custom and COTS hardware and software, per the change mechanism defined in section 1.5.5.2. The contractor is responsible for providing all hardware and software required to implement the modifications, unless otherwise specified through the change process.
- Provide coordination of COTS software tools integration.

- Provide integration and coordination with external organizations for interface changes due to modifications.
- Provide sustaining engineering for all modifications to hardware and software.
- Perform operational analysis and system engineering of all modifications.
- Perform integration of all modifications with the current system and external organizations.
- Perform verification testing of all modifications.

The contractor shall:

- Provide delivery of modifications as a base service. The contractor is responsible for up to 2 modification deliveries per year of each IPS subsystem for modifications that are a requirement or architecture change. All other modifications shall be released as an independent modification delivery to operations per the Systems Lifecycle Process (DRD MSOC-JSC-0065) upon successful test completion.
- Provide modifications that are a requirement or architecture change in the delivery methodology per the Systems Lifecycle Process (DRD MSOC-JSC-0065).
- Maintain a schedule for all modifications. The NASA project manager approves schedule content and delivery date.
- Provide coordination of each delivery or independent modification delivery with external organizations and NASA.
- Receive NASA acceptance of the release per the Acceptance Review Package (DRD MSOC-JSC-0071).

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the modification content for the upcoming Fiscal Year. The scope for the modification content is dependent upon the NASA modification budget.

1.5.1.2.3 Maintenance and Sustaining Engineering

The contractor shall provide maintenance and sustaining engineering of the facility and the associated systems and subsystems. For these facilities, the contractor shall provide hardware and software support, per the change mechanism of section 1.5.5.2. This includes associated hardware and software (both COTS and custom) and Government Furnished Equipment (GFE) provided systems. The performance expectation shall be to the level of facility, system and subsystem availability and reliability as specified by associated IPS Subsystem Level B Requirements and in section 1.5.1.2.6.

The contractor shall provide system engineering support of all sustaining engineering functions per the Change Process defined in Section 1.5.5.2.

The contractor shall maintain and provide a Design Specification (DRD MSOC-JSC-0073) and an Integrated Planning System (IPS) Future Facility Change Plan (DRD MSOC-JSC-0067) for all sustaining engineering functions.

Performance of maintenance and sustaining engineering shall include the provision of spares and a spares depot, as required for the contractor to meet the availability requirements, maintenance agreements with hardware and software suppliers, software licenses, resolution of anomaly reporting for the equipment and its operations, required test equipment, installation equipment, technical personnel to perform maintenance and repairs and sustaining engineering. Included is installation of new equipment and interface cabling, as required by NASA and Contractor approved processes, removal of obsolete equipment and cabling per agreed to NASA and Contractor processes and the Equipment replacement (reference section 1.5.5.1.4 Equipment Replacement & Depreciation) for the facility.

The Contractor shall provide integration and installation of Government Furnished Equipment (GFE) and software.

NASA is responsible for providing building power and plant engineering and operations in accordance with requirements documents, including the MOD/COD Memorandum of Understanding (JSC-27049). The Contractor shall be responsible for technical power and coordination of plant engineering and operations in accordance with requirements documents.

The contractor shall:

- Provide coordination of COTS software tools integration.
- Provide integration and coordination with external organizations for interface changes.
- Perform operational analysis and system engineering of all updates.
- Perform integration with the current system and external organizations.
- Perform verification testing of all updates, including testing of IT security capabilities.

The contractor shall:

- Provide releases of sustaining updates as a base service per the Systems Lifecycle Process (DRD MSOC-JSC-0065). The contractor is responsible for up to 6 releases per year of each IPS subsystem/system for sustaining updates and code corrections. Sustaining changes that are independent from the release can be released to operations, per the Systems Lifecycle Process, upon successful test completion.
- Maintain a schedule for all sustaining updates and changes. The NASA project manager approves schedule content and delivery date.
- Provide coordination of each release with external organizations and NASA.
- Receive NASA acceptance of the release per the Acceptance Review Package (DRD MSOC-JSC-0071).
- Provide to NASA at any time a copy of the IPS software (source and executables, including scripts and configurables). NASA shall accept responsibility for any export control of the software.

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the sustaining bases of estimate & content for the upcoming Fiscal Year to meet the sustaining requirements.

1.5.1.2.4 Operations

The contractor shall provide IPS operations services that include the capabilities to conduct mission planning and support.

The contractor shall:

- Provide a Training and Certification Plan (DRD MSOC-JSC-0053) to describe the contractor's plans for training and certification of operational support personnel for the MCC-H and IPS facilities.
- Provide trained and certified personnel to support the capabilities to operate, control, setup and change IPS configurations and operational status for: ground systems, subsystems, support systems, external interfaces and networks. This includes IPS system and subsystem software and hardware configurations, allocation of equipment and system/subsystem status and control.

Operation support services shall be provided in support of the Day of Launch Initialization Load Update (DOLILU) requirement. The contractor shall maintain Facility Operations Procedures (DRD MSOC-JSC-0051) for IPS operations.

1.5.1.2.5 Facility Operations

The Contractor shall provide the following IPS facility operation:

- Security Level - Mission Critical Security Services
- For DOLILU (flight critical system)
  - DTS analyst on-site at L-16 until release after launch
  - Sys Admin on-site at L-8 until release after launch
  - 2 hour on-call response time for contingency landing support
- For IPS platform in general
  - 12x5 on-site support
  - 24-hour hardware repair time
- For the IPS PC Subnet Inventory Stowage Officer Equipment
  - 8x5 on-site support
  - 2-hour return call for duty hours outside of the 8X5 normal support period. This support is required for up to 5 Shuttle-ISS Assembly flights per year, for Shuttle Launch -2 days through landing;
  - 24 hour restore to ops for the PC Subnet ISO Servers for up to 8 times per year."

The Contractor shall provide Security Level- Mission Support System Services for the IPS PC Subnet.The contractor shall maintain Facility Operations Procedures (DRD MSOC-JSC-0051) for IPS facility operations.

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1.5.1.2.6 Performance Standards

The contractor provides ground systems services for IPS in accordance with requirements documents contained in the IPS Level A and Level B Requirements.

For DOLILU:

Required Service:	Provide ground systems services for Day-of-Launch Initialization-Load Updates (DOLILU).
Std of Excellence:	99.95% reliability for 4 hours of critical functions as defined in JSC-13565, IPS Level A Requirements.
Expectation:	99.5% reliability for 4 hours of critical functions as defined in JSC-13565, IPS Level A Requirements, and in no case impact safety, mission success, or major program schedule milestones.

For the IPS Platform in general:

Required Service:	Provide ground system services for IPS platform
Std of Excellent:	100% availability, excluding scheduled downtime
Expectation:	98% availability of non-critical functions, for all unscheduled outages and down times 95% availability of non-critical functions, for all scheduled and unscheduled outages and down times

The contractor provides support for modification design and cost per the change mechanism defined in section 1.5.5.2. The response standards for per Type 1 Design Review (DRD MSOC-JSC-0072) are defined as:

Required Service:	Provide design and cost impact for NASA driven modifications
STD of Excellence:	Complete design and cost response in 8 weeks from SR submittal for 95% of the yearly modifications. SR submittal is defined as the time when the NASA Project manager or designee, where applicable, submits the SR to the CM process for tracking.
Expectation:	Complete design and cost response in 10 weeks from SR submittal for 95% of the yearly modifications

The contractor provides modification and implementation of maintenance support for IPS software. The standards for Anomaly Report (AR) density are as follows:

Required Service:	Maintain at or below the following "Open" anomaly density (AR/KSLOC) for new and existing IPS software.

Std of Excellence: 1 Anomaly per 8 KSLOC for mature software (greater than 2 years old) and 1 anomaly per 2 KSLOC for code less than 2 years old.

Expectation: 1 Anomaly per 5 KSLOC for mature software (greater than 2 years old) and 1 anomaly per 1 KSLOC for code less than 2 years old.

The standards for the response to Support Request (SR) RTO/delivery/release of hardware and software changes are defined as:

Required Service: RTO/delivery/release of hardware and software changes by the approved delivery/release date. Approved RTO/delivery/release date is defined as the negotiated and NASA Project Manager approved date that the contractor is expected to complete the SR implementation.

Std of Excellence: Delivery/release of hardware and software changes shall be no longer than 14 days from the approved RTO/delivery/release date (impacts due to flight window changes are excluded with NASA project manager approval)

Expectation: Delivery/release of hardware and software changes shall be no longer than 30 days from the approved RTO/delivery/release date (impacts due to flight window changes are excluded with NASA project manager approval)

1.5.1.2.7 Test and Checkout

The contractor shall:

- Provide verification of all releases per the Test and Verification Plan and Procedures (DRD MSOC-JSC-0068 and DRD MSOC-JSC-0069) due to modifications or maintenance change.
- Provide verification of the operational IPS environment.
- Report test status.
- Provide Test and Verification Reports (DRD MSOC-JSC-0070).
- Receive NASA approval of system test procedures, system test plan, and system test completion.
- Provide necessary test tools to complete verification.
- Be responsible for scheduling all required test resources.

The contractor shall:

- Perform performance testing on all major modification and sustaining releases per the Test and Verification Plan (DRD MSOC-JSC-0068), including IT security capabilities.
- The Contractor shall provide inputs to the International Ground System Specification (IGSS) verification compliance matrix.

The contractor is responsible for verification of all Interface Control Documents, including IT security capabilities. This includes support of joint testing with the external facilities.

1.5.1.2.8 Interface Support

Management - The contractor shall provide support for documentation of all IPS interfaces as defined in the IPS Level A requirements.

Technical - The contractor shall:

- Provide support for the integration of all IPS interfaces as defined in the IPS Level A requirements.
- Install and maintain the external interfaces for the IPS external customers.
- Provide installation and maintenance for the interfaces.
- Provide system testing and integration support.
- Provide all system interfaces.
- Provide technical systems engineering and operational support to the Ground Segment Control Board (GSCB) and International Technical Interchange Meetings (TIMs).

1.5.1.2.9 Certification and Training

The contractor shall establish their training and certification plan for Maintenance and Operations personnel adhering to OSHA and JSC safety standards and guidelines. The plan should generally follow the guidelines of the flight control team certification requirements that are defined in the NASA Mission Operations Directorate, Space Flight Personnel Certification Plan (DA-WI-16).

1.5.1.2.10 Metrics/Data and Reports

The Contractor shall provide metrics and reports per DRD MSOC-JSC-0007.

The Contractor shall provide metrics reports providing insight into the facility operations:

- Integrity metrics – monthly and quarterly
- Availability –monthly, and weekly (summed daily) electronic availability reports

The Contractor shall provide data reports providing insight into the facility status:

- Performance – quarterly

The Contractor shall provide management reports providing insight into the overall facility and support meetings:

- Activity Report - weekly
- Facility Status Report - daily
- Project Integration Meeting (IPT) - monthly
- Delivery Schedules Report - monthly
- Work Plan Report (SR Work Plan) – Weekly

- DRD Status Report – monthly
- Project Status Reviews (PSR) – monthly
- Process Integrity Metrics Review (PIMR)-quarterly
- IPS Staff Meeting – weekly
- MOD Flight Readiness Review (FRR) (in support of the Mission Management contractor for flight/increment readiness – per flight and increment)
- MOD Flight Operations and Integration Group (FOIG)- weekly
- MOD Facility Status Telecon – daily
- IPS Platform Change Assessment Group (PCAG) – Monthly
- IPS Users' Meeting –bi-monthly
- IPS User Scheduling Coordination Meeting –bi-monthly
- IPS Control Board – Monthly
- IPS Technical Control Panels (TCP) – bi-monthly
- Platform TCP – Monthly

Requirements Documentation and Facility DRD's

The Contractor shall adhere to the latest revision of the following requirements documents:

- ISSP International Ground Segment Specifications, SSP-54500
- ISSP Requirements Document, PRD/OR/PSP/OD 30000
- Internal Partner Protocol Agreements
- Requirements for Network, MCC-H Communications Systems, Ground Facilities, and Consulting Groups for Joint USA/Russia Manned Space flight, WG-3/RSC E/NASA/005/3233
- SSP 50200-01 Station Program Implementation Plan Vol. 1: Station Program Management Plan
- SSP 50200-02 Station Program Implementation Plan Vol. 2: Program Planning and Manifesting
- SSP 50110 Multi-Increment Manifest Document
- Space Shuttle Program Requirements Document (Flight Operations Vol. I and II, Launch and Landing Vol. I and II), PRD/OR/PSP/OD 20000
- Space Shuttle Program, NSTS-07700 Volumes 8 and 14
- IPS Functional Requirements, JSC-13565
- ISS Orbital Volume I and II PRD/OR/PSP/OD 30000
- Software Management Plan USA000622
- Critical Processor Certification Policy USA002295
- Facility Management Policy USA002955
- MCC-H and IPS Operational Change Control Procedures SFOC-FL2333
- Flight Controllers Operations Handbook (FCOH)

The Contractor shall establish, maintain, adhere to, and publish the following facility documents and DRD's:

- All documents defined in Table 1.5.1.2.11
- Integrated Planning System (IPS) Facility Operations Procedures (MSOC-JSC-0051)
- Integrated Planning System (IPS) Future Facility Change Plan (MSOC-JSC-0067)
- Systems Lifecycle Process
- Test and Verification Plan
- Test and Verification Procedures
- Test Reports
- Interface Control Documents (DRD MSOC-JSC-0063)
- Design Notebook and Specifications
- Non Maintainable Equipment Replacement Plan
- Design Review
- Fiscal Year Operating Plan and Program Operating Plan (POP)
- Security Plan
- CoFR Endorsement
- Acceptance Review
- Change Control Process
- Level A and B requirements (DRD MSOC-JSC-0062)
- IPS Operations Concept (DRD MSOC-JSC-0074)

Table 1.5.1.2.11	IPS SYSTEMS LEVEL A/B REQUIREMENTS and INTERFACE CONTROL DOCUMENTS (ICDs)
IPS System	**Level A Requirements Document**
Integrated Planning System (IPS) Level A Requirements	JSC-13565, "IPS Level A Requirements." Latest revision.
IPS System	**Level B/C Requirements Document**
	JSC-37505, "IPS Platform Subsystem Level B requirements," latest revision JSC-13350, "IPS Consolidated Planning System (CPS) Subsystem Functional Requirements," latest revision JSC-13352, "IPS Resource Utilization Planning and System Model (RUPSM) Subsystem Functional Requirements," latest revision JSC-13419, "IPS Flight Dynamics Planning and Analysis (FDPA) Subsystem Functional Requirements," latest revision JSC-13325, "IPS Procedure Development and Control (PDAC) Subsystem Functional Requirements," latest revision JSC-12804, "Mission Control Center (MCC) Level A requirements," latest revision JSC Letter DA9-02-02, "MCC PC Network Hosting Policy," February 2002 Implementation of modifications to the IPS should adhere to the standards and constraints specified in JSC-13565, including Appendix C, unless justification is provided and approved by the NASA IPS Project Manager. Implementation of external interfaces to IPS shall be as specified in JSC-13565 and the associated Interface Control Documents.
IPS Interface	**Interface Control Document**
See MCC ICD Table 1.5.1.1.11	See MCC ICD Table 1.5.1.1.1
Attitude and Pointing Flight Production Facility (APFPF)	JSC-13640, IPS and Attitude and Pointing Flight Production Facility (APFPF) Interface Control Document, latest revision

1.5.2 Mission Support Services Function

The mission support services function provides communication and software development support environment.

1.5.2.1 Reserved

1.5.2.2 Consolidated Development Environment (CDE)

CDE is located at JSC within the MCC-H facility, 4N and 600 Gemini, as a supporting facility to flight operations development requirements.

1.5.2.2.1 Management

The contractor shall provide CDE management services such as those processes that accomplish the planning, interface testing and verification, systems engineering, sustaining engineering, design, development, logistics, operations and analysis of systems for the facility in support of the following MCC-H flight support development and sustaining activities:

- Software platform development, modification, delivery, test verification and deployment into the operational environment
- User Application software development, modification, delivery, test verification and deployment into the operational environment.
- Hardware systems development, modification, delivery, test verification and deployment into the operational environment.
- Flight support reconfiguration products development, delivery, modification, test verification and deployment into the operational environment.

1.5.2.2.2 Modification and Systems Engineering

For the CDE, the contractor shall:

- Provide systems engineering, modification engineering and service integration for all systems and subsystems as defined in the Level A and B requirements for these facilities. These services include modification, upgrade or to the MCC-H hardware and software systems and interfaces.
- Provide supporting services that include technical analyses, cost assessment, "make/buy" decisions, and other specific activities necessary to accomplish the provisioning of services.

Typical systems engineering functions include:

- Integrated service elements and spacecraft solutions
- End-to-end Mission, Data and Center Unique service integration

- Requirements management, analysis and requirements/design trade studies
- Establishing systems engineering processes
- Operations and development systems standards support, coordination, and control
- Integrated architecture baseline configuration management and planning
- Design analyses, architecture trade-off, and Make or Buy assessments
- System-level functional designs development
- Engineering strategies development
- Service capacity, performance, and life cycle cost forecasting
- External interface negotiation and design
- Facilitate and coordinate services across the contract, consistent with the strategic architecture
- Evaluating and testing commercial off-the-shelf (COTS) software and hardware products including development and engineering tools
- Facility and Ops Support Team Operations concept development
- Proactive end-to-end risk analysis management and abatement
- Security engineering and analysis

The contractor shall receive NASA approval for all modifications that require a change to the CDE architecture or requirements. Performance standards for the response to NASA driven modification requests are defined in section 1.5.2.2.6

The contractor shall:

- Perform hardware and software modifications to CDE systems and subsystems per the change mechanism defined in section 1.5.5.2.
- Perform modifications to contractor developed hardware and software as defined in this contract.
- Perform modifications to COTS software and hardware as defined in this contract.

The contractor shall:

- Provide coordination of COTS software tools integration.
- Provide integration and coordination with external organizations for interface changes due to modifications.
- Provide sustaining engineering for all modifications to hardware and software.
- Perform operational analysis and system engineering of all modifications.
- Perform integration of all modifications with the current system and external organizations.
- Perform verification testing of all modifications.
- The contractor shall provide coordination of modifications with external organizations and NASA.

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the modification content for the upcoming Fiscal Year. The scope for the modification content is dependent upon the NASA modification budget.

1.5.2.2.3 Maintenance and Sustaining Engineering

The contractor shall provide systems engineering, maintenance, and sustaining engineering of the CDE and the associated hardware and software components.

- This includes associated hardware and software (both COTS and custom). Performance of maintenance and sustaining engineering includes the provision of spares, maintenance agreements with hardware and software suppliers, software licenses, resolution of anomaly reporting for the equipment and its operations, required test equipment installation, equipment, technical personnel to perform maintenance and repairs and sustaining engineering support of these maintenance functions.
- Included shall be installation of new equipment and interface cabling, as required by NASA and Contractor approved processes, removal of obsolete equipment and cabling per agreed to NASA and Contractor processes and the Equipment Replacement plan for the CDE facility.

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the maintenance and sustaining engineering content for the upcoming Fiscal Year.

1.5.2.2.4 Operations

The operations support to the CDE is to be provided per the Schedule of MCC-H Activities process. The support would be defined as one of the activities defined by section 1.5.1.1.5.

1.5.2.2.5 Facility Operations

- Security Level - Mission Critical System Services
- 8 hrs. x 5 days (nominal)
- 24 hrs. x 7 days (as required)
- 8 hrs. x 5 days System Administration Support

1.5.2.2.6 Reserved

1.5.2.2.7 Test and Checkout

The contractor shall:

- Test all changes to CDE hardware or software prior to releasing to CDE operations.
- Provide Test and Verification Procedure (MSOC-JSC-0069) and Test and Verification Report (MSOC-JSC-0070) for CDE changes.

1.5.2.2.8 Interface Support

Management - The contractor shall:

- Provide support for Interface Control Documentation (ICD) (DRD MSOC-JSC-0063) of all CDE interfaces.

- Ensure continued services and compatibility for all external network interfaces.

User - The contractor shall:

- Provide support for the Data Display and Computation system interfaces to user applications.
- Provide support for performance analysis and testing of the interfaces.
- Support troubleshooting of the interface

Technical - The contractor shall provide support for the maintenance, operations, and integration of all CDE interfaces as defined in the MCC Level A requirements.

1.5.2.2.9 Certification and Training

The contractor shall establish their certification and training plan for Maintenance and Operations personnel adhering to OSHA and JSC safety standards and guidelines

1.5.2.2.10 Metrics and Reports

The contractor shall provide Metric and Status Reports (MSOC-JSC-0007) of the availability and utilization of CDE services.

1.5.2.2.11 Requirements Documentation and DRD's

Refer to section 1.5.1.1.11

1.5.2.3 Ground Systems Development Environment (GSDE)

The Ground Systems Development Environment (GSDE) is a NASA owned facility used to develop ground systems for MCC-H, BCC, HSR and IPS. Its focus is primarily hardware/infrastructure. Physical location is as deemed necessary by both NASA and the contractor. This can be co-located at the JSC facility or an off-site location at the contractor's facility. Location should be determined as best expedites and provides for the most cost effective means to provide the Ground Systems Development support function. Typically, new systems shall be installed, configured, tested and evaluated in the GSDE before deployment to the CDE or I&T and then the Operational Control Center or IPS environment.

The GSDE is used to develop, test and certify platform services, user applications, and other software prior to promotion into operations.

1.5.2.3.1 Management

The contractor shall provide GSDE management services such as those processes that accomplish the planning, interface testing and verification, systems engineering, sustaining

engineering, design, development, logistics, operations and analysis of systems for the facility in support of the following MCC-H flight support development and sustaining activities:

- Software platform development, modification, delivery, test verification and deployment into the operational environment
- Hardware systems development, modification, delivery, test verification and deployment into the operational environment.

1.5.2.3.2 Modification and Systems Engineering

For the GSDE, the contractor shall provide systems engineering, modification engineering and service integration for all systems and subsystems, including custom and COTS hardware and software, as defined in the MCC-H and IPS Level A and B requirements for these facilities. These services include modification, upgrade or replacement to the MCC-H or IPS hardware and software systems and interfaces.

The contractor shall provide supporting services that include technical analyses, cost assessment, "make/buy" decisions, and other specific activities necessary to accomplish the provisioning of services.

Typical systems engineering functions, as appropriate, include:

- Integrated service elements and spacecraft solutions
- End-to-end Mission, Data and Site Support service integration
- Requirements management, analysis and requirements/design trade studies
- Establishing systems engineering processes
- Operations and development systems standards support, coordination, and control
- Integrated architecture baseline configuration management and planning
- Design analyses, architecture trade-off, and Make or Buy assessments
- System-level functional designs development
- Engineering strategies development
- Service capacity, performance, and life cycle cost forecasting
- External interface negotiation and design
- Facilitate and coordinate services across the contract, consistent with the strategic architecture
- Evaluating and testing commercial off-the-shelf (COTS) software and hardware products including development and engineering tools
- Facility and Ops Support Team Operations concept development
- Proactive end-to-end risk analysis management and abatement
- Security engineering and analysis

The contractor shall obtain NASA approval for all modifications that require a change to the GSDE architecture or requirements. Performance standards for the response to NASA driven modification requests are defined in section 1.5.2.3.6

The contractor shall:

- Perform hardware and software modifications to GSDE systems and subsystems per the change mechanism defined in section 1.5.5.2.
- Perform modifications to contractor developed hardware and software as defined in this contract.
- Perform modifications to COTS software and hardware as defined in this contract.

The contractor shall:

- Provide coordination of COTS software tools integration.
- Provide integration and coordination with external organizations for interface changes due to modifications.
- Provide sustaining engineering for all modifications to hardware and software.
- Perform operational analysis and system engineering of all modifications.
- Perform integration of all modifications with the current system and external organizations.
- Perform verification testing of all modifications.

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the modification content for the upcoming Fiscal Year. The scope for the modification content is dependent upon the NASA modification budget.

1.5.2.3.3 Maintenance and Sustaining Engineering

Performance of maintenance and sustaining engineering includes the provision of spares, maintenance agreements with hardware and software suppliers, software licenses, resolution of anomaly reporting for the equipment and its operations, required test equipment installation, equipment, technical personnel to perform maintenance and repairs and sustaining engineering support of these maintenance functions.

Also included is installation of new equipment and interface cabling, as required by NASA and Contractor approved processes, removal of obsolete equipment and cabling per agreed to NASA and Contractor processes and the Equipment replacement plan for the GSDE facility.

The contractor shall:

- Provide sustaining as required.
- Provide systems engineering, maintenance, and sustaining engineering of the GSDE and the associated hardware and software components. This includes associated hardware and software (both COTS and custom).

The contractor shall provide an annual Fiscal Year Operating plan (DRD MSOC-JSC-0022) that defines the maintenance and sustaining engineering content for the upcoming Fiscal Year

1.5.2.3.4 Operations

Operations support is primarily maintenance and sustaining engineering.

1.5.2.3.5 Facility Operations

The contractor shall provide:

- Security Level - Mission Critical Support System Services
- 8x5 except for special support 24x7 as needed
- 8x5 of system administration support.

1.5.2.3.6 Reserved

1.5.2.3.7 Test and Checkout

The contractor shall test all changes to GSDE hardware or software prior to releasing to GSDE operations. . The contractor shall provide Test and Verification Procedure (MSOC-JSC-0069) and Test and Verification Report (MSOC-JSC-0070) for GSDE changes.

1.5.2.3.8 Interface Support

Management -The contractor shall:

- Provide support for Interface Control Documentation (ICD) (DRD MSOC-JSC-0063) of all GSDE interfaces. .
- Ensure continued services and compatibility for all external network interfaces.

Technical - The contractor shall provide support for the maintenance, operations, and integration of all GSDE interfaces.

1.5.2.3.9 Certification and Training

The contractor shall establish their certification and training plan for Maintenance and Operations personnel adhering to OSHA and JSC safety standards and guidelines

1.5.2.3.10 Reserved

1.5.2.3.11 Requirements Documentation and DRD's

Refer to Section 1.5.1.1.11

1.5.3 Reserved

1.5.4 Program Support Services (Level-of-Effort)

Program Support Services (PSS) are those services provided directly in support of NASA. Personnel shall be familiar with all of the JSC Mission and Mission Support facilities to ensure proper technical interface support between MOD and the applicable NASA program or project. This section of the contract shall be initiated via Task Order using the Task Ordering Procedure clause contained in Section H. Travel plans for each PSS Task are per DRD MSOC-JSC-0023.

1.5.4.1 GSCB

The GSCB is a multilateral ISS Program level board that established a baseline for and controls subsequent change to operations and mission integration ground facilities related products. The GSCB also provides a forum for the resolution of technical and schedule issues, including joint operations and utilization issues.

Two Sub-Teams are chartered under the GSCB to work specific function areas for ground systems interfaces and the contractor shall provide support to these teams.

- Security Analysis and Response Team (SART)
- Network and Communications Analysis Integration Team (NACAIT)

1.5.4.2 Security Analysis and Response Team (SART)

The SART is chartered to integrate and coordinate the ISS Program level ground system security process. In support of SART, the contractor shall provide a program level security risk analysis and risk mitigation recommendations for the shared and networked ISS ground systems. The contractor shall investigate ISS ground system security incidents, and provide rapid response to security incidents.

The Security Analysis and Response Team (SART) provides for the development of security agreements, security requirements, architecture changes and security protective mechanisms applications for the IP Interfaces with NASA. Service level of support shall be defined annually. Average support is estimated at 3 FTE (estimate 1860 hrs/FTE) annually.

1.5.4.2.1 Security Engineering Support

The contractor shall provide security-engineering support for:

- Security Documentation review and evaluation for NASA and IP documentation
- GSCB, MIOCB Document review and evaluation
- Development of Program Process and Procedures regarding security
- Security Incident support including, but not limited to, the development of operating procedures, event reporting, event response coordination, corrective action follow-up and final posture auditing

- Security Protection Development support including, but not limited to, Security Risk Analysis, Security Requirements, Security Plans, Security Products and Implementation and Security Test support, including testing of the MCC-H/IP interfaces and support to IPs for interface testing.
- Security projects scheduling

1.5.4.2.2 Documentation Support

The contractor shall provide for documentation generation, maintenance and publication support for:

- Program Process and Procedures
- IP Agreement and Protocols
- Interface Control Documents (ICD)
- Security Plans
- Technical Interface Meeting (TIM)
- ISS Ground Segment schedules
- Security Protection Documentation

1.5.4.2.3 Travel

As defined per the Travel Plan.

1.5.4.3 Network and Communications Analysis and Integration Team (NACAIT)

The contractor shall provide support to the ISS Network and Communications Analysis and Integration Team (NACAIT) by coordinating and documenting Networks communications requirements. Additionally, the contractor shall collect program requirements changes, work with various program communities to validate the requirements, resolve any discrepancies and document the final requirements in the program's formal requirement document. Service level of support shall be defined annually. Average support is estimated at 1 FTE (estimate 1860 hrs/FTE) annually.

1.5.4.3.1 NPRD Documentation Support

The contractor shall provide for documentation generation, maintenance and publication.

1.5.4.3.2 Travel

As defined per the Travel Plan.

1.5.4.4 Reserved

1.5.4.5 Program Requirements Document (PRD)

The contractor shall provide book management support of the Space Shuttle and the International Space Station Program Requirements Document into the Automated Support Requirements System (ASRS). The contractor shall provide support to include identification, technical analysis, coordination and documentation. Average support is estimated at 2 FTE (estimate 1860 hrs/FTE) annually.

1.5.4.5.1 PRD Documentation Support

The contractor shall provide for documentation generation, maintenance and publication.

1.5.4.5.2 Travel

As defined per the Travel Plan.

1.5.4.6 Human Space Flight (HSF) Network Operations Integration

The contractor shall provide technical integration support including systems analysis and engineering support to the operations of the NASA data services providers. These providers include the Wide Area Network, the NASA Ground Networks, and the NASA Space Network support. Additionally, the contractor shall assist in integrating the other NASA centers and Department of Defense (DoD) support for HSF missions including the use of tracking radars. The emphasis of this work shall be in supporting certification that the space communications data services are fully integrated and ready to support HSF missions.

This effort shall include, at a minimum, support in the preparation of the:

- Certificate of Flight Readiness (CoFR)
- Associate Contractor Agreements (ACA)
- Communications and Data Services Execution
- Service Performance Metrics and Evaluation
- Current and Pending Anomaly Resolution Reports
- Space Improvement Recommendations
- Periodic Roll-up reports on the status of the Space Communications Data Services Elements

Service level of support shall be defined annually. Average support is estimated at 4 FTE (estimate 1860 hrs/FTE) annually.

1.5.4.6.1 Certificate of Flight Readiness (CoFR)

The contractor shall assist in the preparation of the CoFR documentation. The contractor shall work with the NSG and NACAIT organizations to plan the integrated implementation of space communications data services required to support HSF missions. Also, the contractor

shall assist in the evaluation of required endorsement codes within the CoFR implementation plan. This effort shall be documented in a summary report on the results of providing space communications data services for each mission in support of Progress, Automated Transfer Vehicle (ATV), H-II Transfer Vehicle (HTV) and other scientific laboratories.

1.5.4.6.2 Project Management Documentation Support

The contractor shall provide MSOC with project management documents including service development and operations milestones and associated schedules and cost and program evaluations that have sufficient depth to identify problem areas in providing the services with options for workarounds in the event of service interruption of any kind and for whatever reason. Of particular attention, support shall be required to provide an assessment and rollup of the ACAs necessary for successful integrated service. Additionally, the contractor is expected to support the MSOC at all HSF Readiness Reviews.

1.5.4.6.3 ICD Support

The integration effort shall require ICD's related to the Service Providing Networks and the elements of the Mission support functions. This effort shall include assurances that voice, video, and data shall be available for mission services implementation. Particular attention shall be given to the implementation plans at the hardware, software, workforce, funding levels, and resource requirements. Supporting travel shall be as defined per the Travel Plan.

1.5.4.7 Program Level Change Engineering Support and Integration

The contractor shall provide system engineering support services to the government led effort of defining NASA's ongoing control center space operations engineering projects.

1.5.4.7.1 System Engineering

The contractor shall provide system engineering support services to the government lead effort of defining NASA's ongoing control center space operations engineering projects. Engineering support shall include but not be limited to systems engineering, spacecraft design and system development skills to supplement government core competencies. The support shall include, but not be limited to:

- Providing studies, analyses, impact statements, end-to-end architecture tradeoff assessments, implementation plans and operations process reengineering for space operations change requests and proposed alternatives

Services levels of support shall be defined annually. Average support is estimated at 3 FTE (estimate 1860 hrs/FTE) annually.

1.5.4.8 Architectural and Engineering Support

The contractor shall provide system engineering and architectural design support services to the NASA Architecture Panel and ongoing NASA control center space operations engineering projects. All strategic engineering activities shall be defined and scheduled by NASA. Engineering activities shall be conducted at JSC, within an office and computer laboratory environment. These NASA directed services shall include, but are not limited to:

- Studies and analysis of proposed operations modifications
- Identifying and documenting alternative operations solutions
- End-to-End architecture tradeoff assessment
- Development of strategic and tactical plans
- Implementation plans and strategies
- Standards development
- Investigating space operations process and reengineering
- Evaluation of new NASA program requirements
- Investigation of new technologies for possible operations modifications

Service level of support shall be defined annually. Average support is estimated at 2 FTE (estimate 1860 hrs/FTE) annually.

The contractor's support of the NASA Architecture Panel in the development, coordination, and refinement of the Mission Control Center Systems (MCCS) strategic vision and tactical plans is reflected in the estimates above.

1.5.4.8.1 Documentation

The contractor shall provide documentation generation and publication support of the system engineering and architectural design results.

1.5.4.8.2 Travel

As defined per the Travel Plan.

1.5.5 Technical Administration Support

Technical support are those services that are applicable across all JSC Mission, JSC Mission Support and the JSC Site facilities and services identified in this SOW.

1.5.5.1 Resources

The contractor shall provide management, administration, documentation and replacement monitoring over the physical hardware and software resources that comprise the JSC human space flight, JSC site and JSC Program support facilities and services.

1.5.5.1.1 Property – GFE

The contractor shall:

- Have a property system in place, which is approved by a delegated property administrator.
- Perform property management under the terms of the contract of all property owned, leased or acquired by the Government.
- Provide, implement and maintain a Government Property Management Plan.
- Perform maintenance and calibration on the Installation Provided Property for which the Government is accountable.

1.5.5.1.2 Property – Capital

The contractor shall:

- Have a property system in place, which is approved by a delegated property administrator.
- Perform property management of all property owned, leased or acquired by the contractor under the terms of the contract.
- Address capital property in the Contractor's Property Management Plan.
- Perform maintenance and calibration on the capital property for which the contractor is accountable.

1.5.5.1.3 Technical documentation

The contractor shall provide technical documentation services that accurately reflect, within 60 calendar days of Return to Operations (RTO) for any hardware change and delivery of any software, the physical and software configurations of the JSC Mission, JSC Mission Support and the JSC site facilities, by facility.

1.5.5.1.4 Equipment Replacement

The integrated physical equipment and software that represent the JSC Mission, JSC Mission Support and JSC site facilities defined in this SOW are classified as Agency Peculiar and shall remain the responsibility of the government to provide life cycle replacement and management.
The contractor shall:

- Perform Non-Maintainable Equipment analysis and provide NASA with a recommended plan for all systems, subsystems and associated equipment (hardware and software), per DRD MSOC-JSC-0066.
- Perform all equipment replacement per the change mechanism defined in section 1.5.5.2.
- Provide an annual Fiscal Year Operating plan, per DRD MSOC-JSC-0022, that defines the equipment replacement content for the upcoming Fiscal Year. The scope for the equipment replacement content is dependent upon the NASA equipment

replacement materials budget. All associated labor is considered in-scope for each Facility's Modification and Systems Engineering/Sustaining work content.

Equipment that enables the contractor to provide maintenance and sustaining services remain the responsibility of the contractor to provide and replace within their own equipment replacement plan and shall remain the property of the contractor.

1.5.5.2 Configuration Management

The contractor shall:

- Perform configuration management
- Provide implementation, maintenance and documentation of a configuration management system that addresses identification, control, verification, and accounting for facilities, systems, interfaces, and mission reconfiguration products.
- Provide configuration management products for the NASA change evaluation and control process.

Configuration management is part of the technical administration support requirement, per DRD MSOC-JSC-0061, Configuration Management Plan. The Contractor shall:

- Perform configuration management,
- Develop, provide, implement, and maintain a Configuration Management Plan for both hardware and software, in accordance with the above DRD. These Configuration Management Plans shall address identification and documentation of 'As-designed' and 'As-built' configurations, in addition to control, verification, and accounting of facilities, systems, interfaces, and mission reconfiguration products, to include training loads.

1.5.5.2.1 Change Authorization and Tracking

The contractor shall:

- Track all modifications, systems engineering and sustaining engineering changes to the Mission services and Mission Support services and site services via a change or service request mechanism.
- Provide a NASA approved process to manage change requests for the Mission Services, CDE, and GSDE facilities per DRD MSOC-JSC-0060, Change Control Process Plan. The process should include change submittal, NASA and contractor screening, impact assessment, NASA and contractor control board review and approval, authorization, and implementation status.
- Assume responsibility for the current Support Requirement (SR) database from the previous support contractors. The current database for MCC-H, BCC, HSR, IPS, CDE, and GSDE is in Configuration Management System (CMS) II format.
- Provide a change authorization and tracking database that provides the following functionality:

- Provide electronic submittal and authorization of change requests
- Provide electronic web access to change requests and change request status from a centralized location. The contractor shall allow access to NASA and NASA contractors without additional ID/password controls.
- Provide a user interface with search criteria fields and selection lists.
- Provide electronic access control to change request cost impact information
- Provide sorting on specified fields
- Provide reports

The contractor shall provide facility specific metric and project status reports on change request status as defined by NASA project manager.

NASA shall use the Transmittal/Information Request Form (TIRF) to provide technical direction to the contractor and receive a status response. The TIRF is used for general communications, submission of documentation, and as a cover for all technical direction. The TIRF is also used as a receipt/acknowledgment of and or response to direction.

1.5.5.2.2 Anomaly Status and tracking

The contractor shall:

- Assume responsibility for the existing Anomaly Reports (ARs) from the previous support contractor in the current AR database.
- Track all sustaining and maintenance anomalies of contractor responsible hardware and software via an AR.
- Manage and track all ARs written on the contractor responsible hardware and software.
- Utilize the current USA managed AR database
- Adhere to the policy and guidelines for AR prioritization as defined in the current versions of the USA002955 MCC Facility Management Policies and SFOC-FL2333 MCC-H and IPS Operational Change Control Procedures.
- Respond to ARs based on priority provided by the initiator or NASA project management. AR performance standards for new and existing executable lines of code are defined in section 1.5.1.1.6 for MCC-H, BCC, and HSR and section 1.5.1.2.6 for IPS.
- Provide facility specific metric and project status reports on AR status as defined by NASA project manager.
- Provide an Anomaly Report (AR) status and tracking systems such that the user community can obtain daily reports regarding the status of all ARs.
- Provide users with information as to how to access this reporting system and its data.

The contractor shall:

- Assume responsibility for all existing Operational Notes of the previous support contractor from the current Ops Note database.

- Track all sustaining and maintenance temporary operational workarounds to ARs of contractor responsible hardware and software via the Ops Note.
- Manage and track all Ops Notes written on the contractor responsible hardware and software.
- Utilize the current Ops Note database.

1.5.5.2.3 Technical documentation

The contractor shall:

- Provide configuration management of all contractor responsible documentation.
- Keep the documentation up to date within the NASA agreed to update cycle for each document.
- Provide a documentation change form and process for all Mission services Level A and B requirements.
- Provide for NASA review prior to approval of required documentation. NASA approval of all data and documentation products, designated as Type 1, shall be required prior to contractor publication and work content implementation.
- Provide and maintain a text based electronic documentation library, web accessible to all NASA and NASA support personnel. Documentation library will establish a documentation management plan and a document archive service.

1.5.5.3 Safety

The contractor shall provide facility safety and health support on a daily basis to ensure the health and safety of all personnel occupying the facilities, per JPG 1700.1(latest version).

1.5.5.3.1 Personnel

Personnel safety shall conform to JPG 1700.1 (latest version).

1.5.5.3.2 Physical

Physical requirements shall conform to JPG 1700.1 (latest version).

1.5.5.3.3 SR and QA

SR and QA shall conform to JPG 1700.1 (latest version).

1.5.5.3.4 Environmental

Environmental health requirements shall conform to JPG 1700.1 (latest version).

1.5.5.4 Security

The contractor is responsible for management and documentation of the MCC and IPS IT Security Plans (DRD MSOC-JSC-0081). NASA owns the MCC/IPS architecture and the requirements as derived from Federal, NASA and MOD unique mission policies, and is responsible for approving any changes to the MCC/IPS Architecture and the associated risk accompanying that change. Where changes to the baseline introduce IT security risks, the NASA MCC/IPS Project Manager and the MCC/IPS IT Security Manager shall be the deciding officials, including the authority to change or waive the MCC/IPS IT security requirement through the CM process (SOW Section 1.5.5.2.) The NASA MCC/IPS Project Manager and the MCC/IPS IT Security Manager jointly have the responsibility for formally obtaining risk acceptance approvals from the MOD director

The contractor shall:

- Provide protection/safeguarding of personnel, facilities, assets, equipment and classified information and materials and unclassified sensitive, technological and International Partner data information as required.
- Support secure flight engineering and operations of secure facilities and systems through the implementation and adherence with NASA and DoD regulations governing National Security and National Resource Protection.
- Provide security engineering, maintenance and operations for systems protecting both sensitive (non-classified) and classified information transmitted, processed or stored by electronic means. These functions require the application of physical, communications, and information and personnel security and configuration management.

1.5.5.4.1 Reserved

1.5.5.4.2 Personnel

The contractor shall provide personnel with secret clearances for those tasks requiring access to classified information. Contractor shall comply with all NASA and JSC Security requirements.

1.5.5.4.3 Information Technology (IT) Security

The contractor shall implement a proactive Information Technology Security (ITS) program which meets at least the minimum requirements of the NASA ITS program as specified in the NASA Policy Directive (NPD) 2800.1A for managing information technology and the NASA Procedures and Requirements (NPR) 2810.1 or the latest revision. The contractor shall:

- Follow and participate in the JSC ITS program.
- Meet the provisions of the JPG 2810.1 (2001) or the latest revision Security of Information Technology.

- Protect sensitive unclassified information including Privacy Act information, proprietary data, International Traffic in Arms Regulation data and technology embargoed from foreign dissemination and International Partner data transmitted, stored or processed in the MCC/IPS.
- Protect information, which requires high standards of integrity and availability for use within NASA.

1.5.5.4.4 Communications Security (COMSEC) and Classified Data Computation

The contractor shall:

- Support program requirements for classified Communications Security (COMSEC) and unclassified security.
- Maintain and administer a COMSEC custodial account through the SECRET level, and provide encryption key management services and classified documentation storage; provide encryption key management services and store sensitive documentation for teleconferencing and data circuits; operate and maintain an Automated Digital Network (AUTODIN) Secure Telephone Unit version III (STU-III) and a STU-III classified voice conference bridge.
- Provide technicians certified to perform limited cryptographic maintenance and operations.
- Provide maintenance for cryptographic equipment in the MCC, TOC/SCOR and Sonny Carter Training Facility (SCTF).

1.5.5.4.5 Physical

The contractor shall comply with JSC 1700.1. (Latest version).

1.5.5.4.6 Reserved

Appendix A: Acronyms:

ACA	Associate Contractor Agreements
AECA	Arms Export Control Act
ANSI	American National Standards Institute
AR	Anomaly Report
ASQ	American Society for Quality
ASQC	American Society for Quality Control
ASRS	Automated Support Requirements System
ATV	Automated Transfer Vehicle
AUTODIN	Automated Digital Network
BCC	Backup Control Center
CAD	Computer Aided Dispatch
CAGE	Contractor and Government Entity

CCC	Control Center Complex
CCF	Consolidated Communication Facility
CCIS	Consolidated Communications Interface Subsystem
CDE	Consolidated Development Environment
CDS	Consolidated Distribution Subsystem
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
CHATS	Contractor Held Asset Tracking System
CIO	Chief Information Officer
CMS	Configuration Management System
CO	Contracting Officer
COTR	Contracting Officer's Technical Representative
COD	Center Operations Directorate
CoF	Construction of Facilities
CoFR	Certificate of Flight Readiness
COMSEC	Communications Security
COTS	Commercial-Off-the-Shelf
CPIC	Capital Planning and Investment Control
CPS	Consolidated Planning System
CSA	Canadian Space Agency
CSOC	Consolidated Space Operations Contract
CWBS	Contract Work Breakdown Structure
DAWG	Data Administration Working Group
DCMA	Defense Contract Management Agency
DEMOS	Distributed Earth Model Orbiter Simulation
DoD	Department of Defense
DOL	Day-of-Launch
DOLILU	Day-of-Launch Initialization-Load Update DRD
DR	Discrepancy Report
DRCOP	Disaster Recovery and Continuity of Operations Plan
DRD	Data Requirement Description
DRTS	Discrepancy Reporting and Tracking System
EAC	Estimate at Completion
EAR	Export Administration Regulations
EDP	Electronic Document Project
EDC	Emergency Dispatch Center
EF	Ellington Field
EIS	External Interface Server
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPP	Emergency Preparedness Program
ESA	European Space Agency
ESC	Engineering Support Center

ESD	Electrostatic Discharge Control
ESTL	Electronic System Test Laboratory
FAR	Federal Acquisition Regulation
FCOH	Flight Control Operations Handbook
FD&D	Flight Design and Dynamics
FDPA	Flight Dynamics Planning and Analysis
FEPS	Front End Processor Subsystem
FOIG	Flight Operations Integration Group
FRR	Flight Readiness Review
FTE	Full Time Equivalent
FY	Fiscal Year
GC	Ground Controller
GFE	Government Furnished Equipment
GFY	Government Fiscal Year
GIDEP	Government Industry Database for Electronic Parts
GP	General Purpose
GSA	General Services Administration
GSCB	Ground Segment Control Board
GSDE	Ground System Development Environment
GSFC	Goddard Space Flight Center
GSI	Government Source Inspection
HATS	Hazard Abatement Tracking System
HOSC	Huntsville Operations Support Center
HS	Health and Status
HSF	Human Space Flight
HSR	Houston Support Room
HTV	H-II Transfer Vehicle (Japanese)
ICD	Interface Control Document
IDD	Internal Data Distribution
IDP	Installation Design Package
IFMP	Integrated Financial Management Program
IGSS	International Ground System Specifications
IMARS	ISS MOD Avionics Reconfiguration System
INS	Integrated Network Service
IP	International Partner
IPS	Integrated Planning System
IPT	Integrated Product Team
ISD	Information System Directorate
IRD	Information Resources Directorate
ISO	International Organization for Standardization
ISPX	Information Sharing Protocol External Interface

ISS	International Space Station
I&T	Integration and Test
I/T	Information Technology
IT	Information Technology
ITF	Integrated Training Facility
ITS	Information Technology Security
IV&T	Integrated Verification and Test
IVT	Integration, Verification and Test
JAXA	Japan Aerospace Exploration Agency
JOP	Joint Operations Panel
JPG	JSC Procedures & Guidelines
JPI	JSC Procurement Instructions
JSC	Johnson Space Center
KSLOC	Kilo (1000)-Source Lines of Code
LAN	Local Area Network
LeRC	Lewis Research Center
LLIS	Lessons Learned Information System
LSOS	Limited Station Operations System
MAS	MCC Automation System
MCC	Mission Control Center
MCCS	Mission Control Center Systems
MCC-H	Mission Control Center – Houston
MIDDS	Meteorological Interactive Data Distribution System
MOD	Mission Operations Directorate
MPIB	MOD Production Integration Board
MPSR	Multi-purpose Support Room
MPV	Manual Procedure Viewer
MSFC	Marshall Space Flight Center
MSOC	Mission Support Operations Contract
NACAIT	Network and Communications Analysis and Integration Team
NASA	National Aeronautics and Space Administration
NESS	NF1018 Electronic Reporting System
NF	NASA Form
NFS	NASA FAR Supplement
NMI	NASA Management Instruction
NPD	NASA Policy Directive
NPG	NASA Procedures and Guidelines
NPRD	Network Program Requirement Document
NSDM	National Security Decision Memorandum
NSTS	National Space Transportation System

OCA	Orbital Communications Adapter
ODIN	Outsourcing Desktop Initiative for NASA
ODRC	Orbiter Data Reduction Complex
OMB	Office of Management and Budget
OND	Operational Need Date
ORT	Operational Readiness Test
OS	Operating System
OSHA	Occupational Safety and Health Administration
OST	Operations Support Team
PC	Personal Computer
PCAG	Platform Change Assessment Group
PDAC	Procedure Development and Control
PEP	Performance Evaluation Profile
PIC	Procurement Information Circulars
PIMR	Process Integrity Metrics Review
POCC	Payload Operations Control Center
POP	Program Operating Plan
PRD	Program Requirement Document
PS	Platform Services
PSR	Project Status Reviews
PSS	Platform System Service
PSS	Program Support Services
PWB	Printed Wiring Board
QMS	Quality Management System
QS	Quality System
RFP	Request for Proposal
RITF	Receiving Inspection and Test Facility
RMA	Reliability, Maintenance & Availability
RUPSM	Resource Utilization Planning and System Model
SAC	Security and Access Control
SART	Security Analysis and Response Team
SCSC	Spacecraft Computer Support Center
SCTF	Sonny Carter Training Facility
SDDR	System/Subsystem Detailed Design Review
SF	Standard Form
SFDR	System/Subsystem Functional Design Review
SFOC	Space Flight Operations Contract
SOW	Statement of Work
SR	Service Request
SR	Support Request

SR&QA	Safety Reliability & Quality Assurance
SSP	Space Shuttle Program
SSPP	System Safety Program Plan
SSTF	Space Station Training Facility
STU	Secure Telephone Unit
SVF	Station Verification Facility
TCP	Technical Control Panels
TCS	Test and Checkout Subsystem
TDH	Texas Department of Health
TIM	Technical Interchange Meeting
TIRF	Transmittal Information Request Form
TM	Task Manager
TNRCC	Texas Natural Resource Conservation Commission
TOC	Test Operations Center
TS	Telecommunications Service
TSS	Timing Subsystem
T&O	Test and Operations Board
UPS	Un-Interruptible Power Supply
UPS/EU	User Planning System/External Interface
US	United States
USA	United States of America
USA	United Space Alliance
VPP	Voluntary Protection Program
VS	Video Subsystem
WI	Work Instruction
WSP	Workstation and Server Platform
ZOE	Zone of Exclusion

Appendix B: GLOSSARY

Acceptance Testing - the testing of a system, subsystem, assembly or subassembly, in an operational environment, to ensure that the performance of the aggregate is not compromised by the integration of the newly developed or modified asset.

Availability - the percentage of a scheduled service delivered to the user. Availability is measured as: 100 * (amount of scheduled service time in a reporting period – the amount of time the scheduled service was not provided during a reporting period) / (total amount of scheduled time in a reporting period). .

Certification - the process of determining and attesting to a required level of value, performance and readiness.

Compatibility testing - A group of interface tests between the spacecraft's transponder and the ground tracking RF equipment (i.e., receivers, transmitter & radio metric) for verifying RF telecommunication links.

Delivery – The scheduled content, design, implementation, and testing of one or more modifications (hardware, software, or both) to one or more missions services systems that involve a mission services requirement or architecture change.

End-to-End - used to delineate the boundaries of a system. In the context of this contract, end-to-end means the two-way path from the spacecraft to the ground antenna through the ground systems, the communications systems, to the user system, such as a control center or payload processing facility.

End-to-End testing - the testing, in an operational environment, to ensure that data flows from each one end to the other end of a defined end-to-end system and meets documented performance and data flow and data accuracy requirements and data interface agreements.

Expectation - The level of performance which would be considered to fall in the "GOOD" range for performance evaluation purposes (Effective performance; fully responsive to contract requirements. Reportable deficiencies, but with little identifiable effect on overall performance.)

Facility - the location where various mission services, data services, and site services are performed.

Ground System - consists of the infrastructure (i.e., facilities and tools) and the service operators required to operate the infrastructure (i.e., network monitors, facility schedulers, tape operators, system administrators, etc.).

Ground System Operations - This definition contains typical functions required to accomplish the operations of the telecommunications and computing assets used to deliver the services in the statement of work. These functions include but are not limited to:

- Modification and configuration management of operations processes and procedures in accordance with operations and service requirements, as well as capabilities and performance agreements.
- Operations of equipment and services according to operations agreements, procedures, and negotiated schedules.

Independent Modification Delivery – Modifications to Mission Services that do not involve a requirement or architecture change.

Lost service time - total time that customers requested and were granted but for which the service was not available

Mission Operations - This definition contains typical functions associated with mission operations for the services in the statement of work. Mission operations encompass those activities required to plan, conduct, and analyze ground operations associated with providing the services encompassed by this contract. These functions include but are not limited to:

- Pre-mission analysis.
- Mission operations support including participation in the Flight Control Team.
- Post-mission analysis.

Mission readiness certification - the process of determining and demonstrating performance according to mission support requirements.

Mission Reconfiguration Products - Hardware, firmware, software, and data products used to configure service elements for usage with spacecraft.

Modification – any change to the configuration of the facility resulting in the update to the current capabilities and services, expansion of existing capabilities and services or the addition or deletion of existing capabilities and services.

Network interface - the point of demarcation for outbound data (e.g., command data) between a tracking complex and the NASA Integrated Services Network (NISN). Also the point of demarcation for inbound data (e.g., telemetry data) between the user and the NISN.

Operations Analysis - This definition contains typical functions associated with the assessment of the current performance of the ground systems and the impacts of additional loading to those services as listed in the statement of work. These functions include but are not limited to:

- End-to-end system performance monitoring, recommending appropriate changes to eliminate potential system bottlenecks and overloads; and short-term and long-term trend analysis.

- Risk analysis and management.
- Assessment of technical, schedule, and cost factors involved with the operation of systems.
- System operability and review of operation procedures, recommending or effecting changes to minimize data, voice, or video outages.

Release – The scheduled content, implementation, and testing of one or more hardware and software sustaining changes or updates to one or more missions services systems or subsystems.

Scheduling - This definition contains typical functions associated with the commitment of resources. These functions include but are not limited to:

- Scheduling of resources needed to provide a service.
- Providing notification to customers of service availability and providing resolution of any conflicts.
- Maintain schedule and resource utilization history databases.

Standard of Excellence - The level of performance, which would be considered to fall in the "EXCELLENT" range for performance evaluation purposes (Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor, if any, deficiencies with no adverse effect on overall performance.)

Subsystem - A collection of hardware, software and procedures, which perform an identifiable task in support of one or more systems.

Sustaining Engineering - the process whereby hardware and software capability is introduced into a system to restore the system to its as-built capabilities and performance. It includes but is not limited to the functions of product design, product fabrication or programming, product specification testing and acceptance, and product integration and test.

Sustaining Engineering Services- This definition contains typical functions associated with hardware, firmware, and software sustaining engineering for the telecommunications and computing assets used to deliver the services in the statement of work. Sustaining engineering encompasses those activities required to restore systems to their as-built capabilities and performance. These functions include but are not limited to:

- Plan, fabricate, develop, acquire, integrate, and modify hardware, software, or both, based on requirements changes, equipment obsolescence, and operational efficiency improvements.
- Adherence to standards, architecture, functional designs, and engineering processes.
- Configuration management of the system, including change requirements management and as built documentation (i.e. architecture baseline control).

Systems Engineering Services- This definition contains typical functions associated with the system engineering of individual ground systems within a mission, data, or center unique service. These functions include but are not limited to:

- Review customer requirements and augment existing ground system functional requirements.
- Propose modifications, enhancements, or both, to existing ground systems.
- Develop and maintain functional designs of systems and subsystems
- Ensure all reviews, proposals, development, enhancements, and designs adhere to system, operational and data security requirements specified by US Federal requirements and as applicable, international standards. This includes IT security risk analysis and reporting to appropriate NASA line management

Testing Services - This definition contains typical functions associated with hardware and software system and subsystem testing for the assets used to deliver the services in the statement of work. These functions include but are not limited to:

- Diagnostic testing.
- Verification and acceptance testing.
- Compatibility testing.
- Test planning, activities leading to the development of test plans, procedures, resource deployment, and execution of tests.
- Support validation testing and mission readiness testing.

Validation testing - the testing of a newly developed or modified asset (system, subsystem, assembly, subassembly or lowest replaceable element), in an operational environment, to ensure that all requirements of the specification have been met.

Verification testing - the testing of a newly developed or modified asset (system, subsystem, assembly, subassembly or lowest replaceable element), in a non-operational environment, to ensure that all requirements of the specification have been met.

SECTION D
PACKAGING AND MARKING

Modification 83

D. 1 PACKAGING, HANDLING, AND TRANSPORTATION (NASA 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)

SECTION E
INSPECTION AND ACCEPTANCE

Modification 83

E. 1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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
52.246-5	APR 1984	INSPECTION OF SERVICES-COST REIMBURSEMENT

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

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

(End of By Reference Section)

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

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

The contractor shall establish a quality program that complies with International Organization for Standardization document American Society for Quality Control (ASQC) ISO-9000-2000 – Model for Quality Assurance in Design/Development, Production, Installation, and Servicing. Third party registration is required.

(End of clause)

E.3 MATERIAL INSPECTION AND RECEIVING REPORT (NASA 1852.246-72) (AUG 2003) (Does not apply to data deliverables; see Clause F.5)

(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 5 copies, an original and 4 copies distributed as follows:

- Contracting Officer - Original
- COTR/(Fill in Code) - 1 Copy

- Transportation Officer/JB7 - 1 Copy
- Property and Equipment Branch/JB3 – 1 Copy
- Property Accounting/LF6 – 1 Copy

(b) The Contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 1846.6. The Contractor shall enclose the copies of the DD Form 250 in the package or seal them in a waterproof envelope, which shall be securely attached to the exterior of the package in the most protected location.
(c) When more than one package is involved in a shipment, the Contractor shall list on the DD Form 250, as additional information, the quantity of packages and the package numbers. The Contractor shall forward the DD Form 250 with the lowest numbered package of the shipment and print the words "CONTAINS DD FORM 250" on the package.

(End of clause)

E.4 INSPECTION AND ACCEPTANCE (JSC 52.246-90) (JUN 1991)

Final inspection and acceptance shall be accomplished by the Contracting Officer or his/her duly authorized representative at NASA Lyndon B. Johnson Space Center.

(End of clause)

~~E.5 QUALITY ASSURANCE SURVEILLANCE PLAN (JSC 52.246-93) (JUL 1996)~~

~~A Quality Assurance Surveillance Plan will be developed and implemented by the Contracting Officer's Technical Representative as a part of the contract administration and monitoring activities conducted to assure that the Government receives products and services that conform to contract requirements. The nature and extent of quality assurance surveillance contemplated in this plan will be based, in part, on the specific content of the contractor's quality Plan (Section J).~~

~~(End of Clause)~~

SECTION F
DELIVERIES OR PERFORMANCE

Modification 83

F. 1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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
52.242-15	AUG 1989	STOP-WORK ORDER (ALT I) (APR 1984)

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

There are no NASA by reference clauses in this section.

(End of By Reference Section)

F.2 BILLS OF LADING (NASA 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 f.o.b. origin.

(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 or Order Number: _____
Destination:_____".

(b) Government Bills of Lading.
(1) International (export) and domestic overseas shipments of items deliverable under this contract shall be ade 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: Silvia Hanagriff, Transportation Management, Attn: Mail Code JB9, 2101 NASA Parkway, Houston, TX 77058-3696. If time is limited, requests may be by telephone: 281-483-3208. 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 COMPLETION OF WORK (JSC 52.211-95) (OCT 2001)

All work required under this contract, including submission of all reports, shall be completed on or before September 30, 2008.

(End of clause)

F.4 OPTION TO EXTEND COMPLETION DATE (JSC 52.217-90) (OCT 1996)

OPTION 1 (Not Exercised)

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of $18,399,332 to the estimated cost and $1,701,938 to the maximum award fee.
B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to December 31, 2004.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by 6,978.

OPTION 2 (Not Exercised)

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of $17,960,687 to the estimated cost and $1,616,462 to the maximum award fee.

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B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to March 31, 2005.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by 6,871.

OPTION 3 (Exercised on 7/27/04)

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of $163,800,517 to the estimated cost and $14,742,047 to the maximum award fee.
B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to September 30, 2006.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by 50,923.
D. H.4 entitled "Small Business Subcontracting Goals" shall be deleted in its entirety and replaced with the following:

"H.4 SMALL BUSINESS SUBCONTRACTING GOALS (JSC 52.219-90) (JAN 2003)

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, is 30.5 percent, including options. The small business percentage goal, (30.5 percent), includes the following goals expressed as a percent of total contract value:

Small Disadvantaged Business Concerns	10 percent
Woman-Owned Small Business Concerns	15 percent
HUBZone Small Business Concerns (1/1/04 - 9/30/04)	1 percent
HUBZone Small Business Concerns (10/1/04 - 9/30/06)	3 percent
Veteran-Owned Small Business Concerns	1 percent
Service Disabled Veteran-Owned Small Business Concerns	1 percent
Historically Black Colleges or Universities/Minority Institutions	1 percent

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E. E.2 entitled "Higher-Level Contract Quality Requirement" is deleted in its entirety and replaced with the following:

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

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

The contractor shall establish a quality program that complies with International Organization for Standardization document American Society for Quality Control (ASQC) ISO-9000-2000 – Model for Quality Assurance in Design/Development, Production, Installation, and Servicing. Third party registration is required."

F. The first two paragraphs of Section 1.3.2.4, Quality Assurance, of the Statement Of Work contained in Section C, is deleted in its entirety and replaced with the following:

"1.3.2.4 Quality Assurance

The contractor shall establish a quality program that complies with International Organization for Standardization document American Society for Quality Control (ASQC) ISO-9000-2000 – Model for Quality Assurance in Design/Development, Production, Installation, and Servicing.

Third-party certification / registration is required."

OPTION 4

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of **$83,089,899** to the estimated cost and **$7,478,091** to the maximum award fee.
B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to September 30, 2009.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by **27,900**.

OPTION 5

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of **$83,803,174** to the estimated cost and **$7,542,286** to the maximum award fee.
B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to September 30, 2010.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by **27,900.**

OPTION 6

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as is it exists immediately prior to the exercise of the option, except for the following changes:

A. B.1 entitled "Estimated Cost and Award Fee" shall be modified to reflect the addition of **$80,488,644** to the estimated cost and **$7,243,978** to the maximum award fee.
B. F.3, entitled "Completion of Work" shall be modified to extend the ending date of the contract to September 30, 2011.
C. H.6 entitled "Level-of-Effort (Cost)," shall be modified by increasing the total direct labor man-hours (including overtime) by **27,906.**

F.5 SHIPPING INSTRUCTIONS (JSC 52.247-94) (APR 1997)

All documentation shall be shipped to the addresses cited in F.5. Shipment of all other items shall be as follows:

Parcel Post Shipments and Freight Shipments

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

Mark for: Accountable Property Officer
Mark with: Purchase Request No. 4200010497
Contract Number: NAS 9-03056

For reissue to: (Name) James Lowery
(Mail Code) DA32
(Bldg.) 30A
(Rm.) 2056AA

(End of clause)

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F.6 FLIGHT ITEM (JSC 52.247-95) (AUG 2005)

Block 16 of each Department of Defense Form 250 prepared for flight hardware or related equipment to be shipped under this contract must be annotated as follows in 1/4-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)

SECTION G
CONTRACT ADMINISTRATION DATA

Modification 83

G. 1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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

There are no FAR by reference clauses in this section.

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

CLAUSE NUMBER	DATE	TITLE
1852.227-70	MAY 2002	NEW TECHNOLOGY
1852.227-86	DEC 1987	COMMERCIAL COMPUTER SOFTWARE-LICENSING
1852.242-73	NOV 2004	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING
1852.245-73	OCT 2003	FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS

(End of By Reference Section)

G.2 AWARD FEE FOR SERVICE CONTRACTS (NASA 1852.216-76) (JUNE 2000)

(a) The contractor can earn award fee from a minimum of zero dollars to the maximum stated in NASA FAR Supplement clause 1852.216-85, "Estimated Cost and Award Fee" in this contract.

(b) Beginning 9 months after the effective date of this contract, the Government shall evaluate the Contractor's performance every 6 or 9 months (see Attachment J-2) determine the amount of award fee earned by the contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations will 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 Attachment J-2. 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 Accounts Payable Group will make payment based on the unilateral modification.

(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 at Attachment J-2. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.

(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% 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 (NASA 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 Lyndon B. Johnson Space Center
Attn: Mail Code LF231
2101 NASA Parkway
Houston, TX 77058-3696

(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:

Defense Contract Audit Agency
Lockheed Martin Mt. Laurel Resident Office
Laurel Corporate Center
Mt. Laurel, NJ 08054-1512

(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 administration office; and
(v) Copy 5 Project management office.

(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 Lyndon B. Johnson Space Center
Attn: BH/Contract Specialist
2101 NASA Parkway
Houston, TX 77058-3696

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.4 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NASA 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:

AL/Patent Counsel
NASA Lyndon B. Johnson Space Center
Houston, TX 77058-3696

AT/Technology Transfer and Commercialization Office
NASA Lyndon B. Johnson Space Center
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. Inquiries 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 of the NASA FAR Supplement.

(End of clause)

G.5 TECHNICAL DIRECTION (NASA 1852.242-70) (SEPT 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. "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.

(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 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 LIST OF GOVERNMENT-FURNISHED PROPERTY (NASA 1852.245-76) (OCT 1988)

For performance of work under this contract, the Government will make available Government property in Attachment J-6 of this contract on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at NASA Lyndon B. Johnson Space Center. Under the FAR 52.245 Government property clause of this contract, the Contractor is accountable for the identified property.

(End of clause)

G.7 SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES/REPRESENTATIVES OF FOREIGN CONTRACTORS (JSC 52.204-91) (JAN 2006)

(a) An employee of a domestic Johnson Space Center (JSC) 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 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 [JSC or White Sands Test Facility (WSTF)] at least 3 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. The authorized company officials 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 onsite at the 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 the 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.8 UNDERSTANDING WITH RESPECT TO COST VARIATIONS (JSC 52.232-93) (MAR 1989)

The estimated cost of this contract is based on cost estimates for a number of cost elements (e.g., direct labor, overhead, materials, travel). One or more of these estimates was made by the Government and provided to the contractor in the solicitation leading to this contract. The parties recognize that the contractor's obligation to perform tasks within the scope of the Statement of Work could result in actual contractor expenditures which are greater or less than the Government's estimates provided to the contractor for the related cost element. Should such be the case, the parties agree that there will be no adjustment to the fee provided for in this contract, nor to any other terms and conditions hereof, except the contract estimated cost, should that become necessary. Any such adjustment in estimated cost will

be subject to the terms of the "Limitation of Cost" or "Limitation of Funds" clause hereof, whichever is applicable.

(End of clause)

G.9 RESERVED

G.10 IDENTIFICATION OF EMPLOYEES (JSC 52.242-92) (AUG 2006)

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 and visitor badges will be issued only between the hours of 6:00 a.m. to 7:30 p.m., Monday through Friday, and 7:00 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, keys, CAA cards, clearance terminations, JSC Public Key Infrastructure (PKI)/special program deletions, etc.) may result in final payment being delayed.

(End of clause)

G.11 REPAIR OF GOVERNMENT PROPERTY (JSC 52.245-91) (JUN 1986)

When removal of Government-owned property from its place of use for repair is necessary, the Contractor must prepare a JSC Form 1318 prior to removing the equipment. The form and instructions regarding its use are available from the Property and Equipment Branch, Building 419, Room 162, phone number 281-483-6524. The repaired Government property is to be returned to the location from which it was removed unless otherwise directed by the Government.

(End of clause)

G.12 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (NASA 1852.245-71) (NOV 2004)

(a) The Government property described in the clause at 1852.245-77, List of Installation-Accountable Property and Services, shall 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. Under this clause, the Government retains accountability for, and title to, the property, and the Contractor assumes the following user responsibilities:

Property Custodian Responsibilities: Reference NPG 4200.2

Chapter 2: Responsibilities

Section 2.3. Property Custodians

Section 2.4 Full Time Property Custodians

Paragraphs 2.4.1 and 2.4.2

Chapter 4: Operational Procedures

Section 4.2 Identification of Equipment

Paragraphs 4.2.8, 4.2.9, 4.2.10,

Section 4.3. Standard NEMS Reports for Property Custodians.

Paragraphs 4.3.1 through 4.3.4.5

Section 4.4. Inventory Procedures.

Paragraphs 4.4.1 through 4.4.5

Chapter 5. (Entire Content)

User Responsibilities: Reference Document (NPG 4200.2)

Chapter 2.

2.7. Responsibility of the Individual. The contractor shall ensure that each of its employees are responsible for Government property as follows: An employee has a duty to protect and conserve Government property and shall not use such property, or allow its use, for other than authorized purposes. Additional responsibilities include the following:

2.7.1. Reporting any missing or un-tagged (meeting the criteria for control) equipment, transfer, location change, or user change of equipment to the property custodian immediately.

2.7.2. Notifying the property custodian, supervisor, and the Center security officer immediately if theft of Government property is suspected.

2.7.3. Ensuring that equipment is used only in pursuit of approved NASA programs and projects.

2.7.4. Notifying the property custodian of equipment not actively being used for determination of proper disposition.

2.7.5. Ensuring that equipment is returned through the property custodian when no longer needed. Under no circumstances will an employee throw away Government equipment.

2.7.6. Assigned users retain all responsibilities including notifying property custodians of all activity associated with the user's assigned equipment.

2.8. The contractor must ensure that all on-site contractor employees notify the contracting officer, property custodian, and SEMO upon termination of employment.

Chapter 4.

4.2.11. The user will assist the custodian in completing NF 1618 and sign in the designated block.

The contractor shall establish and adhere to a system of written procedures for 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, physical inventory, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:

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

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

(iii) The contractor shall establish a record of the property as required by FAR 45.5 and 1845.5 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 SEMO. The contractor shall assume accountability and financial reporting responsibility for such property. The contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR Part 45.5 until its return to the installation.

(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) 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.

(End of Clause)

G.13 LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES (NASA 1852.245-77) (JUL 1997)

In accordance with the clause at 1852.245-71, Installation-Accountable Government Property, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer.

(a) Office space, work area space, and utilities. Government telephones are available for official purposes only; pay telephones are available for contractor employees for unofficial calls.

(b) General- and special-purpose equipment, including office furniture.

(1) Equipment to be made available is listed in Attachment J-7. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.

(2) 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 as required by the clause at 1852.245-71, Installation-Accountable Government Property.

(3) 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.

(c) Supplies from stores stock.

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

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

(f) Installation service facilities:

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f.1 Office Automation Information Technology ("OAIT) onsite only: Generally, this includes access to personal computers, fax machines, scanners, copiers, and printers. This includes help desk support and training in the use of these systems.

f.2 Disposal Services: Disposal services for excess onsite and offsite Contractor-held/Government-owned property.

f.3 Pickup and Delivery of Official Mail: Within the Center and to and from the Albert Thomas Post Office, provided the mail is properly sealed and stamped. Such mail will be picked up or dropped from only one point as designated by JSC or, if preferred, JSC will provide a box in the central mailroom for the Contractor to pick up and deposit its mail.

f.4 Use of JSC Calibration Laboratory: The contractor shall utilize the services of the JSC Calibration Laboratory to the maximum extent practicable for calibration of all instruments (Government property or contractor property) utilized under this contract, the total cost for maintenance of which would otherwise be a direct charge to the Government.

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

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

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

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

(k) The user responsibilities of the Contractor are defined in paragraph (a) of the clause at 1852.245-71, Installation-Accountable Government Property.

(End of Clause)

SECTION H
SPECIAL REQUIREMENTS

Modification 83

H. 1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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

There are no FAR by reference clauses in this section.

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

CLAUSE NUMBER	DATE	TITLE
1852.208-81	NOV 2004	RESTRICTIONS ON PRINTING AND DUPLICATING
1852.216-80	OCT 1996	TASK ORDERING PROCEDURE (Only applies to Section 1.5.4 of the SOW)
1852.223-70	APR 2002	SAFETY AND HEALTH
1852.223-75	FEB 2002	MAJOR BREACH OF SAFETY OR SECURITY
1852.223-76	JUL 2003	FEDERAL AUTOMOTIVE TOOL REPORTING
1852.225-70	FEB 2000	EXPORT LICENSES (ALT I) (FEB 2000)
1852.228-72	SEP 1993	CROSS WAIVER OF LIABILITY FOR SPACE SHUTTLE SERVICES
1852.228-76	DEC 1994	CROSS WAIVER OF LIABILITY FOR SPACE STATION ACTIVITIES
1852.242-72	AUG 1992	OBSERVANCE OF LEGAL HOLIDAYS (ALT II) (SEP 1989)
1852.246-70	MAR 1997	MISSION CRITICAL SPACE SYSTEMS PERSONNEL RELIABILITY PROGRAM

(End of By Reference Section)

H.2 KEY PERSONNEL AND FACILITIES (NASA 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.

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(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.

(End of clause)

H.3 REPRESENTATION, CERTIFICATION, AND OTHER STATEMENTS (JSC 52.209-90) (SEP 1988)

This contract incorporates Section K, Representations, Certifications, and Other Statements of Offerors, as set forth in the contractor's proposal 6079A-03D dated July 21, 2003, by reference, with the same force and effect as if it were given in full text.

(End of clause)

H.4 SMALL BUSINESS SUBCONTRACTING GOALS (JSC 52.219-90) (JAN 2003)

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, is 34 percent, including options. The small business percentage goal, (34 percent), includes the following goals expressed as a percent of total contract value:

Small Disadvantaged Business Concerns	10	percent
Woman-Owned Small Business Concerns	24	percent
HUBZone Small Business Concerns	3	percent
Veteran-Owned Small Business Concerns	6	percent
Service Disabled Veteran-Owned Small Business Concerns	6	percent
Historically Black Colleges or Universities/Minority Institutions	1	percent

(End of clause)

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H.5 RESERVED

H.6 LEVEL-OF-EFFORT (COST) (applies only to Section 1.5.4 of the SOW)

(a) During the term of the contract, the Contractor is obligated to provide not less than 95 percent nor more than 105 percent of **133,512** total direct labor hours in performance of the Statement of Work.

(b) "Direct labor hours" are those productive hours expended by Contractor personnel performing work under this contract that are charged as direct labor under the Contractor's established accounting policy and procedures. The term does not include sick leave, vacation leave, holiday leave, military leave, or any type of administrative leave, but does include direct labor provided under level-of-effort subcontracts.

(c) Once the maximum number of direct labor hours is reached or the contract term has ended, the Contractor's obligations under the contract are fulfilled, even though the specified work may not have been completed. The Contractor is not authorized to exceed the maximum number of direct labor hours specified in paragraph (a) of this clause. Any estimated cost and fee adjustments for any additional direct labor hours shall be based solely on the quantity of additional hours being added to the maximum number of direct labor hours specified in this clause.

(d) The fee, if any, is based upon the furnishing of at least the specified minimum number of direct labor hours, including subcontractor hours. If the Contractor provides less than the specified number of hours prior to expiration of the contract term, and the Government has not invoked its rights under the Termination clause of this contract to adjust the contract for such reduced effort, the Contracting Officer may unilaterally make an equitable downward adjustment to the contract fee. The downward adjustment in fee will be based on the difference between the minimum direct labor hours specified under this clause and the amount of direct labor hours provided by the Contractor. Prior to making such an adjustment, the Contracting Officer will request the Contractor provide a written discussion of any extenuating circumstances (e.g., productivity improvements or reductions in contract scope) that contributed to the underrun. Any information provided by the Contractor will be considered by the Contracting Officer in determining the amount of downward adjustment in fee.

(End of clause)

H.7 SPECIAL PROVISION FOR CONTRACT CHANGES

The parties agree that, notwithstanding the provisions of the "Changes" clause and the "Government Property" clause, no change made pursuant to the "Changes" clause shall give rise to an equitable adjustment in the estimated cost or fee or any other contract provision when said change causes an increase or decrease of $250,000 or less in the estimated cost of this contract. Each change shall controlling in making this determination, and such change shall not, for purposes of determining the applicability of this clause, be added to any other changes (s). The parties recognize that several changes may be grouped together in a bilateral modification for definitization; however, the dollar value of each individual change will be controlling in determining whether or not an equitable adjustment is in order.

(End of clause)

H.8 CONTRACT EXTENSION RESULTING FROM PROTESTS

(a) If the award of a successor contract to perform the services being performed under this contract is delayed because of a protest, the Contracting Officer may extend the period of performance on this contract to cover any delay caused by such a protest. The Contractor shall be entitled to an equitable adjustment for such an extension, subject to the limitations of paragraph (b).

(b) The final award fee evaluation period may be extended to include the contract extension period provided for in paragraph (a). However, if the Contractor is the protester or one of the protesters, no additional fee shall be put in the award fee pool or otherwise made available to the Contractor, unless the Contractor or another protester substantially prevails in the protest.

(End of clause)

H.9 LIMITATION OF FUTURE CONTRACTING (NASA 1852.209-71) (DEC 1988)

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

(b) The nature of this conflict is the MSOC contractor may be tasked to provide systems engineering and technical direction for a system, but does not have overall contractual responsibility for its development, its integration, assembly, and checkout, or its production. The MSOC contractor shall not (1) be awarded a contract to supply the system or any of its major components or (2) be a subcontractor or consultant to a supplier of the system or any of its major components.

Systems engineering includes a combination of all the following activities: determining specifications, identifying and resolving interface problems, developing test requirements, evaluating test data, and supervising design. Technical direction includes a combination of substantially all of the following activities: developing work statement, determining parameters, directing other contractors' operations, and resolving technical controversies. In performing these activities, a contractor occupies a highly influential and responsible position in determining a system's basic concepts and supervising their execution by other contractors. Therefore, this contractor should not be in a position to make decisions favoring its own products or capabilities.

(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.

(End of clause)

H.10 OPTION FOR THE INCREMENTAL INCREASE OF EFFORT

The Government may increase the number of direct labor hours required to be furnished during the period of performance by an amount ranging from 1 to 44,300 hours. If the Government elects to exercise its option, referred throughout this clause as a flex option, to increase the number of direct labor hours to be furnished, the Contractor will be so notified with a unilateral modification to the contract executed by the Contracting Officer, which will make changes to affected contract terms and conditions as authorized by this Clause.

The terms and conditions relating to the Government's rights as provided herein are as follows:

a. The options provided for herein may be exercised one or more times, provided that the total number of optional direct labor hours shall not exceed the maximum amount stated above.

b. If the Government exercises one or more flex options pursuant to this clause, the administration of such action(s) shall be as follows:

(i) The Government may increase the number of direct labor hours listed in Clause H.6 "Level-of-Effort (Cost)" during the base period, option 1, option 2, and option 3 by an amount ranging from 1 to 2,700 hours. In addition, the Government may increase the number of direct labor hours listed in Clause H.6 "Level-of-Effort (Cost)" during the extended base period and options 4 through 6 by an amount ranging from 1 to 20,800 hours per contract year. Flex option(s) can only be exercised in options 1 through 6, if the applicable option(s) to extend contract period of performance are exercised.

(ii) The increase in estimated cost and maximum available award fee (applicable to Clause B.1 "Estimated Cost and Award Fee") due to the exercise of a flex option, or multiple flex options, will be based on when the flex option(s) is exercised. In Part iii below, a matrix specifies the increase in estimated cost and maximum available award fee for each additional direct labor hour ordered through the exercise of a flex option or multiple flex options.

(iii) The matrix below specifies the per hour increases that are applicable during the period the flex option is executed by the Contracting Officer.

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Description	Basic Period	Option 1	Option 2	Option 3 (GFY 05)	Option 3 (GFY 06)	Basic Period Extension (GFY 07)	Basic Period Extension (GFY 08)	Option 4 (GFY 09)	Option 5 (GFY 10)	Option 6 (GFY 11)
Increase in estimated cost for each direct labor hour ordered by exercising flex option (s)	$70.59	$72.81	$75.07	$76.18	$78.37	$ 81.76	$ 84.05	$ 86.44	$ 88.96	$ 91.57
Increase in maximum available award fee for each direct labor hour ordered by exercising flex option (s)	$6.53	$6.55	$6.76	$6.86	$7.05	$ 7.36	$ 7.56	$ 7.78	$ 8.01	$ 9.24
Amount of hours available for flex option(s)	1 to 2,700 hours are available					1 to 20,800 hours are available	1 to 20,800 hours are available	1 to 20,800 hours are available	1 to 20,800 hours are available	1 to 20,800 hours are available

SECTION I
CONTRACT CLAUSES

Modification 83

I.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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
52.202-1	JUL 2004	DEFINITIONS
52.203-3	APR 1984	GRATUITIES
52.203-5	APR 1984	COVENANT AGAINST CONTINGENT FEES
52.203-6	JUL 1995	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	JUL 1995	ANTI-KICKBACK PROCEDURES
52.203-8	JAN 1997	CANCELLATION, RESCISION, 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	JUN 2003	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-2	AUG. 1996	SECURITY REQUIREMENTS
52.204-4	AUG 2000	PRINTING/COPYING DOUBLE SIDED ON RECYCLED PAPER
52.204-7	OCT 2003	CENTRAL CONTRACTOR REGISTRY
52.209-6	JAN 2005	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
52.211-15	SEPT 1990	DEFENSE PRIORITY AND ALLOCATION REQUESTS
52.215-2	JUNE 1999	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
52.215-12	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA
52.215-14	OCT 1997	INTEGRITY OF UNIT PRICES (ALT I) (OCT 1997)
52.215-15	OCT 2004	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-18	JUL 2005	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS
52.215-19	OCT 1997	NOTIFICATION OF OWNERSHIP CHANGES
52.215-21	OCT 1997	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA—MODIFICATIONS
52.216-7	DEC 2002	ALLOWABLE COST AND PAYMENT

52.219-8	MAY 2004	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-9	JUL 2005	SMALL BUSINESS SUBCONTRACTING PLAN (ALT II) (OCT 2001)
52.219-16	JAN 1999	LIQUIDATED DAMAGES--SUBCONTRACTING PLAN
52.222-1	FEB 1997	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES
52.222-3	JUN 2003	CONVICT LABOR
52.222-4	JUL 2005	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	FEB 2002	EQUAL OPPORTUNITY
52.222-35	DEC 2001	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	DEC 2001	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-41	JUL 2005	SERVICE CONTRACT ACT OF 1965, AS AMENDED
52.223-3	JAN 1997	HAZARDOUS MATERIAL INDENTIFICATION AND MATERIAL SAFETY DATA (ALT I) (JUL 1995) (Insert "NONE" in paragraph b)
52.223-5	AUG 2003	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION
52.223-10	AUG 2000	WASTE REDUCTION PROGRAM
52.223-14	AUG 2003	TOXIC CHEMICAL RELEASE REPORTING
52.225-13	MAR 2005	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
52.227-1	JUL 1995	AUTHORIZATION AND CONSENT
52.227-2	AUG 1996	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-16	JUN 1987	ADDITIONAL DATA REQUIREMENTS
52.228-7	MAR 1996	INSURANCE--LIABILITY TO THIRD PERSONS
52.230-2	APR 1998	COST ACCOUNTING STANDARDS
52.230-6	NOV 1999	ADMINISTRATION OF COST ACCOUNTING STANDARDS
52.232-9	APR 1984	LIMITATION ON WITHHOLDING PAYMENTS
52.232-17	JUN 1996	INTEREST
52.232-22	APR 1984	LIMITATION OF FUNDS
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	OCT 2003	PROMPT PAYMENT (ALT I) (FEB 2002)
52.232-34	MAY 1999	PAYMENT BY ELECTRONIC FUNDS TRANSFER--OTHER THAN CENTRAL CONTRACTOR REGISTRATION (Insert in paragraph (b)(1) no later than concurrent with the first request for payment.)
52.233-1	JULY 2002	DISPUTES (ALT I) (DEC 1991)
52.233-3	AUG 1996	PROTEST AFTER AWARD (ALT I) (JUN 1985)
52.233-4	OCT 2004	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM

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52.237-2	APR 1984	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION
52.237-3	JAN 1991	CONTINUITY OF SERVICES
52.242-1	APR 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
52.243-2	AUG 1987	CHANGES--COST-REIMBURSEMENT (ALT II) (APR 1984)
52.243-6	APR 1984	CHANGE ORDER ACCOUNTING
52.244-2	AUG 1998	SUBCONTRACTS (ALT I) (MAR 2005) (Insert "NONE" in Paragraphs (e) and (k))
52.244-5	DEC 1996	COMPETITION IN SUBCONTRACTING
52.245-5	MAY 2004	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) (DEVIATION)(JUL 1995)(As modified by NASA PIC 99-15)--(g)(5) of the clause shall read as follows: "The contractor shall notify the contracting officer upon loss or destruction of, or damage to, Government property provided under this contract, with the exception of low value property for which loss, damage, or destruction is reported at contract termination, completion, or when needed for continued performance. The Contractor shall take all reasonable action to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the affected Government property in the best possible order, and furnish to the Contracting Officer a statement of--". The balance of (g)(5) is unchanged.
52.245-18	FEB 1993	SPECIAL TEST EQUIPMENT
52.246-25	FEB 1997	LIMITATION OF LIABILITY--SERVICES
52.247-1	APR 1984	COMMERCIAL BILL OF LADING NOTATIONS
52.247-63	JUN 2003	PREFERENCE FOR U.S.-FLAG AIR CARRIERS
52.247-64	APR 2003	PREFERENCE FOR PRIVATELY OWNED U.S. FLAG COMMERCIAL VESSELS
52.248-1	FEB 2000	VALUE ENGINEERING
52.249-6	MAY 2004	TERMINATION (COST-REIMBURSEMENT)
52.249-14	APR 1984	EXCUSABLE DELAYS
52.251-1	APR 1984	GOVERNMENT SUPPLY SOURCES
52.251-2	JAN 1991	INTERAGENCY FLEET MANAGEMENT SYSTEMS VEHICLES AND RELATED SERVICES
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

II. NASA FEDERAL ACQUISITION REGULATION SUPPLEMENT (48 CFR CHAPTER 18)

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	SEPT 1990	USE OF RURAL AREA SMALL BUSINESSES
1852.219-75	MAY 1999	SMALL BUSINESS SUBCONTRACTING REPORTING
1852.219-76	JUL 1997	NASA 8 PERCENT GOAL
1852.219-79	MAR 1999	MENTOR REQUIREMENTS AND EVALUATION
1852.223-74	MAR 1996	DRUG-AND ALCOHOL-FREE WORKFORCE
1852.237-70	DEC 1988	EMERGENCY EVACUATION PROCEDURES
1852.242-75	MAR 1999	EARNED VALUE MANAGEMENT SYSTEMS
1852.242-78	APR 2001	EMERGENCY MEDICAL SERVICES AND EVACUATION
1852.243-71	MAR 1997	SHARED SAVINGS

(End of By Reference Section)

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) (JAN 2006)

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 physical access to a federally-controlled facility or access to a Federal information system.

(End of clause)

I.4 PAYMENT FOR OVERTIME PREMIUMS (FAR 52.222-2) (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium does not exceed $0 or the overtime premium is paid for work-

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

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

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

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

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

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

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

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

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

(End of clause)

I.5 DRUG-FREE WORKPLACE (FAR 52.223-6) (MAY 2001)

(a) Definitions. As used in this clause-

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of *nolo contendere*) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract where employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration-

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about-

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by paragraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by paragraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will-

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction;

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of paragraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract or default, and suspension or debarment.

(End of clause)

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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 IS FOR INFORMATION ONLY: IT IS NOT A WAGE DETERMINATION

See Attachment J-1

(End of clause)

I.7 RIGHTS IN DATA-GENERAL (FAR 52.227-14) (JUN 1987) as modified by NASA FAR Supplement 1852.227-14 (OCT 1995)

(a) *Definitions*. "Computer software," as used in this clause, means computer programs, computer data bases, and documentation thereof.
"Data," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.
"Form, fit, and function data," as used in this clause, means data relating to items, components, or processes that are sufficient to enable physical and functional interchangeability, as well as data identifying source, size, configuration, mating, and attachment characteristics, functional characteristics, and performance requirements; except that for computer software it means data identifying source, functional characteristics, and performance requirements but specifically excludes the source code, algorithm, process, formulae, and flow charts of the software.
"Limited rights," as used in this clause, means the rights of the Government in limited rights data as set forth in the Limited Rights Notice of paragraph (g)(2) if included in this clause.
"Limited rights data," as used in this clause, means data (other than computer software) that embody trade secrets or are commercial or financial and confidential or privileged, to the extent that such data pertain to items, components, or processes developed at private expense, including minor modifications thereof.
"Restricted computer software," as used in this clause, means computer software developed at private expense and that is a trade secret; is commercial or financial and is confidential or privileged; or is published copyrighted computer software, including minor modifications of such computer software.
"Restricted rights," as used in this clause, means the rights of the Government in restricted computer software, as set forth in a Restricted Rights Notice of paragraph (g)(3) if included in this clause, or as otherwise may be provided in a collateral agreement incorporated in and made part of this contract, including minor modifications of such computer software.

"Technical data," as used in this clause, means data (other than computer software) which are of a scientific or technical nature.
"Unlimited rights," as used in this clause, means the right of the Government to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.

(b) *Allocation of rights.*

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

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

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

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

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

(2) The Contractor shall have the right to-

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

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

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

(iv) Establish claim to copyright subsisting in data first produced in the performance of this contract to the extent provided in paragraph (c)(1) of this clause.

(c) *Copyright-*

(1) *Data first produced in the performance of this contract.* Unless provided otherwise in paragraph (d) of this clause, the Contractor may establish, without prior approval of the Contracting Officer, claim to copyright subsisting in scientific and technical articles based on or containing data first produced in the performance of this contract and published in academic, technical or professional journals, symposia proceedings or similar works. The prior, express written permission of the Contracting Officer is required to establish claim to copyright subsisting in all other data first produced in the performance of this contract. When claim to copyright is made, the Contractor shall affix the applicable copyright notices of 17 U.S.C. 401 or 402 and acknowledgment of Government sponsorship (including contract number) to the data when such data are delivered to the Government, as well as when the data are published or deposited for registration as a published work in the U.S. Copyright Office. For data other than computer software the Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license in such copyrighted data to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government. For computer software, the Contractor grants to the Government and others acting in its behalf, a paid-up nonexclusive, irrevocable worldwide license in such copyrighted

computer software to reproduce, prepare derivative works, and perform publicly and display publicly by or on behalf of the Government.

(2) *Data not first produced in the performance of this contract.* The Contractor shall not, without prior written permission of the Contracting Officer, incorporate in data delivered under this contract any data not first produced in the performance of this contract and which contains the copyright notice of 17 U.S.C. 401 or 402, unless the Contractor identifies such data and grants to the Government, or acquires on its behalf, a license of the same scope as set forth in paragraph (c)(1) of this clause; *provided*, however, that if such data are computer software the Government shall acquire a copyright license as set forth in paragraph (g)(3) of this clause if included in this contract or as otherwise may be provided in a collateral agreement incorporated in or made part of this contract.

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

(d) *Release, publication and use of data.*

(1) The Contractor shall have the right to use, release to others, reproduce, distribute, or publish any data first produced or specifically used by the Contractor in the performance of this contract, except to the extent such data may be subject to the Federal export control or national security laws or regulations, or unless otherwise provided in this paragraph of this clause or expressly set forth in this contract.

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

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

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

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

(e) *Unauthorized marking of data.*

(1) Notwithstanding any other provisions of this contract concerning inspection or acceptance, if any data delivered under this contract are marked with the notices specified in paragraph (g)(2) or (g)(3) of this clause and use of such is not authorized by this clause, or if such data bears any other restrictive or limiting markings not authorized by this contract, the Contracting Officer may at any time either return the data to the Contractor, or cancel or ignore the markings. However, the following procedures shall apply prior to canceling or ignoring the markings.

(i) The Contracting Officer shall make written inquiry to the Contractor affording the Contractor 30 days from receipt of the inquiry to provide written justification to substantiate the propriety of the markings;

(ii) If the Contractor fails to respond or fails to provide written justification to substantiate the propriety of the markings within the 30-day period (or a longer time not exceeding 90 days approved in writing by the Contracting Officer for good cause shown), the Government shall have the right to cancel or ignore the markings at any time after said period and the data will no longer be made subject to any disclosure prohibitions.

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

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

(3) This paragraph (e) does not apply if this contract is for a major system or for support of a major system by a civilian agency other than NASA and the U.S. Coast Guard agency subject to the provisions of Title III of the Federal Property and Administrative Services Act of 1949.

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

(f) *Omitted or incorrect markings.*

(1) Data delivered to the Government without either the limited rights or restricted rights notice as authorized by paragraph (g) of this clause, or the copyright notice required by paragraph (c) of this clause, shall be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use, or reproduction of such data. However, to the extent the data has not been disclosed without restriction outside the Government, the Contractor may request, within 6 months (or a longer time approved by the Contracting Officer for good cause shown) after delivery of such data, permission to have notices placed on qualifying data at the Contractor's expense, and the Contracting Officer may agree to do so if the Contractor-

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

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

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

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

(2) The Contracting Officer may also (i) permit correction at the Contractor's expense of incorrect notices if the Contractor identifies the data on which correction of the notice is to be made, and demonstrates that the correct notice is authorized, or (ii) correct any incorrect notices.

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

(1) When data other than that listed in subdivisions (b)(1)(i), (ii), and (iii) of this clause are specified to be delivered under this contract and qualify as either limited rights data or restricted computer software, if the Contractor desires to continue protection of such data, the Contractor shall withhold such data and not furnish them to the Government under this contract. As a condition to this withholding, the Contractor shall identify the data being withheld and furnish form, fit, and function data in lieu thereof. Limited rights data that are formatted as a computer data base for delivery to the Government are to be treated as limited rights data and not restricted computer software.

(2) [Reserved]

(3) [Reserved]

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

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

(End of clause)

I.8 TAXES-FOREIGN COST-REIMBURSEMENT CONTRACTS (FAR 52.229-8) (MAR 1990)

(a) Any tax or duty from which the United States Government is exempt by agreement with the Government of any such country, or from which the Contractor or any subcontractor under this contract is exempt under the laws of any such country, shall not constitute an allowable cost under this contract.

(b) If the Contractor or subcontractor under this contract obtains a foreign tax credit that reduces its Federal income tax liability under the United States Internal Revenue Code (Title 26, U.S. Code) because of the payment of any tax or duty that was reimbursed under this contract, the amount of the reduction shall be paid or credited at the time of such offset to the Government of the United States as the Contracting Officer directs.

(End of Clause)

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I. 9 SUBCONTRACTS FOR COMMERCIAL ITEMS (FAR 52.244-6) (DEC 2004)

(a) *Definitions.* As used in this clause—
"Commercial item" has the meaning contained in Federal Acquisition Regulation 2.101, Definitions.
"Subcontract" includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial items:
(i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.
(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).
(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212(a));
(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).
(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201). Flow down as required in accordance with paragraph (g) of FAR clause 52.222-39).
(vi) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Apr 2003) (46 U.S.C. App. 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).
(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

I.10 RESERVED

I.11 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 these addresses:

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

(End of clause)

I. 12 SECURITY CLASSIFICATION REQUIREMENTS (NASA 1852.204-75) (SEPT 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 Federal Acquisition Regulation clause 52.204-2 in this contract and DD Form 254, Contract Security Classification Specification, Attachment J-5.

(End of clause)

I.13 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES (NASA 1852.204-76) (NOV 2004)

(a) The Contractor shall be responsible for Information Technology security for all systems connected to a NASA network or operated by the Contractor for NASA, regardless of location. This clause is applicable to all or any part of the contract that includes information technology resources or services in which the Contractor must have physical or electronic access to NASA's sensitive information contained in unclassified systems that directly support the mission of the Agency. This includes information technology, hardware, software, and the management, operation, maintenance, programming, and system administration of computer systems, networks, and telecommunications systems. Examples of tasks that require security provisions include:

(1) Computer control of spacecraft, satellites, or aircraft or their payloads;

(2) Acquisition, transmission or analysis of data owned by NASA with significant replacement cost should the contractor's copy be corrupted; and

(3) Access to NASA networks or computers at a level beyond that granted the general public, e.g. bypassing a firewall.

(b) The Contractor shall provide, implement, and maintain an IT Security 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. The plan shall describe those parts of the contract to which this clause applies. The Contractor's IT Security Plan shall be compliant with Federal laws that include, but are not limited to, the Computer Security Act of 1987 (40 U.S.C. 1441 et seq.) and the Government Information Security Reform Act of 2000. The plan shall meet IT security requirements in accordance with Federal and NASA policies and procedures that include, but are not limited to:

(1) OMB Circular A-130, Management of Federal Information Resources, Appendix III, Security of Federal Automated Information Resources;
(2) NASA Procedures and Guidelines (NPR) 2810.1, Security of Information Technology; and
(3) Chapter 3 of NPR 1620.1, NASA Security Procedural Requirements.

(c) Within thirty (30) days after contract award, the contractor shall submit for NASA approval an IT Security Plan. This plan must be consistent with and further detail the approach contained in the offeror's proposal or sealed bid that resulted in the award of this contract and in compliance with the

requirements stated in this clause. The plan, as approved by the Contracting Officer, shall be incorporated into the contract as a compliance document.

(d)(1) Contractor personnel requiring privileged access or limited privileged access to systems operated by the Contractor for NASA or interconnected to a NASA network shall be screened at an appropriate level in accordance with NPR 2810.1, Section 4.5; NPR 1620.1, Chapter 3; and paragraph (d)(2) of this clause. Those Contractor personnel with non-privileged access do not require personnel screening. NASA shall provide screening using standard personnel screening National Agency Check (NAC) forms listed in paragraph (d)(3) of this clause, unless contractor screening in accordance with paragraph (d)(4) is approved. The Contractor shall submit the required forms to the NASA Center Chief of Security (CCS) within fourteen (14) days after contract award or assignment of an individual to a position requiring screening. The forms may be obtained from the CCS. At the option of the government, interim access may be granted pending completion of the NAC.

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

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

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

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

(3) Screening for individuals shall employ forms appropriate for the level of risk as follows:

(i) IT-1: Fingerprint Card (FC) 258 and Standard Form (SF) 85P, Questionnaire for Public Trust Positions;

(ii) IT-2: FC 258 and SF 85, Questionnaire for Non-Sensitive Positions; and

(iii) IT-3: NASA Form 531, Name Check, and FC 258.

(4) The Contracting Officer may allow the Contractor to conduct its own screening of individuals requiring privileged access or limited privileged access provided the Contractor can demonstrate that the procedures used by the Contractor are equivalent to NASA's personnel screening procedures. As used here, equivalent includes a check for criminal history, as would be conducted by NASA, and completion of a questionnaire covering the same information as would be required by NASA.

(5) Screening of contractor personnel may be waived by the Contracting Officer for those individuals who have proof of --

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

(ii) Screening conducted by NASA within last three years; or

(iii) Screening conducted by the Contractor, within last three years, that is equivalent to the NASA personnel screening procedures as approved by the Contracting Officer under paragraph (d)(4) of this clause.

(e) The Contractor shall ensure that its employees, in performance of the contract, receive annual IT security training in NASA IT Security policies, procedures, computer ethics, and best practices in accordance with NPR 2810.1, Section 4.3 requirements. The contractor may use web-based training available from NASA to meet this requirement.

(f) The Contractor shall afford NASA, including the Office of Inspector General, access to the Contractor's and subcontractors' facilities, installations, operations, documentation, databases and personnel used in performance of the contract. Access shall be provided to the extent required to carry out a program of IT inspection, investigation and audit to safeguard against threats and hazards to the integrity, availability and confidentiality of NASA data or to the function of computer systems operated on behalf of NASA, and to preserve evidence of computer crime.

(g) The Contractor shall incorporate the substance of this clause in all subcontracts that meet the conditions in paragraph (a) of this clause.

(End of Clause)

I.14 OMBUDSMAN (NASA 1852.215-84) (OCT 2003)(ALT 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, Randy K. Gish, 2101 NASA Parkway, Houston, Texas, 77058, 281-483-0490, facsimile 281-483-2200, email randy.k.gish@nasa.gov. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Director of the Contract Management Division, at 202-358-0445, facsimile 202-358-3083, e-mail james.a.balinskas@nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

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

(End of Clause)

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I.15 MINIMUM INSURANCE COVERAGE (NASA 1852.228-75) (OCT 1988)

The Contractor shall obtain and maintain insurance coverage as follows for the performance of this contract:

(a) Worker's compensation and employer's liability insurance as required by applicable Federal and state workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with the Contractor's commercial operations that it would not be practical. The employer's liability coverage shall be at least $100,000, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(b) Comprehensive general (bodily injury) liability insurance of at least $500,000 per occurrence.

(c) Motor vehicle liability insurance written on the comprehensive form of policy which provides for bodily injury and property damage liability covering the operation of all motor vehicles used in connection with performing the contract. Policies covering motor vehicles operated in the United States shall provide coverage of at least $200,000 per person and $500,000 per occurrence for bodily injury liability and $20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

(d) Comprehensive general and motor vehicle liability policies shall contain a provision worded as follows:

"The insurance company waives any right of subrogation against the United States of America which may arise by reason of any payment under the policy."

(e) When aircraft are used in connection with performing the contract, aircraft public and passenger liability insurance of at least $200,000 per person and $500,000 per occurrence for bodily injury, other than passenger liability, and $200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least $200,000 multiplied by the number of seats or passengers, whichever is greater.

(End of clause)

I.16 ACCESS TO SENSITIVE INFORMATION (NASA 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.17 RELEASE OF SENSITIVE INFORMATION (NASA 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 1852.237-72, Access to Sensitive Information.

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

Mark the title page with the following legend:

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

Mark each page of sensitive information the Contractor wishes to restrict with the following legend:

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

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

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

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

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

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

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

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

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

(7) Obtain a written affirmation from each employee that he/she has received and will comply

Modification 83

with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.

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

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

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

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

(End of clause)

SECTION J
LIST OF ATTACHMENTS

Modification 83

Attachments	Title
J-1	Wage Determination
J-2	Award Fee Plan
J-3	Small Business Subcontracting Plan
J-4	Safety and Health Plan
J-5	Contract Security Classification Specification (DD Form 254)
J-6	List of Government Furnished Property
J-7	List of Installation-Accountable Property
J-8	Data Requirements Description List
J-9	Data Requirements Description Sheets
J-10	Phase-In Plan
J-11	IDIQ Modification Services
J-12	Personal Identification Verification of Contractor Personnel

STANDARD FORM 98

January 1996

NOTICE OF INTENTION TO MAI A SERVICE CONTRACT AND RESPONSE TO NOTICE

(See Instructions on Reverse)

1. NOTICE NO.
39879
Memorandum

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION

MAIL TO:

Administrator
Wage and Hour Division
U.S. Department of Labor
Washington, DC 20210

2. Estimated solicitation date *(use numerals)*

Month	Day	Year
12	12	05

3. Estimated date bids or proposals to be opened or negotiations begun *(use numerals)*

Month	Day	Year
02	06	06

4. Date contract performance to begin *(use numerals)* Extension

Month	Day	Year
10	01	06

5. PLACE(S) OF PERFORMANCE

Harris County, TX
El Paso County, TX

6. SERVICES TO BE PERFORMED *(describe)*

II: Mission Support Operations Contract
WD Period 10/01/06 to 09/30/07

7. INFORMATION ABOUT PERFORMANCE

A. [X] Services now performed by a contractor
B. [ ] Services now performed by Federal employees
C. [ ] Services not presently being performed

8. IF BOX A IN ITEM 7 IS MARKED, COMPLETE ITEM 8 AS APPLICABLE

a. Name and address of incumbent contractor

Lockheed Martin Space Operations
595 Gemini
Houston, TX 77058

b. Number(s) of any wage determination(s) in incumbent's contract

WD 94-2516, WD 94-2512

c. Name(s) of union(s) if services are being performed under collective bargaining agreement(s). ***Important:*** Attach copies of current applicable collective bargaining agreements

None

9. OFFICIAL SUBMITTING NOTICE

SIGNED:	DATE
Original signed by	06/21/06
TYPE OR PRINT NAME	**TELEPHONE NO.**
Connie R. Pritchard Contract Labor Relations Officer	281-483-4121

10. TYPE OR PRINT NAME AND TITLE OF PERSON TO WHOM RESPONSE IS TO BE SENT AND NAME AND ADDRESS OF DEPARTMENT OR AGENCY, BUREAU, DIVISION, ETC.

NASA Johnson Space Center
Connie R. Pritchard, Mail Code BA2
2101 NASA Parkway
Houston, TX 77058

RESPONSE TO NOTICE
(by Department of Labor)

A. [X] The attached wage determination(s) listed below apply to procurement.
WD 94-2516 Rev 28
WD 94-2512 Rev 24

B. [ ] As of this date, no wage determination applicable to the specified locality and classes of employees is in effect.

C. [ ] From information supplied, the Service Contract Act does not apply *(see attached explanation)*.

D. [ ] Notice returned for additional information *(see attached explanation)*

Signed: _____
(U.S. Department of Labor)

_____
(Date)

98-103

COMPUTER-GENERATED 1/96

STANDARD FORM 98a February 1973 U.S. DEPARTMENT OF LABOR Employment Standards Administration	NOTICE OF INTENTION TO MAKE A SERVICE CONTRACT AND RESPONSE TO NOTICE (Attachment A)	11. Notice No. NASA 39879
12. CLASSES OF SERVICE EMPLOYEES TO BE EMPLOYED ON CONTRACT	13. NUMBER OF EMPLOYEES IN EACH CLASS	14. HOURLY WAGE RATE THAT WOULD BE PAID IF FEDERALLY EMPLOYED
Harris County, TX; 94-2516, Occupations included in "SCA Directory of Occupations"		
Secretary, I	1	GS-4 $13.19
Secretary, II	4	GS-5 $14.75
Secretary, III	2	GS-6 $16.44
Secretary, IV	1	GS-7 $18.27
Accounting Clerk, III	1	GS-4 $13.19
Word Processor, III	4	GS-5 $14.75
Computer Operator, I	1	GS-4 $13.19
Computer Operator, II	5	GS-5 $14.75
Computer Operator, III	3	GS-6 $16.44
Computer Programmer, II	1	GS-7 $18.27
Engineering Technician, I	2	GS-3 $11.75
Engineering Technician, II	7	GS-4 $13.19
Engineering Technician, III	2	GS-5 $14.75
Electrician Maintenance	5	WG-10 $21.21
Electronic Technician, Maint., I	24	WG-8 $18.95
Electronic Technician, Maint. II	15	WG-9 $20.18
Electronic Technician, Maint. III	8	WG-10 $21.21
Drafter, II	1	GS-4 $13.19
Drafter, IV	2	GS-7 $18.27
El Paso County, TX; 94-2512, Occupations included in "SCA Directory of Occupations		
General Clerk, I	6	GS-1 $8.57

REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT

By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT
STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON D.C. 20210

William W. Gross
Director

Division of
Wage Determinations

Wage Determination No.: 1994-2516
Revision No.: 28
Date of Last Revision: 05/24/2006

State: Texas

Area: Texas Counties of Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Grimes, Harris, Houston, Jackson, Lavaca, Liberty, Madison, Matagorda, Montgomery, San Jacinto, Trinity, Walker, Waller, Washington, Wharton

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	MINIMUM WAGE RATE
01000 - Administrative Support and Clerical Occupations	
01011 - Accounting Clerk I	11.45
01012 - Accounting Clerk II	12.35
01013 - Accounting Clerk III	13.86
01014 - Accounting Clerk IV	15.29
01030 - Court Reporter	17.73
01050 - Dispatcher, Motor Vehicle	15.40
01060 - Document Preparation Clerk	12.07
01070 - Messenger (Courier)	9.87
01090 - Duplicating Machine Operator	12.07
01110 - Film/Tape Librarian	11.50
01115 - General Clerk I	9.63
01116 - General Clerk II	10.80
01117 - General Clerk III	12.97
01118 - General Clerk IV	14.88
01120 - Housing Referral Assistant	19.36
01131 - Key Entry Operator I	11.20
01132 - Key Entry Operator II	14.32
01191 - Order Clerk I	13.36
01192 - Order Clerk II	15.24
01261 - Personnel Assistant (Employment) I	12.28
01262 - Personnel Assistant (Employment) II	13.79
01263 - Personnel Assistant (Employment) III	16.50
01264 - Personnel Assistant (Employment) IV	17.63
01270 - Production Control Clerk	18.50
01290 - Rental Clerk	14.34
01300 - Scheduler, Maintenance	14.67
01311 - Secretary I	14.67

01312 - Secretary II	17.73
01313 - Secretary III	19.36
01314 - Secretary IV	22.76
01315 - Secretary V	25.57
01320 - Service Order Dispatcher	14.63
01341 - Stenographer I	12.72
01342 - Stenographer II	15.12
01400 - Supply Technician	22.76
01420 - Survey Worker (Interviewer)	15.53
01460 - Switchboard Operator-Receptionist	10.88
01510 - Test Examiner	17.73
01520 - Test Proctor	17.73
01531 - Travel Clerk I	11.56
01532 - Travel Clerk II	12.46
01533 - Travel Clerk III	13.33
01611 - Word Processor I	11.45
01612 - Word Processor II	13.79
01613 - Word Processor III	16.27
03000 - Automatic Data Processing Occupations	
03010 - Computer Data Librarian	13.45
03041 - Computer Operator I	13.45
03042 - Computer Operator II	15.53
03043 - Computer Operator III	17.54
03044 - Computer Operator IV	22.60
03045 - Computer Operator V	23.90
03071 - Computer Programmer I (1)	21.12
03072 - Computer Programmer II (1)	26.16
03073 - Computer Programmer III (1)	27.62
03074 - Computer Programmer IV (1)	27.62
03101 - Computer Systems Analyst I (1)	27.41
03102 - Computer Systems Analyst II (1)	27.62
03103 - Computer Systems Analyst III (1)	27.62
03160 - Peripheral Equipment Operator	13.45
05000 - Automotive Service Occupations	
05005 - Automotive Body Repairer, Fiberglass	21.26
05010 - Automotive Glass Installer	21.68
05040 - Automotive Worker	20.91
05070 - Electrician, Automotive	22.66
05100 - Mobile Equipment Servicer	19.27
05130 - Motor Equipment Metal Mechanic	24.53
05160 - Motor Equipment Metal Worker	20.91
05190 - Motor Vehicle Mechanic	24.53
05220 - Motor Vehicle Mechanic Helper	18.48
05250 - Motor Vehicle Upholstery Worker	19.84
05280 - Motor Vehicle Wrecker	20.91
05310 - Painter, Automotive	22.66
05340 - Radiator Repair Specialist	22.88
05370 - Tire Repairer	14.40
05400 - Transmission Repair Specialist	25.17

07000 - Food Preparation and Service Occupations	
(not set) - Food Service Worker	8.01
07010 - Baker	10.04
07041 - Cook I	8.65
07042 - Cook II	9.33
07070 - Dishwasher	8.11
07130 - Meat Cutter	12.36
07250 - Waiter/Waitress	7.75
09000 - Furniture Maintenance and Repair Occupations	
09010 - Electrostatic Spray Painter	16.65
09040 - Furniture Handler	11.74
09070 - Furniture Refinisher	16.09
09100 - Furniture Refinisher Helper	13.74
09110 - Furniture Repairer, Minor	15.29
09130 - Upholsterer	16.65
11030 - General Services and Support Occupations	
11030 - Cleaner, Vehicles	9.12
11060 - Elevator Operator	7.39
11090 - Gardener	12.14
11121 - House Keeping Aid I	7.27
11122 - House Keeping Aid II	7.68
11150 - Janitor	8.17
11210 - Laborer, Grounds Maintenance	9.75
11240 - Maid or Houseman	7.27
11270 - Pest Controller	12.98
11300 - Refuse Collector	9.12
11330 - Tractor Operator	11.44
11360 - Window Cleaner	8.92
12000 - Health Occupations	
12020 - Dental Assistant	14.22
12040 - Emergency Medical Technician (EMT)/ Paramedic/Ambulance Driver	12.93
12071 - Licensed Practical Nurse I	14.15
12072 - Licensed Practical Nurse II	15.88
12073 - Licensed Practical Nurse III	17.10
12100 - Medical Assistant	11.91
12130 - Medical Laboratory Technician	13.90
12160 - Medical Record Clerk	13.13
12190 - Medical Record Technician	16.02
12221 - Nursing Assistant I	7.08
12222 - Nursing Assistant II	9.82
12223 - Nursing Assistant III	10.62
12224 - Nursing Assistant IV	12.40
12250 - Pharmacy Technician	13.10
12280 - Phlebotomist	13.30
12311 - Registered Nurse I	24.51
12312 - Registered Nurse II	30.20
12313 - Registered Nurse II, Specialist	32.08

12314 - Registered Nurse III	37.96
12315 - Registered Nurse III, Anesthetist	37.96
12316 - Registered Nurse IV	43.48
13000 - Information and Arts Occupations	
13002 - Audiovisual Librarian	18.40
13011 - Exhibits Specialist I	19.30
13012 - Exhibits Specialist II	24.74
13013 - Exhibits Specialist III	28.94
13041 - Illustrator I	17.60
13042 - Illustrator II	22.56
13043 - Illustrator III	26.40
13047 - Librarian	23.29
13050 - Library Technician	12.96
13071 - Photographer I	13.93
13072 - Photographer II	17.60
13073 - Photographer III	22.56
13074 - Photographer IV	26.40
13075 - Photographer V	30.06
15000 - Laundry, Dry Cleaning, Pressing and Related Occupations	
15010 - Assembler	7.98
15030 - Counter Attendant	7.98
15040 - Dry Cleaner	10.25
15070 - Finisher, Flatwork, Machine	7.98
15090 - Presser, Hand	7.98
15100 - Presser, Machine, Drycleaning	7.98
15130 - Presser, Machine, Shirts	7.98
15160 - Presser, Machine, Wearing Apparel, Laundry	7.98
15190 - Sewing Machine Operator	10.85
15220 - Tailor	11.67
15250 - Washer, Machine	8.76
19000 - Machine Tool Operation and Repair Occupations	
19010 - Machine-Tool Operator (Toolroom)	16.65
19040 - Tool and Die Maker	19.20
21000 - Material Handling and Packing Occupations	
21010 - Fuel Distribution System Operator	16.33
21020 - Material Coordinator	18.50
21030 - Material Expediter	18.50
21040 - Material Handling Laborer	12.26
21050 - Order Filler	10.53
21071 - Forklift Operator	12.84
21080 - Production Line Worker (Food Processing)	12.84
21100 - Shipping/Receiving Clerk	12.43
21130 - Shipping Packer	12.43
21140 - Store Worker I	9.57
21150 - Stock Clerk (Shelf Stocker; Store Worker II)	13.57
21210 - Tools and Parts Attendant	13.58
21400 - Warehouse Specialist	12.84

23000 - **Mechanics and Maintenance and Repair Occupations**	
23010 - Aircraft Mechanic	23.19
23040 - Aircraft Mechanic Helper	18.07
23050 - Aircraft Quality Control Inspector	24.21
23060 - Aircraft Servicer	20.10
23070 - Aircraft Worker	21.18
23100 - Appliance Mechanic	16.65
23120 - Bicycle Repairer	13.91
23125 - Cable Splicer	20.27
23130 - Carpenter, Maintenance	18.58
23140 - Carpet Layer	15.92
23160 - Electrician, Maintenance	25.19
23181 - Electronics Technician, Maintenance I	15.91
23182 - Electronics Technician, Maintenance II	20.59
23183 - Electronics Technician, Maintenance III	24.17
23260 - Fabric Worker	15.00
23290 - Fire Alarm System Mechanic	17.43
23310 - Fire Extinguisher Repairer	14.40
23340 - Fuel Distribution System Mechanic	19.17
23370 - General Maintenance Worker	15.46
23400 - Heating, Refrigeration and Air Conditioning Mechanic	19.17
23430 - Heavy Equipment Mechanic	17.43
23440 - Heavy Equipment Operator	17.43
23460 - Instrument Mechanic	17.47
23470 - Laborer	10.14
23500 - Locksmith	16.65
23530 - Machinery Maintenance Mechanic	19.81
23550 - Machinist, Maintenance	20.16
23580 - Maintenance Trades Helper	13.58
23640 - Millwright	19.48
23700 - Office Appliance Repairer	16.65
23740 - Painter, Aircraft	18.32
23760 - Painter, Maintenance	16.65
23790 - Pipefitter, Maintenance	19.33
23800 - Plumber, Maintenance	18.87
23820 - Pneudraulic Systems Mechanic	17.47
23850 - Rigger	17.47
23870 - Scale Mechanic	15.92
23890 - Sheet-Metal Worker, Maintenance	17.43
23910 - Small Engine Mechanic	15.92
23930 - Telecommunication Mechanic I	21.33
23931 - Telecommunication Mechanic II	22.28
23950 - Telephone Lineman	21.09
23960 - Welder, Combination, Maintenance	17.43
23965 - Well Driller	17.43
23970 - Woodcraft Worker	17.47
23980 - Woodworker	10.27
24000 - Personal Needs Occupations	
24570 - Child Care Attendant	9.68
24580 - Child Care Center Clerk	12.06

24600 - Chore Aid	6.36
24630 - Homemaker	15.41
25000 - Plant and System Operation Occupations	
25010 - Boiler Tender	21.14
25040 - Sewage Plant Operator	17.00
25070 - Stationary Engineer	21.14
25190 - Ventilation Equipment Tender	14.33
25210 - Water Treatment Plant Operator	16.65
27000 - Protective Service Occupations	
(not set) - Police Officer	21.21
27004 - Alarm Monitor	13.96
27006 - Corrections Officer	18.04
27010 - Court Security Officer	18.04
27040 - Detention Officer	18.04
27070 - Firefighter	17.70
27101 - Guard I	10.14
27102 - Guard II	17.90
28000 - Stevedoring/Longshoremen Occupations	
28010 - Blocker and Bracer	16.16
28020 - Hatch Tender	16.16
28030 - Line Handler	16.16
28040 - Stevedore I	15.12
28050 - Stevedore II	17.21
29000 - Technical Occupations	
21150 - Graphic Artist	23.11
29010 - Air Traffic Control Specialist, Center (2)	35.18
29011 - Air Traffic Control Specialist, Station (2)	24.26
29012 - Air Traffic Control Specialist, Terminal (2)	26.71
29023 - Archeological Technician I	19.34
29024 - Archeological Technician II	21.66
29025 - Archeological Technician III	26.79
29030 - Cartographic Technician	27.31
29035 - Computer Based Training (CBT) Specialist/ Instructor	25.70
29040 - Civil Engineering Technician	24.82
29061 - Drafter I	16.82
29062 - Drafter II	17.44
29063 - Drafter III	21.12
29064 - Drafter IV	26.79
29081 - Engineering Technician I	15.08
29082 - Engineering Technician II	18.74
29083 - Engineering Technician III	21.81
29084 - Engineering Technician IV	27.69
29085 - Engineering Technician V	36.15
29086 - Engineering Technician VI	41.10
29090 - Environmental Technician	24.76
29100 - Flight Simulator/Instructor (Pilot)	32.45
29160 - Instructor	23.47

29210 - Laboratory Technician	19.77
29240 - Mathematical Technician	28.04
29361 - Paralegal/Legal Assistant I	17.80
29362 - Paralegal/Legal Assistant II	21.38
29363 - Paralegal/Legal Assistant III	26.62
29364 - Paralegal/Legal Assistant IV	29.59
29390 - Photooptics Technician	26.79
29480 - Technical Writer	24.02
29491 - Unexploded Ordnance (UXO) Technician I	22.35
29492 - Unexploded Ordnance (UXO) Technician II	27.05
29493 - Unexploded Ordnance (UXO) Technician III	34.42
29494 - Unexploded (UXO) Safety Escort	22.35
29495 - Unexploded (UXO) Sweep Personnel	22.35
29620 - Weather Observer, Senior (3)	21.81
29621 - Weather Observer, Combined Upper Air and Surface Programs (3)	17.99
29622 - Weather Observer, Upper Air	17.99

31000 - Transportation/ Mobile Equipment Operation Occupations

31030 - Bus Driver	15.48
31260 - Parking and Lot Attendant	8.34
31290 - Shuttle Bus Driver	12.67
31300 - Taxi Driver	9.00
31361 - Truckdriver, Light Truck	12.67
31362 - Truckdriver, Medium Truck	14.97
31363 - Truckdriver, Heavy Truck	16.00
31364 - Truckdriver, Tractor-Trailer	16.00

99000 - Miscellaneous Occupations

99020 - Animal Caretaker	8.21
99030 - Cashier	9.10
99041 - Carnival Equipment Operator	9.72
99042 - Carnival Equipment Repairer	10.22
99043 - Carnival Worker	7.50
99050 - Desk Clerk	10.65
99095 - Embalmer	19.59
99300 - Lifeguard	11.75
99310 - Mortician	24.04
99350 - Park Attendant (Aide)	14.75
99400 - Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	9.48
99500 - Recreation Specialist	14.74
99510 - Recycling Worker	13.45
99610 - Sales Clerk	10.85
99620 - School Crossing Guard (Crosswalk Attendant)	8.29
99630 - Sport Official	11.47
99658 - Survey Party Chief (Chief of Party)	19.92
99659 - Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	17.23
99660 - Surveying Aide	13.64
99690 - Swimming Pool Operator	13.10
99720 - Vending Machine Attendant	10.91
99730 - Vending Machine Repairer	13.10

99740 - Vending Machine Repairer Helper 11.19

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an average of $3.01 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Under the policy and guidance contained in All Agency Memorandum No. 159, the Wage and Hour Division does not recognize, for section 4(c) purposes, prospective wage rates and fringe benefit provisions that are effective only upon such contingencies as "approval of Wage and Hour, issuance of a wage determination, incorporation of the wage determination in the contract, adjusting the contract price, etc." (The relevant CBA section) in the collective bargaining agreement between (the parties) contains contingency language that Wage and Hour does not recognize as reflecting "arm's length negotiation" under section 4(c) of the Act and 29 C.F.R. 5.11(a) of the regulations. This wage determination therefore reflects the actual CBA wage rates and fringe benefits paid under the predecessor contract.

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Third Supplement, dated March 1997, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of

Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)}. When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT

By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT
STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON D.C. 20210

William W. Gross
Director

Division of
Wage Determinations

Wage Determination No.: 1994-2512
Revision No.: 24
Date of Last Revision: 05/24/2006

States: New Mexico, Texas

Area: New Mexico Counties of Chaves, Dona Ana, Eddy, Grant, Hidalgo, Lincoln, Luna, Otero, Sierra
Texas Counties of Culberson, El Paso, Hudspeth

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	MINIMUM WAGE RATE
01000 - Administrative Support and Clerical Occupations	
01011 - Accounting Clerk I	9.21
01012 - Accounting Clerk II	10.14
01013 - Accounting Clerk III	13.49
01014 - Accounting Clerk IV	15.70
01030 - Court Reporter	12.97
01050 - Dispatcher, Motor Vehicle	12.41
01060 - Document Preparation Clerk	10.58
01070 - Messenger (Courier)	7.78
01090 - Duplicating Machine Operator	10.58
01110 - Film/Tape Librarian	11.00
01115 - General Clerk I	8.16
01116 - General Clerk II	9.18
01117 - General Clerk III	10.18
01118 - General Clerk IV	10.97
01120 - Housing Referral Assistant	14.58
01131 - Key Entry Operator I	8.50
01132 - Key Entry Operator II	10.05
01191 - Order Clerk I	9.78
01192 - Order Clerk II	11.20
01261 - Personnel Assistant (Employment) I	10.37
01262 - Personnel Assistant (Employment) II	11.64
01263 - Personnel Assistant (Employment) III	13.33
01264 - Personnel Assistant (Employment) IV	14.51
01270 - Production Control Clerk	13.14
01290 - Rental Clerk	8.85
01300 - Scheduler, Maintenance	10.15
01311 - Secretary I	10.15

01312 - Secretary II	12.97
01313 - Secretary III	14.58
01314 - Secretary IV	17.23
01315 - Secretary V	18.34
01320 - Service Order Dispatcher	9.71
01341 - Stenographer I	10.86
01342 - Stenographer II	11.65
01400 - Supply Technician	17.23
01420 - Survey Worker (Interviewer)	12.88
01460 - Switchboard Operator-Receptionist	8.71
01510 - Test Examiner	12.97
01520 - Test Proctor	12.97
01531 - Travel Clerk I	10.63
01532 - Travel Clerk II	11.36
01533 - Travel Clerk III	12.10
01611 - Word Processor I	9.58
01612 - Word Processor II	10.73
01613 - Word Processor III	13.41
03000 - Automatic Data Processing Occupations	
03010 - Computer Data Librarian	9.83
03041 - Computer Operator I	10.44
03042 - Computer Operator II	14.05
03043 - Computer Operator III	15.72
03044 - Computer Operator IV	17.47
03045 - Computer Operator V	19.35
03071 - Computer Programmer I (1)	17.76
03072 - Computer Programmer II (1)	23.82
03073 - Computer Programmer III (1)	27.17
03074 - Computer Programmer IV (1)	27.62
03101 - Computer Systems Analyst I (1)	22.14
03102 - Computer Systems Analyst II (1)	26.56
03103 - Computer Systems Analyst III (1)	27.62
03160 - Peripheral Equipment Operator	10.44
05000 - Automotive Service Occupations	
05005 - Automotive Body Repairer, Fiberglass	15.63
05010 - Automotive Glass Installer	13.69
05040 - Automotive Worker	13.69
05070 - Electrician, Automotive	14.67
05100 - Mobile Equipment Servicer	11.73
05130 - Motor Equipment Metal Mechanic	15.63
05160 - Motor Equipment Metal Worker	13.69
05190 - Motor Vehicle Mechanic	16.49
05220 - Motor Vehicle Mechanic Helper	10.75
05250 - Motor Vehicle Upholstery Worker	12.70
05280 - Motor Vehicle Wrecker	13.69
05310 - Painter, Automotive	14.67
05340 - Radiator Repair Specialist	13.69
05370 - Tire Repairer	11.33
05400 - Transmission Repair Specialist	15.63

07000 - Food Preparation and Service Occupations	
(not set) - Food Service Worker	7.05
07010 - Baker	10.41
07041 - Cook I	9.48
07042 - Cook II	11.06
07070 - Dishwasher	6.37
07130 - Meat Cutter	10.41
07250 - Waiter/Waitress	7.02
09000 - Furniture Maintenance and Repair Occupations	
09010 - Electrostatic Spray Painter	14.67
09040 - Furniture Handler	8.80
09070 - Furniture Refinisher	14.67
09100 - Furniture Refinisher Helper	10.75
09110 - Furniture Repairer, Minor	11.95
09130 - Upholsterer	14.67
11030 - General Services and Support Occupations	
11030 - Cleaner, Vehicles	6.70
11060 - Elevator Operator	7.06
11090 - Gardener	10.70
11121 - House Keeping Aid I	6.68
11122 - House Keeping Aid II	7.25
11150 - Janitor	7.43
11210 - Laborer, Grounds Maintenance	8.02
11240 - Maid or Houseman	6.60
11270 - Pest Controller	11.99
11300 - Refuse Collector	6.89
11330 - Tractor Operator	9.82
11360 - Window Cleaner	8.35
12000 - Health Occupations	
12020 - Dental Assistant	11.54
12040 - Emergency Medical Technician (EMT)/ Paramedic/Ambulance Driver	12.30
12071 - Licensed Practical Nurse I	12.74
12072 - Licensed Practical Nurse II	14.30
12073 - Licensed Practical Nurse III	15.99
12100 - Medical Assistant	10.35
12130 - Medical Laboratory Technician	12.57
12160 - Medical Record Clerk	9.77
12190 - Medical Record Technician	13.54
12221 - Nursing Assistant I	7.76
12222 - Nursing Assistant II	8.73
12223 - Nursing Assistant III	9.53
12224 - Nursing Assistant IV	10.69
12250 - Pharmacy Technician	12.19
12280 - Phlebotomist	12.29
12311 - Registered Nurse I	18.20
12312 - Registered Nurse II	22.28
12313 - Registered Nurse II, Specialist	22.28

12314 - Registered Nurse III	26.95
12315 - Registered Nurse III, Anesthetist	26.95
12316 - Registered Nurse IV	32.28
13000 - Information and Arts Occupations	
13002 - Audiovisual Librarian	19.93
13011 - Exhibits Specialist I	19.15
13012 - Exhibits Specialist II	23.08
13013 - Exhibits Specialist III	26.14
13041 - Illustrator I	19.15
13042 - Illustrator II	23.08
13043 - Illustrator III	26.14
13047 - Librarian	22.08
13050 - Library Technician	12.44
13071 - Photographer I	11.95
13072 - Photographer II	15.32
13073 - Photographer III	19.16
13074 - Photographer IV	22.77
13075 - Photographer V	25.97
15000 - Laundry, Dry Cleaning, Pressing and Related Occupations	
15010 - Assembler	6.61
15030 - Counter Attendant	6.61
15040 - Dry Cleaner	8.05
15070 - Finisher, Flatwork, Machine	6.61
15090 - Presser, Hand	6.61
15100 - Presser, Machine, Drycleaning	6.61
15130 - Presser, Machine, Shirts	6.61
15160 - Presser, Machine, Wearing Apparel, Laundry	6.61
15190 - Sewing Machine Operator	8.52
15220 - Tailor	9.37
15250 - Washer, Machine	7.09
19000 - Machine Tool Operation and Repair Occupations	
19010 - Machine-Tool Operator (Toolroom)	14.67
19040 - Tool and Die Maker	18.42
21000 - Material Handling and Packing Occupations	
21010 - Fuel Distribution System Operator	13.82
21020 - Material Coordinator	12.32
21030 - Material Expediter	12.32
21040 - Material Handling Laborer	7.84
21050 - Order Filler	10.19
21071 - Forklift Operator	10.39
21080 - Production Line Worker (Food Processing)	10.86
21100 - Shipping/Receiving Clerk	10.02
21130 - Shipping Packer	10.02
21140 - Store Worker I	8.54
21150 - Stock Clerk (Shelf Stocker; Store Worker II)	11.10
21210 - Tools and Parts Attendant	10.86
21400 - Warehouse Specialist	10.86

23000 - Mechanics and Maintenance and Repair Occupations	
23010 - Aircraft Mechanic	19.29
23040 - Aircraft Mechanic Helper	13.27
23050 - Aircraft Quality Control Inspector	20.52
23060 - Aircraft Servicer	15.60
23070 - Aircraft Worker	16.82
23100 - Appliance Mechanic	14.67
23120 - Bicycle Repairer	11.33
23125 - Cable Splicer	17.19
23130 - Carpenter, Maintenance	14.67
23140 - Carpet Layer	13.69
23160 - Electrician, Maintenance	17.10
23181 - Electronics Technician, Maintenance I	16.12
23182 - Electronics Technician, Maintenance II	19.80
23183 - Electronics Technician, Maintenance III	21.07
23260 - Fabric Worker	12.70
23290 - Fire Alarm System Mechanic	15.63
23310 - Fire Extinguisher Repairer	11.73
23340 - Fuel Distribution System Mechanic	18.42
23370 - General Maintenance Worker	13.69
23400 - Heating, Refrigeration and Air Conditioning Mechanic	15.63
23430 - Heavy Equipment Mechanic	17.19
23440 - Heavy Equipment Operator	15.63
23460 - Instrument Mechanic	15.63
23470 - Laborer	7.84
23500 - Locksmith	14.67
23530 - Machinery Maintenance Mechanic	16.14
23550 - Machinist, Maintenance	15.98
23580 - Maintenance Trades Helper	10.75
23640 - Millwright	17.46
23700 - Office Appliance Repairer	14.67
23740 - Painter, Aircraft	14.67
23760 - Painter, Maintenance	14.67
23790 - Pipefitter, Maintenance	15.76
23800 - Plumber, Maintenance	14.79
23820 - Pneudraulic Systems Mechanic	15.63
23850 - Rigger	15.63
23870 - Scale Mechanic	13.69
23890 - Sheet-Metal Worker, Maintenance	15.63
23910 - Small Engine Mechanic	13.76
23930 - Telecommunication Mechanic I	18.70
23931 - Telecommunication Mechanic II	19.89
23950 - Telephone Lineman	17.19
23960 - Welder, Combination, Maintenance	15.63
23965 - Well Driller	15.63
23970 - Woodcraft Worker	15.63
23980 - Woodworker	11.73
24000 - Personal Needs Occupations	
24570 - Child Care Attendant	8.41
24580 - Child Care Center Clerk	10.49

24600 - Chore Aid	6.23
24630 - Homemaker	12.70
25000 - Plant and System Operation Occupations	
25010 - Boiler Tender	16.75
25040 - Sewage Plant Operator	15.63
25070 - Stationary Engineer	16.75
25190 - Ventilation Equipment Tender	10.98
25210 - Water Treatment Plant Operator	15.63
27000 - Protective Service Occupations	
(not set) - Police Officer	20.13
27004 - Alarm Monitor	12.33
27006 - Corrections Officer	17.48
27010 - Court Security Officer	17.48
27040 - Detention Officer	17.48
27070 - Firefighter	19.83
27101 - Guard I	7.26
27102 - Guard II	11.42
28000 - Stevedoring/Longshoremen Occupations	
28010 - Blocker and Bracer	15.20
28020 - Hatch Tender	15.20
28030 - Line Handler	15.20
28040 - Stevedore I	14.81
28050 - Stevedore II	18.11
29000 - Technical Occupations	
21150 - Graphic Artist	19.52
29010 - Air Traffic Control Specialist, Center (2)	31.49
29011 - Air Traffic Control Specialist, Station (2)	22.04
29012 - Air Traffic Control Specialist, Terminal (2)	23.92
29023 - Archeological Technician I	17.29
29024 - Archeological Technician II	19.33
29025 - Archeological Technician III	23.95
29030 - Cartographic Technician	25.12
29035 - Computer Based Training (CBT) Specialist/ Instructor	23.65
29040 - Civil Engineering Technician	18.93
29061 - Drafter I	13.16
29062 - Drafter II	15.41
29063 - Drafter III	19.99
29064 - Drafter IV	26.25
29081 - Engineering Technician I	11.29
29082 - Engineering Technician II	14.72
29083 - Engineering Technician III	18.43
29084 - Engineering Technician IV	22.69
29085 - Engineering Technician V	26.70
29086 - Engineering Technician VI	30.43
29090 - Environmental Technician	18.11
29100 - Flight Simulator/Instructor (Pilot)	26.56
29160 - Instructor	20.51

29210 - Laboratory Technician	15.08
29240 - Mathematical Technician	24.90
29361 - Paralegal/Legal Assistant I	14.31
29362 - Paralegal/Legal Assistant II	19.00
29363 - Paralegal/Legal Assistant III	21.32
29364 - Paralegal/Legal Assistant IV	28.11
29390 - Photooptics Technician	22.90
29480 - Technical Writer	28.84
29491 - Unexploded Ordnance (UXO) Technician I	20.02
29492 - Unexploded Ordnance (UXO) Technician II	24.22
29493 - Unexploded Ordnance (UXO) Technician III	29.03
29494 - Unexploded (UXO) Safety Escort	20.02
29495 - Unexploded (UXO) Sweep Personnel	20.02
29620 - Weather Observer, Senior (3)	18.15
29621 - Weather Observer, Combined Upper Air and Surface Programs (3)	16.08
29622 - Weather Observer, Upper Air (3)	16.08

31000 - Transportation/ Mobile Equipment Operation Occupations

31030 - Bus Driver	12.42
31260 - Parking and Lot Attendant	6.82
31290 - Shuttle Bus Driver	11.32
31300 - Taxi Driver	9.55
31361 - Truckdriver, Light Truck	11.32
31362 - Truckdriver, Medium Truck	12.96
31363 - Truckdriver, Heavy Truck	13.90
31364 - Truckdriver, Tractor-Trailer	13.90

99000 - Miscellaneous Occupations

99020 - Animal Caretaker	8.82
99030 - Cashier	7.04
99041 - Carnival Equipment Operator	9.59
99042 - Carnival Equipment Repairer	10.45
99043 - Carnival Worker	6.96
99050 - Desk Clerk	9.41
99095 - Embalmer	20.02
99300 - Lifeguard	10.52
99310 - Mortician	20.02
99350 - Park Attendant (Aide)	13.21
99400 - Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	9.06
99500 - Recreation Specialist	11.65
99510 - Recycling Worker	9.48
99610 - Sales Clerk	8.96
99620 - School Crossing Guard (Crosswalk Attendant)	7.71
99630 - Sport Official	9.97
99658 - Survey Party Chief (Chief of Party)	15.50
99659 - Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	12.67
99660 - Surveying Aide	10.74
99690 - Swimming Pool Operator	11.25
99720 - Vending Machine Attendant	8.85
99730 - Vending Machine Repairer	11.25

99740 - Vending Machine Repairer Helper 8.85

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension plans, civic and personal leave, severance pay, and savings and thrift plans. Minimum employer contributions costing an average of $3.01 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-

house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Under the policy and guidance contained in All Agency Memorandum No. 159, the Wage and Hour Division does not recognize, for section 4(c) purposes, prospective wage rates and fringe benefit provisions that are effective only upon such contingencies as "approval of Wage and Hour, issuance of a wage determination, incorporation of the wage determination in the contract, adjusting the contract price, etc." (The relevant CBA section) in the collective bargaining agreement between (the parties) contains contingency language that Wage and Hour does not recognize as reflecting "arm's length negotiation" under section 4(c) of the Act and 29 C.F.R. 5.11(a) of the regulations. This wage determination therefore reflects the actual CBA wage rates and fringe benefits paid under the predecessor contract.

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Third Supplement, dated March 1997, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

ATTACHMENT J-2
AWARD FEE PLAN

Modification 83

I. INTRODUCTION

In accordance with the provisions of the Federal Acquisition Regulation, NASA FAR Supplement and the NASA Award Fee Handbook, and JSC Implementation, an award fee evaluation procedure is hereby established for determination of award fees payable under this contract. The fee arrangement outlined in this plan has been established to motivate the contractor to strive for excellence in the quality and timeliness of performance, subcontracting goals, safety, and cost. The payment of any award fee is contingent upon compliance with contractual requirements and performance to the degree specified in Appendix 1.

The Contractor's performance will be evaluated by the Government in accordance with the procedures set forth below, at the expiration of each period specified in Appendix 3. The evaluation to be performed by the Government will be based on the Government's assessment of the Contractor's accomplishment of the various areas of work covered by the SOW, in accordance with the criteria, weightings, procedures, and other provisions set forth below.

Performance determinations will be made at the end of each 6-month evaluation period as shown in Appendix 3.

II. ORGANIZATION STRUCTURE

A. PEB (Performance Evaluation Board)

A PEB, comprised of selected NASA technical and administrative personnel, will evaluate the Contractor's performance after each evaluation period to determine whether and to what extent the Contractor's performance during the evaluation period is deserving of the payment of award fee. The Board, at the end of each evaluation period, will prepare a summary of the evaluations for review by the Fee Determination Official (FDO). This summary will include a recommendation to the FDO as the adjective rating and numerical score to be assigned for the Contractor's performance in the preceding evaluation period.

B. FDO

The FDO, a senior NASA official, will determine the Contractor's performance score in accordance with the procedures set forth below. After considering available and pertinent information and recommendations, the FDO will make a performance determination for each period. The FDO is shall appoint the PEB Chairperson and members.

III. EVALUATION PROCEDURES

A. No later than 45 calendar days prior to the start of each evaluation period (for the first evaluation period, this shall be construed as 30 days prior to the end of the phase-in period), the Contractor may submit to the CO recommended areas of emphasis and weightings for the ensuing evaluation period that are within the general factors listed in Section III of this plan. Consideration will

be given to the Contractor's recommendations; however it is the Government's responsibility to establish the specific areas of emphasis for each evaluation period.

B. No later than 30 days prior to the start of each new six-month evaluation period (for the first evaluation period, this shall be construed as 20 days prior to the end of the phase-in period), the Contractor will be notified by the CO of the selected areas of emphasis and weightings for that period. Emphasis will be directed at particular areas under the contract which appear to the Government to be deserving of special attention and will be used in judging the Contractor's performance. These areas of emphasis will not necessarily cover the entire spectrum of performance that will be evaluated in determining award fee dollars earned. Other pertinent factors included under the contract and general factors bearing upon overall performance will be considered as the facts and circumstances of each period may require.

C. The Contractor shall be apprised of a general assessment of performance at the mid-point of the period, and at such other times as may be deemed appropriate. The purpose of these meetings shall be to discuss any specific areas where the Contractor has excelled, and where future Contractor emphasis may be necessary.

D. Promptly after the end of each six-month evaluation period, the PEB shall meet to consider all of the performance information it has obtained. At the meeting, the PEB will summarize its preliminary findings and recommendations in the Performance Evaluation Board Report (PEBR).

E. At the PEB meeting, the contractor may provide a self-evaluation presentation (a copy of which shall be provided to the PEB) not to exceed 30 minutes in length.

F. The Contractor may furnish a separate self-evaluation report on or before the fifth calendar day following the expiration of each evaluation period. These self-evaluation reports shall not exceed 20 pages in length per each evaluation period. The PEB will not submit its recommendation to the Fee Determination Official (FDO) until (1) the Contractor's self-evaluation report has been received and considered, or (2) the Contractor has provided written notification that a self-evaluation report will not be submitted, or (3) the deadline for its submission has expired.

G. The PEB Chair will prepare the PEBR for the period and present the findings and recommendations to the FDO. The reports will include an adjective rating and a recommended performance score with supporting documentation.

H. The Contractor will be notified of the PEB evaluation and recommended ratings and scores and will be provided copies of the PEBR. The Contractor may provide additional information for consideration by the FDO. Such information shall be delivered in writing to the Contracting Officer within 5 calendar days of notification to the contractor of the recommended rating and score. The PEB Chair will in turn provide this additional information to the FDO

I. The FDO will consider the recommendations of the PEB, the PEBR, information provided by the Contractor, if any, and any other pertinent information in determining performance scores. The FDO's determination of the scores will be stated in a written Award Fee Determination.

J. The FDO will not make a performance determination prior to the expiration of the 5 calendar day period prescribed above for Contractor submissions unless the Contractor has affirmatively indicated, in writing, that no further Contractor submission will be made.

K. The Award Fee Determination will be provided to the Contractor by the Contracting Officer.

SECTION IV. AWARD FEE EVALUATION CRITERIA AND WEIGHTING

A. In evaluating the performance of the Contractor, the Government will evaluate major elements of Contractor performance including performance and cost.

B. The criteria for evaluation of Contractor performance for determination of award fee is defined below. The Government may unilaterally modify the award fee performance evaluation factors and performance evaluation areas applicable to the evaluation period. The CO shall notify the Contractor in writing of any such changes prior to the start of the relevant evaluation period.

Evaluation Criteria	**Weight**
1. Performance, Compliance with Safety and Health Requirements and Subcontracting Goals.	**70 Percent**

Performance criterion includes all aspects of quality and schedule based on objective evidence demonstrating both technical and management performance. For technical performance, emphasis will be placed on the SOW performance standards.

Compliance with Safety and Health Requirements criterion includes all aspects of safety and health and environmental compliance issues primarily based on objective evidence demonstrating performance.

The Subcontracting Goals criterion includes evaluation of the Contractor's success in achieving or surpassing the subcontracting goals specified in the contract.

2. Cost **30 Percent**

Cost criterion includes evaluation of actual cost performance relative to negotiated contract values, including detailed variance analyses.

C. Notwithstanding any of the above, a major breach of safety or security, as defined by clause 1852.223-75 of this contract, may result in an award fee score of zero for the affected evaluation period.

D. In order to earn any award fee, the Contractor must receive a numerical score of 61 or greater. Appendix 1 provides the performance level definition adjective ratings and corresponding numerical scores that will be used in evaluating performance. The numerical grade ranges corresponding to these adjective ratings and their conversion to total award fee earned are set forth in Appendix 2. Appendix 3 provides the distribution of the available maximum award fee for each evaluation period.

APPENDIX 1 – EVALUATION DEFINITIONS

ADJECTIVE	DEFINITION	GRADE RANGE
Excellent	Of exceptional merit exemplary performance in a timely, efficient, and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance.	91-100
Very Good	Very effective performance, fully responsive to contract requirements; reportable deficiencies but with little identifiable effect on overall performance.	81-90
Good	Effective performance, fully responsive to contract requirements, reportable deficiencies, but with little identifiable effect on overall performance.	71-80
Satisfactory	Meets or slightly exceeds minimum acceptable standards; adequate results. Reportable deficiencies with identifiable but not substantial effects on overall performance.	61-70
Poor/ Unsatisfactory	Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas, which adversely effect overall performance.	60 and below

APPENDIX 2 – PERFORMANCE SCORE CONVERSION CHART

Weighed Performance Score		Percentage of Available Award Fee
100		**100%**
99		**99**
98		**98**
97		**97**
96	Excellent	**96**
95		**95**
94		**94**
93		**93**
92		**92**
91		**91**
90		**90**
89		**89**
88		**88**
87		**87**
86	Very Good	**86**
85		**85**
84		**84**
83		**83**
82		**82**
81		**81**
80		**80**
79		**79**
78		**78**
77		**77**
76	Good	**76**
75		**75**
74		**74**
73		**73**
72		**72**
71		**71**
70		**70**
69		**69**
68		**68**
67		**67**
66	Satisfactory	**66**
65		**65**
64		**64**
63		**63**
62		**62**
61		**61**
60 and below		**0**

APPENDIX 3 – AWARD FEE DISTRIBUTION

Evaluation Period	Estimated Award Fee Available	Earned Award Fee
BASIC CONTRACT (If Options 1, 2, and 3 are not exercised):		
January 1, 2004 – June 30, 2004	$3,838,208	
July 1, 2004 – September 30, 2004	$1,885,794	
Total Available Award Fee for Basic Contract Only	**$5,724,002**	
Total Available Award Fee if Option 1 is exercised	$7,425,940	
If OPTION 2 is exercised, the evaluation periods will be as follows:		
January 1, 2004 – June 30, 2004	$3,703,418	
July 1, 2004 – March 31, 2005	$5,338,984	
Total Available Award Fee if Option 2 is exercised	$9,042,402	
If OPTION 3 is exercised, the evaluation periods will be as follows:		
January 1, 2004 – June 30, 2004	$3,860,125	$3,589,916.25
July 1, 2004 – December 31, 2004	$3,710,991	$3,525,441.45
January 1, 2005 – June 30, 2005	$3,633,150	$3,524,155.50
July 1, 2005 – December 31, 2005	$3,633,149	$3,524,154.53
January 1, 2006 – September 30, 2006	$5,445,374	
Total Available Award Fee if Option 3 is exercised	$20,282,789	

APPENDIX 3 – AWARD FEE DISTRIBUTION
(Continued)

Evaluation Period	Estimated Award Fee Available	Earned Award Fee
Basic Contract Extension (2 yrs)		
October 1, 2006 – March 30, 2007	$3,680,468	
April 1, 2007 – September 30, 2007	$3,680,467	
October 1, 2007 – March 30, 2008	$3,718,422	
April 1, 2008 – September 30, 2008	$3,718,422	
Total Available Award Fee for Basic Contract Extension Only	$14,797,779	
If OPTION 4 is exercised, the evaluation periods will be as follows:		
October 1, 2008 – March 30, 2009	$3,739,045	
April 1, 2009 – September 30, 2009	$3,739,046	
Total Available Award Fee if Option 4 is exercised	$7,478,091	
If OPTION 5 is exercised, the evaluation periods will be as follows:		
October 1, 2009 – March 30, 2010	$3,771,143	
April 1, 2010 – September 30, 2010	$3,771,143	
Total Available Award Fee if Option 5 is exercised	$7,542,286	
If OPTION 6 is exercised, the evaluation periods will be as follows:		
October 1, 2010 – March 30, 2011	$3,621,989	
April 1, 2011 – September 30, 2011	$3,621,989	
Total Available Award Fee if Option 6 is exercised	$7,243,978	

Mission Support Operations Contract

Small Business Subcontracting Plan

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1.0 SMALL BUSINESS PARTICIPATION

It is Lockheed Martin's (LM) policy to provide maximum opportunities for Small Business, Small Disadvantaged Business (SDB), Women-Owned Small Business (WOSB), Historically Underutilized Business Zone (HUBZone) Small Business, Veteran-Owned Small Business (VOSB), Service-Disabled Veteran-Owned Small Business (SDVOB), and Historically Black Colleges and Universities/Minority Institutions. Refer to July 1, 2003, memorandum from Michael F. Camardo, Executive Vice President, Lockheed Martin Technology Services (LMTS), LM Small Business Policy Statement. To that end, our Mission Support Operations Contract (MSOC) proposal exceeds the specified Small Business participation goal and the complex and diverse needs of our customer with the careful selection of subcontractors. We have identified small business subcontractors across all socioeconomic categories.

The following paragraphs define our enhanced Small Business Subcontracting Plan for the MSOC. This plan is supported by our formal Master Small Business Subcontracting Plan and MSOC Addendums A through C. The Master Plan is attached to this Subcontracting Plan.

2.0 SMALL BUSINESS SUBCONTRACTING GOALS AND APPROACH

2.1 MISSION SUPPORT OPERATIONS CONTRACT (MSOC) SMALL BUSINESS GOALS

We commit to meet the 30.5% Small Business participation goals and to meet Johnson Space Center (JSC) expectations in all our Small Business Program. We are committed to implementing a low-risk enhanced Small Business Subcontracting Plan that embodies the spirit and intent of the Small Business Administration (SBA) and Headquarters (HQ) National Aeronautics and Space Administration (NASA) Small Business Programs. Our commitment includes providing a series of Small Business initiatives to provide support to the NASA Small Business Program.

We satisfy NASA MSOC requirements for utilization of Small Business categories and commit to allocation of complex work to a variety of Small Businesses.

To honor every aspect of our Small Business Subcontracting Plan, we establish enforceable commitments as defined in Federal Acquisition Regulation (FAR) 19.1202-3 with the customer in the form of contract provisions and award fee requirements.

2.2 SMALL BUSINESS APPROACH

Small Business subcontracting represents a significant and very important part of our MSOC proposal. We augment our extensive system engineering and integration capabilities with those of key Small Business subcontractors who possess demonstrated capabilities and past performance in critical elements of the mission. Our team includes

ission Support Operations Contract (MSOC
SB Program Goals/Initiatives

- LM Commits 31.23% of Total Contract Dollars to Small Business
- Exceeds Overall MSOC SB Participation Goals
- Utilization of all SB Categories
- Support Special Emphasis Programs (SDB, VOSB, HBCU/MI, WOSB, SDVB, and HUBZone)
- Encourage SB Participation and Growth
- Maximize Women-Owned Business Outreach

G237151H

We propose to employ all of our MSOC subcontractors in a single operations environment in which the Small Business employees are integrated into the work force. MSOC subcontractors have been selected to perform in their respective areas of expertise. They operate as part of the integrated MSOC work force. Technical performance is directed, monitored, and evaluated on a daily basis by the responsible supervisor/lead. The Lockheed Martin Space Operations (LMSO) Subcontract Administrator provides contractual direction.

We chose an integrated teaming approach over allocation of functional work to Small Businesses for the following reasons.

- Integrated operation strengthens our team and guarantees strong mission performance

- A "one team – one badge" concept ensures close, daily contact with Small Business teammate employees
- Potential operational and cost surprises are eliminated, reducing mission performance risk.
- All teammates follow the common work center processes and procedures that have proven successful on the CSOC Contract
- Integrated operation promotes strong team identity
- Integrated operation facilitates the use of our proven subcontract management process
- Smaller amounts of work are allocated to a greater number of teammates, thereby distributing the workload
- Small Business subcontractors benefit from the opportunity for technical growth.

3.0 SMALL BUSINESS SUBCONTRACTING PLAN

3.1 MEET OR EXCEED STATED SMALL BUSINESS GOALS IN ALL SMALL BUSINESS CATEGORIES

LMSO offers a Small Business Subcontracting Plan, developed in accordance with FAR 52.219-9 and NASA Supplement 1852.219-73, that provides Small Business participation to the maximum extent without introducing risk. We attain the 30.5% Small Business participation requirement by selecting highly credible teammates and vendors who provide a valuable contribution to MSOC. In every Small Business category, our plan satisfies the Request for Proposal (RFP) requirements for utilization of every Small Businesses category (refer to **Figure G237152H**). Our program supports the spirit and intent of the SBA, NASA, and JSC Small Business Programs and exceeds requirements for total Small Business participation.

3.2 SMALL BUSINESSES SPECIFICALLY IDENTIFIED IN PROPOSAL

We have signed letters of commitment and will have signed subcontracts before contract start. The specific number of Small Businesses and personnel skill mix is contained in the Cost Volume. **Figure G237153H** shows the Small Business allocation by name, work assignments, North American Industry Classification System (NAICS) code assigned, and NAICS threshold. Percentage and dollars committed to each Small Business are listed in the Master Small Business Subcontracting Plan, Addendum A. The Cost Volume provides detailed information by position allocated to Small Businesses. Our team is complete and may only change if the Government includes new requirements.

- An outstanding Small Business Program with a proven record for exceeding Small Business performance goals
- Enforceable Small Business commitments
- Signed Small Business Letters of Commitment
- Emphasis on SDB subcontracting
- Commitment to NASA Special Emphasis Programs (86.8% of the subcontracted dollars is allocated to SDB, WOSB, VOSB, SDVOB, HBCU/MI, and HUBZone teammates)
- 31.23% of total contract value is committed to Small Business
- Commitment to multiple outreach initiatives
- Small Business growth opportunities during program execution.

3.4 DEGREE OF COMMITMENT FROM PROPOSED SMALL BUSINESSES

We are highly confident that all of our Small Business subcontractors are 100% committed to joining the LM Team. Our proposed team members have clearly demonstrated their commitment by the following actions:

- All four Small Business concerns have signed Letters of Commitment to the team (see Addendum B to Master Subcontracting Plan)
- Our teammates are involved in proposal development strategy sessions with LM
- Teammates have committed resources to support the proposal development effort.

3.5 COMPLEXITY OF SMALL BUSINESS WORK

In keeping with our concept of an integrated work force, we have allocated a variety of complex MSOC functions to our Small Business subcontractors. To expose the Small Businesses to a wide range of MSOC functions and facilitate their growth, we allocated Small Business participation to support 33 separate CWBS paragraphs. Small Businesses perform in all major areas of the SOW as previously shown in Figure DRD9-2.

3.6 RISK MITIGATION ASSOCIATED WITH SMALL BUSINESS PERFORMANCE

We have high confidence that our selected Small Business subcontractors will perform their allocated work assignments in an excellent manner. The following factors support our position:

- **Demonstrated Past Performance**. We have selected Small Businesses with solid past performance (or personnel qualifications) in every performance area. We analyzed their past performance for relevancy and quality of performance and selected highly qualified teammates. The Small Businesses bring excellent past performance credentials and therefore present low risk to mission and cost performance.
- **Compatibility of Work Allocated**. In every case, we have allocated work to the Small Businesses consistent with their past performance, and with their core competencies. In no case did we "stretch" Small Business subcontractors to perform in areas where they may be uncomfortable, minimizing the risk that they might perform unsatisfactorily.
- **Reasonable Amounts of Work**. We have been very sensitive to the size and experience of our teammates when making workload allocations.
- **Ability to Staff Allocated Positions**. In light of Small Business teammate past performance citations and discussions, we are confident that each Small Business has the experience and ability to fill 100% of the MSOC allocated positions by contract start.
- **Integrated Operations**. By integrating our subcontractor personnel into work centers working along side LM technicians, engineers, and supervisors, we will retain immediate visibility into subcontractor performance. This arrangement also facilitates real-time communication and heads off problems as they arise.
- **Subcontractor Price Analysis**. We have verified, through price analysis, that our teammates not only submitted realistic proposals addressing required staffing and

skill mixes, but also meet or exceed existing wage determinations and are compliant with collective bargaining agreements where applicable. We are confident that the compensation plans proposed by the Small Businesses enable them to successfully hire and retain personnel in Houston, TX.

3.7 APPLICABILITY OF APPROPRIATE NAICS CODES TO WORK ALLOCATED TO SMALL BUSINESSES

In assigning NAICS codes to our Small Businesses, we first reviewed all definitions of the applicable NAICS codes for the MSOC subcontracted effort as defined in the NAICS U.S. Manual published by the Department of Commerce. We then made a stringent and accurate review of the codes for the specific work to be performed by each subcontractor. We have determined NAICS Code 541710, Research and Development in the Physical, Engineering, and Life Sciences is applicable to the majority of the work to be performed by our subcontractors. In addition, NAICS Code 541330, Engineering Services, is applicable to two of our subcontractors. Figure DRD9-2 defines the Small Business subcontractors, CWBS work assignments and the applicable NAICS code number, and threshold (either dollars or number of employees).

4.0 SMALL BUSINESS INITIATIVES

As part of our Small Business Subcontracting Plan, we offer "above and beyond" initiatives to support and reinforce the NASA Small Business Program. LM believes it is essential that the MSOC prime contractor make a *qualitative contribution* to the NASA Small Business program as well as meet the *quantitative 30.5%* Small Business participation value stipulated in the RFP. Our initiatives include the following:

- **Boost Small Business Participation in NASA Acquisitions**. LMSO supports NASA's number one qualitative Small Business goal by committing 31.23% of the total acquisition value of the contract to Small Business. LMSO has chosen to increase our Small Business percentages because it is a cost-competitive approach for MSOC and it supports the NASA Small Business participation goals.
  - Our 31.23% allocation to Small Business subcontracting is accomplished with no additional impact to contract cost, performance risk, or program schedule. Further, our Small Business subcontractors enable us to be cost-competitive by providing competitive loaded labor rates.
- **Expand Small Business Subcontracting Opportunities**. Our approach in supporting MSOC is that having more Small Business subcontractors participate is better than awarding larger dollar subcontracts to just a single Small Business. This approach supports both the spirit and intent of the Small Business Program. As such, we have included four Small Business subcontractors on our MSOCTeam. We also have identified two HBCU/MI entities. Additional subcontractors will be used should further subcontracting opportunities develop.
- **Grow Small Businesses**. LMSO is committed to expanding MSOC Small Business subcontracting opportunities by giving Small Business concerns, in the form of contract changes, primary consideration for new contract work. Our objective is to substantially exceed the Small Business goals of the approved Small Business Subcontracting Plan (reference Figure DRD9-1).
- **Promote Special Emphasis Programs (SDB, WOSB, SDVOB, HBCU/MI, VOSB and HUBZone)**. In addition to exceeding the Small Business participation goal, support of the special emphasis programs is a significant point of our Small Business Program. 86.8% of the subcontracted dollars is allocated to SDB, VOSB, WOSB, SDVOB, HBCU/MI, and HUBZone concerns.
- **Assume a Leadership Role to Broaden Responsive Small Business Education Programs**. LMSO offers two initiatives to broaden Small Business education and awareness:
  - We play an active role in promoting Small Businesses within our own program environment. To that end, we display MSOC Small Business statistics in our Program Office to monitor our participation and serve as a constant reminder of our commitment to the JSC Small Business Program.
  - We commit to educate our Small Business subcontractors by sharing process improvements and lessons learned. As teammates on MSOC, the Small Busi-

nesses participate in our LM21 initiatives and are given full and open access to process improvements and lessons learned as they occur in the course of the program. These data are presented to teammate management during our Subcontractor Program Reviews. These reviews have proven to be highly effective on other LM programs.

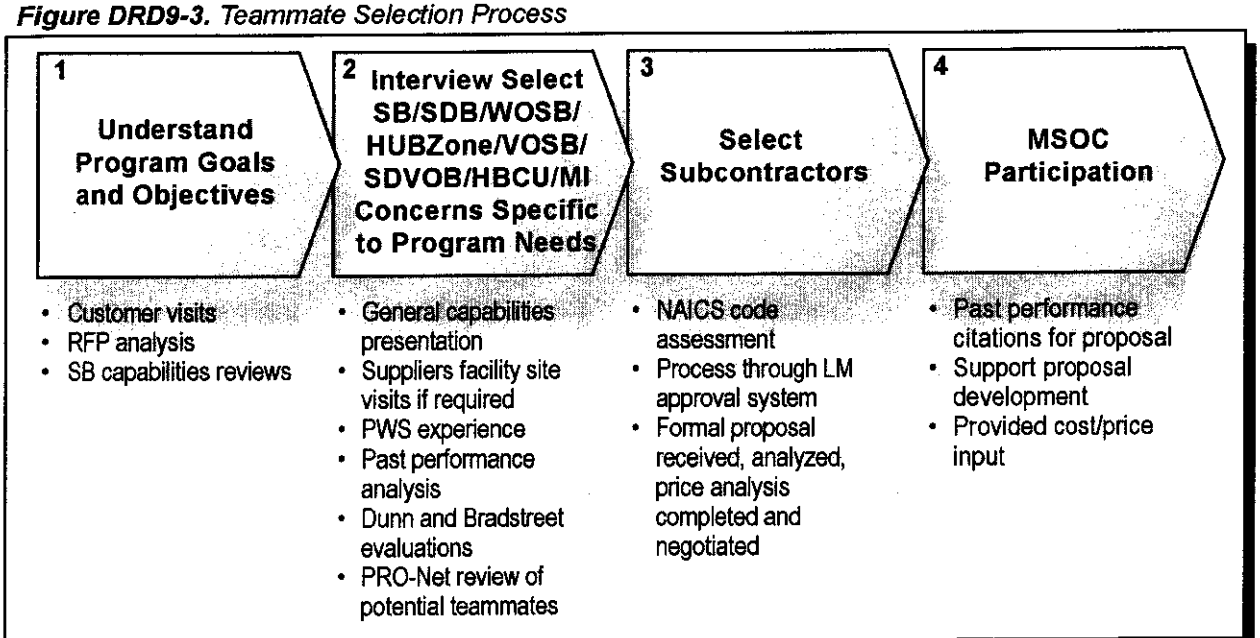
- **Adapt Small Business Program to Changing Environment and Collaborate at All Levels to Strengthen Small Business Programs**. We participate in SBA regional meetings/symposia and support local councils by the involvement of our corporate Technology Services Small Business Manager. Through our MSOC Business Manager, we work closely with and support the NASA Small Business Advocate outreach initiatives.

Our support of the Small Business qualitative goals and initiatives and the NASA Small Business Program is what differentiates our Small Business Program from the competition. These proposed initiatives offer a significant benefit to our customer at no increase in cost or risk to the contract.

5.0 SUBCONTRACTOR SELECTION PROCESS

LM enacted a rigorous selection process for our teammates and subcontractors as shown in **Figure DRD9-3**. Our approach began with a clear understanding of the MSOC program goals and objectives, and led ultimately to selection of the best Small Business subcontractors available. We ensured that potential teammates would present an *overall low risk* to our team, including consideration of present financial stability and strong past performance credentials.

Figure DRD9-3. *Teammate Selection Process*



Our small business selection process ensures a disciplined approach in selecting the best value teammates for the MSOC.

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6.0 SUBCONTRACTOR INDEPENDENT ASSESSMENT

The selection of MSOC teammates is governed by the Lockheed Martin Acquisition Procedure (LMAP) 2310, Determining Noncompetitive Acquisitions and LM Technology Services Supplement. These procedures ensure that a consistent approach is applied in every LMSO acquisition.

In building our MSOC team, we conducted an independent assessment of each potential Small Business to assess technical and managerial capabilities, relevant past performance, experience with NASA work, previous contractual performance with LM, financial stability, Small Business status, NAICS code applicability and overall potential risk. Subsequent to our "due diligence" assessment, we selected the following subcontractors:

7.0 LMTS SMALL BUSINESS PROGRAM

7.1 MASTER SMALL BUSINESS SUBCONTRACTING PLAN

The LMTS Master Small Business Subcontracting Plan was approved by the Defense Logistics Agency (DLA) in September 2002 for a 3-year period. This approval is based on the results of audits performed by the LMTS oversight authority, the DLA Deputy for Small Business. In addition, LMTS is subject to audit by the SBA. As part of LMTS, LMSO performs within the guidelines of the LMTS Master Small Business Subcontracting Plan. Each proposal submitted by LMSO complies with the Master Plan and provides an Addendum with goals for the specific contract effort (see Addendum A to Master Subcontracting Plan). Ms. Julie Paglione, LMTS Small Business Programs Manager, is responsible for administering the Master Small Business Subcontracting Plan and the MSOC Subcontracting Program. Her duties and responsibilities, including outreach efforts, records maintenance and requirements, and Small Business reporting requirements, are defined in the Master Subcontracting Plan attached hereto.

7.2 SMALL BUSINESS AWARDS

To accomplish our Small Business participation goals, we apply our award-winning Small Business Management Processes to the MSOC. For many years, our strong commitment to Small Businesses has been recognized by government agencies. In recognition of superior Small Business performance, we have received numerous, significant awards from Federal agencies including the SBA, DLA, Defense Contract Management Command (DMSOC), Department of Energy (DOE), and NASA.

- **Dwight D. Eisenhower Award**. In 1998, and again in 2000, LMTS received the Dwight D. Eisenhower Award for Excellence, the SBA's highest award for Small Business excellence. In 1998 we received the award for excellence in the Services Category, and in 2000 we received the award at Sandia National Laboratories for the category of Research and Development. This prestigious national award recognizes LMTS' commitment to using Small Businesses as subcontractors and suppliers.
- **SBA Award of Distinction**. On June 4, 2001, the SBA presented us with the SBA's Award of Distinction. This award was initiated in 1995 to recognize large Federal contractors (approximately 2,500 business entities). Only those that have exceptional Small Business Subcontracting Programs (less than 2% of SBA's portfolio of large contractors) are active recipients of the award. Less that 1% receive it twice, as LM did this year. This award is a prerequisite for winning the Dwight D. Eisenhower Award for Excellence.
- **DMSOC Recognition**. Most notably, our Small Business Subcontracting Program has been rated "Outstanding" 8 years in a row by DMSOC and has exceeded SDB and WOSB subcontracting goals every year since inception of the company in 1987.
- **Billion Dollar Roundtable**. In May 2003 LM was inducted into the Billion Dollar Roundtable (BDR) which honors U.S. corporations that grant more than $1 billion in contracts annually to minority and woman-owned businesses. Established in 2001,

the mission of the BDR is to research, educate, and promote best practices in supply-chain diversity.

7.3 SMALL BUSINESS OUTREACH INITIATIVES

LMTS takes a very active role in participating in Small Business outreach programs and initiatives. In 2002, our Corporate Small Business Programs Manager personally participated in excess of 30 government/ industry conferences, National Minority Supplier councils, Small Business trade shows, fairs, and education and training conferences. Through this active participation, we gain access to many qualified Small Businesses and assist them in getting involved with the Lockheed Martin Small Business Programs.

On MSOC, our Business Manager will be the LM lead participant in local outreach programs such as those mentioned above, and involve our LM Small Business Liaison Officer in appropriate meetings and conferences.

7.4 SMALL BUSINESS TRAINING

An important feature of our Small Business program is the continuing education of LM personnel in the area of Small Business participation. In light of continuing changes in Federal legislation concerning Small Business programs, it is essential to refresh original "schoolhouse" education with current laws and changes in the FAR and NASA FAR Supplement. To this end, LMTS conducts an Annual Small Business Training Seminar for up to 60 personnel, including buyers, subcontract administrators, technical personnel, and proposal writers. Topics include:

- What the program is and why it exists
- Existing laws and recent legislative changes
- What responsibility passes to contractors
- Master Small Business Subcontracting Plans and Addendum.

LMSO MSOC personnel participate at least every other year in the LMTS Small Business Seminar to maintain proficiency in the Small Business function. This training feature of our Small Business Program provides the foundation and support for LMSO to exceed our Small Business participation requirements.

8.0 MANAGEMENT OF SMALL BUSINESSES

Our Small Business management approach concentrates on ensuring effective performance of teammates and subcontractors. We place strong emphasis on early identification of problems and full and open communication across company and functional lines. Our teammates are integrated into our daily work center reviews to maximize efficiency and technical performance. Continuous communication minimizes the requirement for internal management oversight. Well-defined subcontract SOW and a Subcontract Management Plan (SMP), accurate and timely reporting and reviews, and complete customer visibility into all aspects of subcontractor activities ensure a fully integrated, performance-oriented MSOC Team. Additionally, LMSO prepares the Data Requirements Description (DRD) MSOC-JSC-0009, Small Business Subcontracting Plan and Reports, submitting them in accordance with FAR 52.219-9 and NFS 1852.219-75. SF 294 Subcontracting Report for Individual Contracts will be submitted semi-annually and at contract completion to the NASA/JSC Contracting Officer. SF 295 Summary Subcontract Report will be submitted semi-annually to NASA Headquarters, Code K. These reports provide our small business metrics including actual expenditures for the preceding quarter and the current fiscal year. The report also details our LM Team's actions taken and descriptions of our efforts to enhance Small Business, SDB, HubZone, and WOSB utilization.

8.1 SMALL BUSINESS SUBCONTRACT MANAGEMENT PLAN (SMP)

The SMP is developed during the phase-in period and supports the subcontract between LMSO and our Small Business subcontractors. The SMP is the "how to" document that describes how we interface with our subcontractors for the successful execution of the contract. The SMP describes the following:

- Integrated operational team concept
- Small Business relationship to the prime and other teammates
- Prime/subcontractor contractual relationships
- Small Business overall responsibilities
- Specific Small Business responsibilities including communication, reporting requirements, progress reviews, functional lead responsibilities, quality assurance (QA), and business management responsibilities.

8.2 SUBCONTRACTOR EVALUATION

Performance evaluation is a key component of MSOC Small Business performance. Daily assessment and feedback obtained by interacting with Small Business employees is the foundation of our structured evaluation process. For MSOC we apply several *best practices* that have greatly enhanced relationships between LMSO and the subcontractors on similar subcontracts.

- **Subcontractor Evaluation System**. Our Subcontractor Evaluation System is a written, quarterly evaluation of a subcontractor's performance in the following five areas: program staffing, technical competence, product quality, business relations, and

cost/rate performance. Each of these areas is tied directly to a subcontractor performance in meeting or exceeding the performance thresholds contained in the CWBS. LMSO functional managers rate the Small Businesses supporting their work center and provide ratings and written comments to the LMSO Subcontract Administrator. Ratings in the categories listed above are Unsatisfactory, Marginal, Satisfactory, and Outstanding. The Program Manager assigns an overall rating after review, and a formal package is released to each company executive responsible for the program. This process ensures top-level corporate insight into program performance and ensures open access to and communication with Small Business top management.

- **Benefits of Subcontractor Evaluation**. By committing to a formal, written evaluation of the subcontractor's performance, LMSO communicates its assessment of overall performance to the subcontractor's top management. Our evaluation facilitates corrective action, when required, and identifies excellent performance when applicable. These reports have proven highly successful in focusing subcontractor attention to program performance, and continue to enhance prime/subcontractor communication.
- **Subcontractor Program Management Reviews**. Another best practice is implemented in our proposal for MSOC. LMSO employs Subcontractor Program Reviews at least semi-annually in which we provide a status of program performance and issues, review customer award fee evaluations, discuss issues applicable to all subcontractors, and respond to comments/questions from our subcontractors' senior management. Subcontractor senior management and program managers attend these reviews and provide open and candid dialogue on overall program performance. These reviews are used to inform and foster teamwork and close relationships. This proven process is highly effective on many LM programs.

8.3 REQUIREMENTS FLOWDOWN

We manage our Small Businesses by flowing down all applicable contract clauses and provisions and by establishing tailored subcontract reporting. All subcontractors submit monthly inputs to LMSO's staffing and financial data requirement submissions. After contract award, LMSO will review each Small Business's reporting systems to ensure that their systems are properly implemented and that data can be readily integrated into LMSO financial system.

9.0 SMALL BUSINESS SUMMARY

Our LMSO MSOC Small Business Subcontracting Plan exceeds the MSOC Small Business requirement by providing 31.23% Small Business participation in the program and by providing companies of every Small Business type (SDB, WOSB, VOSB, SDVOB, HUBZone, & HBCU/MI) the opportunity to participate. We structured a plan that meets the customer's Small Business participation goals in every category and offers our Small Business subcontractors an opportunity to grow by allocating to them a broad range of complex work assignments in integrated work centers across the program. We selected high quality Small Businesses with excellent past performance records to perform the allocated work.

Our Small Business Plan also supports NASA Small Business Programs with *meaningful initiatives* that bring credibility and positive support to our customer.

We bring to the customer an award-winning Small Business Program and a DMSOC-approved Master Small Business Subcontracting Plan that are the foundations of our MSOC Small Business Subcontracting Plan. Our Small Business approach offers the customer the *lowest risk* approach to successfully execute the MSOC program. Our MSOC Small Business Subcontracting Plan offers key features and benefits outlined in **Figure G237155H.**

Figure DRD9-4. *LMSO Small Business Participation Features and Benefits*

Small Business Participation Summary	
RFP Requirements	**Mission Support Contract (MSOC) Team Features and Benefits**
Maximize Small Business Participation	• Signed agreements with SDB, WOSB, VOSB, HUBZone, HBCU/MI, and SDVOB concerns provides extensive growth opportunities for SBs • Provide multiple SB Initiatives to strengthen the center program without impacting mission success or increasing contract cost
Comply with FAR 52.219-9 & NASA FAR Supplement 1852.219-73	• DCMC award winning subcontracting plan approved for a three year period with addendum tailored to MSOC
Small Business Firms Specifically Identified in Proposal	• SB Subcontractor commitments for CWBS support
Prime Commitment to Use Small Business Firms	• Enforceable commitments reflected in award fee plan • LMSO exceeds RFP requirement with commitment to subcontract 31.23% of total contract value to SBs
Applicability of Appropriate NAICS Codes	• Conservative interpretation to NAICS code applicability for SB assignments
Small Business Participation in Various Categories as 31.23% of Total Contract Value	• Achieves RFP goals for SB utilization improving MSOC SB program • Exceeds 30.5% RFP total contract value requirement
Commitment to Use SDB Firms for Targeted NAICS Codes	• SDB participation accounts for 5.37% of total contract value
Our small business program supports all MSOC requirements and maintains low risk to mission performance.	

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ADDENDUM A TO MASTER SUBCONTRACTNG PLAN

Subcontracting Plan in accordance with PL95-507

1a. Solicitation Number	RFP 9-BH5-JBQ-03-01P
1b. Proposal Number	6079A-03D
1c. Agency Houston, TX 77058	NASA, Lyndon B. Johnson Space Center
Point of Contact – Contracting Officer	Caroline Marrs Root
1d. Contract Term September 30, 2004 Option: October 1, 2004 through September 30, 2006	Base Period: January 1, 2004 through
2. Contractor Name	Lockheed Martin Technology Services
3. Person completing this Plan 856/486-5977	Julie E. Paglione
4. Total Value of Proposal	$243,683,494
5a. Estimated Value of Materials/ Subcontracts (including options)	$108,949,279

5b. **Goals – based on Total contract value:** $243,683,494

Maximum Performance Period – January 1, 2004 through September 30, 2006

Subcontracted Dollars: $108,949,279

	Dollars	Percentage of Total Subcontract Value
Small Business Concerns	$79,197,135	32.5%
Small Disadvantaged Business	$13,085,804	5.37%
Woman-Owned Business	$54,853,154	22.51%
Veteran-Owned Business	$9,917,918	4.07%
HUBZone	$7,139,926	2.93%
Service Disabled Veteran-Owned	$9,917,918	4.07%
HBCU/MI	$755,419	.31%
Large Business Concerns	$29,752,144	12.21%

Indirect cost is not included in establishing the subcontracting goals

5c. **Goals – based on subcontracted value:** $108,949,279

Maximum Performance Period – January 1, 2004 through September 30, 2006

	Dollars	Percentage of Total Subcontract Value
Small Business Concerns	$79,197,135	72.69%
Small Disadvantaged Business	$13,085,804	12.0%
Woman-Owned Business	$54,853,154	50.35%
Veteran-Owned Business	$9,917,918	9.10%
HUB-Zone	$7,139,926	6.55%
Service Disabled Veteran-Owned	$9,917,918	9.10%
HBCU/MI	$755,419	0.69%
Large Business Concerns	$29,752,144	27.30%

Although our team exceeds the NASA JSC desired Small Business participation of 30.5% of total contract value, our SDB participation percentage is less than the desired 10%. LM will endeavor to increase this percentage during MSOC performance. The increased participation will be achieved by a combination of assignment of new tasks and shift of baseline tasks to SDBs to the greatest extent practicable.

6. METHOD OF DEVELOPMENT OF SUBCONTRACTING GOALS:

Goals were established based on the review of the RFP requirements and evaluations of potential subcontractors capable of performing various tasks and adding strength to the LM Team.

Goals and percentages are submitted based on two formats in accordance with the RFP and FAR:

- Goals as a percentage of total contract / proposal value (Item 5b. above)
- Goals as a percentage of estimated subcontracted dollars (Item 5c. above)

7. PRINCIPAL PRODUCT AND SERVICE AREAS:

This proposal offers subcontract opportunities for development and testing, operations & maintenance, software development, training, and engineering services. Lockheed Martin will retain overall responsibility for the Mission Support Operations Contract management and administration activities. We have identified the small business concerns in **Figure SBP-1** as available for participation.

The assignment of the CWBS paragraphs assigned to GHG Corporation, LZ Technologies, Omitron, Cimarron, Prairie View A&M University, and the University of Texas El Paso is consistent with their managerial and technical capabilities, and also considers their relevant past performance.

8. Small Disadvantaged Business (SDB), HUB-Zone Small Business, Veteran-Owned Small Business, Service Disabled Veteran-Owned, and Small Woman-Owned Business concerns have been considered when arriving at the subcontracting goals in this plan. Omitron qualifies as a Small Business concern. LZ Technologies qualifies as both a HUB-Zone Small Business concern and a Small Woman-Owned Business. Cimarron qualifies as a Small Woman-Owned Business. GHG qualifies as a Veteran-Owned Small Business, a Service Disabled Veteran-Owned, and a SDB concern. See Addendum C for Small Business Administration PRO-Net Firm Profiles for these concerns.

9. Historically Black Colleges and Universities (HBCU) and Minority Institutions (MIs) have been considered in arriving at the subcontracting goals in the plan. Prairie View A&M University and the University of Texas El Paso will perform various engineering studies, "Storefront" software development, and training supporting the Mission Support Operations Contract.

10. Lockheed Martin Technology Services is constantly striving to identify potential sources for solicitation purposes and to increase the level of business participation by small, small disadvantaged and women-owned small business concerns in furnishing Lockheed Martin products and services. We shall continue to locate additional sources through the use of vendor locating methods and through the local Chambers of Commerce, the National Minority Supplier Development Councils, and publications such as Try Us and the National Directory of Minority and Women-Owned Business.

11. In 1998, Technology Services received the U.S. Small Business Administration's Dwight D. Eisenhower Award for Excellence in the Services category, and in 2000, Sandia National Laboratories received the Eisenhower Award in the Research & Development category. This prestigious National Award (the highest given by the Small Business Administration) recognizes our commitment to using small businesses as subcontractors and suppliers.

12. On June 4, 2001, the Small Business Administration (SBA) presented Lockheed Martin Technology Services with the SBA's Award of Distinction. This Award was initiated in 1985 to recognize large Federal contractors (there are approximately 2,500 business entities in this category). Only those that have exceptional Small Business Subcontracting Programs, which is less than 2% of SBA's portfolio of large contractors, are active recipients of this award. Less than 1% receives it twice, as Lockheed Martin Technology Services did on June 4. This award is the prerequisite for winning the Dwight D. Eisenhower Award for Excellence. Lockheed Martin Technology Services has been recognized by the Defense Logistics Agency for its OUTSTANDING Small Business Program and has received the OUTSTANDING RATING eight years in a row.

13. Method used to identify potential sources for solicitation purposes:

Review and analysis of:

- Procurement possibilities for commodities not listed as a mandatory source.
- Make-or-buy process, as applicable.
- Cost Information Requests (CIRs).
- Computerized compilation of material costs and identification by part number, of vendors available to provide those commodities.
- Develop and utilize alternatives to low-price contract awards in order to increase HUB-Zone small, SDB, WOSB and HBCU/MI participation when required.

Duties of the Minority and Small Business Administrator:

A. Inform and assist Buyers in locating and using appropriate Small, Small Disadvantaged and Woman-Owned Small Business sources of supply.

B. Respond to inquiries from potential vendors and ensure they are brought together with Buyers and other appropriate people who may be able to use their products and services.

C. Review subcontract potential for Small, Small Disadvantaged and Woman-Owned Small Business participation on specific contracts.

D. Participate in make-or-buy decisions and identify maximum practical opportunities for these firms.

E. Participate in establishment of relevant subcontract goals and monitor performance.

F. Collect data and report on achievements are required.

G. As LM representative, attend monthly Delaware Valley Minority Business Resource Council (formerly Minority Purchasing Council) meetings, participate as an active member of The Houston Minority Business Council, attend trade fairs and seminars for Small, Small Disadvantaged and Woman-Owned Small Business Concerns, attends a National Minority Supplier Development Council (NMSDC) on a yearly basis.

H. Assist in development of seminars that cover updating of Public Law 95-507 requirements (i.e., through participation in TRIAD Seminars and in-house programs to assist Buyers in expanding contracts with Small, Small Disadvantaged and Woman-Owned Small Business Concerns.) Report to the Manager of Procurement for Lockheed Martin who fully supports Lockheed Martin Minority Business Advisory Group.

I. Report to the Manager of Procurement for Lockheed Martin Services, Inc. who fully supports Lockheed Martin Services Minority Business Advisory Group.

3. EFFORTS TO ASSURE EQUITABLE OPPORTUNITIES

Lockheed Martin will take the following steps to assure that Small, Small Disadvantaged and Woman-owned Small Business Concerns will have an equitable opportunity to compete for Subcontracts:

a) Issue and promulgate company-wide policy statements in support of this effort, develop written procedures and work instructions, and assign specific responsibilities regarding the requirements of this clause.

b) Demonstrate continuing management interest and involvement in support of this effort through such actions as regular reviews of progress and establishment of overall corporate and divisional goals and objectives.

c) Train and motivate Lockheed Martin Personnel regarding the support of Small, Small Disadvantaged and Woman-Owned Small Business Concerns.

d) Provide adequate and timely consideration of the potentialities of Small, Small Disadvantaged and Woman-Owned Small Business Concerns in all "make-or-buy" decisions.

e) Counsel and discuss subcontracting opportunities with representatives of Small, Small Disadvantaged and Woman-Owned Small Business Concerns.

f) Provide notice to subcontractors concerning penalties and remedies for misrepresentation of business status as Small, Small Disadvantaged and Woman-Owned Small Business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

g) Maintain company source lists of potential vendors/subcontractors who are qualified Small, Small Disadvantaged and Woman-Owned Small Business concerns. Such lists will be compiled and updated from company sources and the source identification system provided by the Small Business Administration's Procurement Automated Source System.

h) Utilize, where subcontracting opportunities exist, its Small, Small Disadvantaged and Woman-Owned Small Business Concerns list to select and solicit a minimum of three such qualified concerns to bid for such business opportunities.

i) Assist Small, Small disadvantaged and Woman-Owned Small Business Concerns whenever possible by counseling them on how to do business with Lockheed Martin by arranging solicitations, allowing sufficient time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the par-

ticipation by such concerns. Where the available lists of potential Small, Small Disadvantaged and Woman-Owned Small Business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

4. UTILIZATION OF SMALL, SMALL DISADVANTAGED AND WOMAN-OWNED SMALL BUSINESS CONCERNS CLAUSE

Lockheed Martin assures that the clause as stated in the applicable Federal Acquisition Regulations 52.219-8 and 52.219-9 statutory requirements, entitled, "Utilization of Small, Small Disadvantaged and Woman-Owned Small Business concerns," and, "Small, Small Disadvantaged and Woman-Owned Small Business Subcontracting Plan," respectively, will be included in all subcontracts which offer further subcontracting opportunities and will require all subcontractors (except small business concerns) who receive subcontracts in excess of $500,000 or, in the case of a contract for the construction of any public facility, $1 million, to adopt and comply with a subcontracting plan as required by this clause.

5. PERIODIC REPORTS AND COOPERATION IN SURVEYS

Lockheed Martin will submit such period reports and cooperate in studies or surveys as may be required by the contracting agency or the Small Business Administration in order to determine the extent of compliance by Lockheed Martin with the Subcontracting Plan. Such reports will include the Subcontracting Report for individual contracts, Standard Form SF 294 (required semi-annually), and the Summary Subcontracting Report, Standard Form SF 295 (required semi-annually) and ensure its subcontractors agree to submit standard forms 294 and 295.

6. MAINTENANCE OF RECORDS

Lockheed Martin will maintain records which will demonstrate procedures that have been adopted to comply with the requirements and goals set forth in this plan. These records will include:

a) Company source lists of potential vendors/subcontractors who are qualified Small, Small Disadvantaged and Woman-Owned Small Business concerns. Such lists will be compiled and updated from company sources and the source identification system provided by the Small Business Administrations Automated Source system, and input derived from the customer.

b) Publications, guides and other data identifying Small, Small disadvantaged and Woman-Owned Small Business vendors.

c) Lists of organizations contacted for Small, Small Disadvantaged and Woman-Owned Small Business vendors.

d) Provide information to Lockheed Martin Corporate Director of Minority Programs relative to bestowing awards to Small, Small Disadvantaged and Woman-Owned Small Business concerns.

e) Maintain records to support internal activities to guide and encourage buyers, such as:

   1) workshops, seminars, training programs, etc., and

   2) monitoring activities to evaluate compliance,

   3) contacts with Small, Small Disadvantaged and Woman-Owned Small Business trade associations

   4) contacts with business development organizations; and

   5) attendance at Small, Small Disadvantaged and Woman-Owned Small Business procurement conferences and trade fairs.

f) Records on each subcontract solicitation resulting in an award of more than $100,000 indicating:

1) whether small business concerns was solicited; and if not, why not;

2) whether small disadvantaged business concerns was solicited, and if not, why not;

3) whether woman-owned small business concerns was solicited; and if not why not; and

4) reasons for the failure of solicited small, small disadvantaged and woman-owned small business to receive the subcontract award.

ADDENDUM B
TO
MASTER SUBCONTRACTNG PLAN

SUBCONTRACTOR
LETTERS OF COMMITMENT

ATTACHMENT J-5 CONTRACT SECURITY CLASSIFICATION SPECIFICATION (DD FORM 254)

THIS DD FORM 254 IS SUBMITTED FOR A SOLE-SOURCE SOLICITATION"

DEPARTMENT OF DEFENSE
CONTRACT SECURITY CLASSIFICATION SPECIFICATION

(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)

1. CLEARANCE AND SAFEGUARDING
a. FACILITY CLEARANCE REQUIRED: SECRET
b. LEVEL OF SAFEGUARDING REQUIRED: SECRET

2. THIS SPECIFICATION IS FOR: *(X and complete as applicable)*

X	a. PRIME CONTRACT NUMBER: NAS 9-03056	
	b. SUBCONTRACT NUMBER	
	c. SOLICITATION OR OTHER NUMBER	Due Date *(YYMMDD)*

3. THIS SPECIFICATION IS: *(X and complete as applicable)*

X	a. **ORIGINAL** *(Complete date in all cases)*		Date *(YYMMDD)*: 04/02/06
X	b. **REVISED** *(Supersedes all previous specs)*	Revision No.: 1	Date *(YYMMDD)*: 04/08/19
	c. **FINAL** *(Complete Item 5 in all cases)*		Date *(YYMMDD)*:

4. IS THIS A FOLLOW-ON CONTRACT? [X] YES [ ] NO. If Yes, complete the following:

Classified material received/generated under NAS9-98100 as MSOC related data *(Preceding Contract Number)* are transferred to this follow-on contract.

5. IS THIS A FINAL DD FORM 254? [ ] YES [X] NO. If Yes, complete the following:

In response to contractor's request dated N/A, retention of the classified material is authorized for the period N/A

6. CONTRACTOR *(Include Commercial and Government Entity (CAGE) Code)*

a. NAME, ADDRESS, AND ZIP CODE	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*
Lockheed Martin Space Operations Attn: Security Officer 595 Gemini Avenue Houston, TX 77058	IEOF9	DIS-Defense Investigative Service Southwestern Region 106 Decker Court, Suite 200 Irving, TX 75062-2795

7. SUBCONTRACTOR

a. NAME, ADDRESS, AND ZIP CODE	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*
N/A	N/A	N/A

8. ACTUAL PERFORMANCE

a. LOCATION	b. CAGE CODE	c. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*
NASA/Johnson Space Center	N/A	N/A

9. GENERAL IDENTIFICATION OF THIS PROCUREMENT

Mission Support Operations Contract (MSOC)

10. CONTRACTOR WILL REQUIRE ACCESS TO:	YES	NO
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION	X	
b. RESTRICTED DATA		X
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION		X
d. FORMERLY RESTRICTED DATA		X
e. INTELLIGENCE INFORMATION		
(1) Sensitive Compartmented Information (SCI)		X
(2) Non-SCI	X	
f. SPECIAL ACCESS INFORMATION		X
g. NATO INFORMATION		X
h. FOREIGN GOVERNMENT INFORMATION		X
i. LIMITED DISSEMINATION INFORMATION		X
j. FOR OFFICIAL USE ONLY INFORMATION	X	
k. OTHER *(Specify)*		

11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR	YES	NO
a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY		X
b. RECEIVE CLASSIFIED DOCUMENTS ONLY		X
c. RECEIVE AND GENERATE CLASSIFIED MATERIAL	X	
d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE	X	
e. PERFORM SERVICES ONLY		X
f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES		X
g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER	X	
h. REQUIRE A COMSEC ACCOUNT	X	
i. HAVE TEMPEST REQUIREMENTS	X	
j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS	X	
k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE	X	
l. OTHER *(Specify)* (See item #13)		

12. PUBLIC RELEASE Any information *(classified or unclassified)* pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release

[X] Direct [ ] Through *(Specify)*

NASA/JOHNSON SPACE CENTER AP/PUBLIC AFFAIRS OFFICE HOUSTON, TX 77058

CC To the Public Affairs Division, NASA Headquarters, Washington, D.C. 20546 for review.

13. SECURITY GUIDANCE. The security classifiection guidance needed for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. *(Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.)*

The following documents shall be applicable and binding in the performance of this contract:

a. DOD Secure Shuttle Operations Security Classification Guide (DSSO SCG), Headquarters Space Systems Division (AFSC)/USAF, Los Angeles, CA dated February 22, 1991.

b. The STS Operations and Engineering Handbook is the official document within NASA and NASA contractors for interpreting the STS Security Classification Guide dated June 16, 1989. This document is to be used by contractor personnel to assist them in determining what information is to be classified.

c. Space Network Security Classification Guide dated March 2, 1992, and document Change Notice #1 dated March 9, 1995.

d. Chapter 4 of the NASA Security Procedures & Guidelines (NPG 1620.1A) applies to "CNSI" and "ACI" (formerly FOUO) information.

e. National Industrial Security Program Operating Manual (NISPOM), DOD 5220.22-M, dated January 1995.

f. COMSEC Supplement to former Industrial Security Manual, DOD 5220.22-S, current edition.

g. NASA Communications Security Classification Guide dated January 8, 1987.

h. Security Handbooks, Manuals, Regulations, Instructions, and Directives (current editions) for JSC, as well as other applicable policies and procedures as identified by NASA.

Additional security, technical, and/or classification guidance will be provided by NASA officials. Requests concerning clarification or interpretation regarding security requirements under this contract will be directed to the NASA/JSC Industrial Security Specialist. The place of performance will be at the contractor cleared facilities, JSC, and other locations where the requirement is covered by the obligations specified in Section C of the basic contract document. The basic period of performance is January 1, 2004 through September 30, 2004, with a 3-month transition period starting on October 1, 2003. There are two option scenarios that are mutually exclusive. . The second scenario is a single 2-year option with performance through September 30, 2006.

14. ADDITIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract. *(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement whch identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)* [X] Yes [ ] No

See attached page.

15. INSPECTIONS. Elements of this contract are outside the inspection responsibility of the cognizant security office. *(If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)* [X] Yes [ ] No

As a long-term visitor to NASA/JSC, the contractor will comply with all applicable NASA/JSC security issuances, memorandums, policies/procedures, and regulations as directed. Inspection authority of contractor activities on NASA installations is the responsibility of NASA security officials and will be coordinated by the JSC Industrial Security Specialist.

16. CERTIFICATION AND SIGNATURE. Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.

a. TYPED NAME OF CERTIFYING OFFICIAL	b. TITLE	c. TELEPHONE *(Include Area Code)*
Judith Ann Elam	Industrial Security Specialist	(281) 483-4028

d. ADDRESS *(Include Zip Code)*

NASA/Johnson Space Center
JA14/Security Office
Houston, TX 77058

e. SIGNATURE

Original signed by Judith Ann Elam

17. REQUIRED DISTRIBUTION

X	a. CONTRACTOR
	b. SUBCONTRACTOR
X	c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR
	d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION
X	e. ADMINISTRATIVE CONTRACTING OFFICER
X	f. OTHERS AS NECESSARY: BH/Caroline Root DA/James Lowery JLS/J.Hagan

Item #14. Additional Security Requirements and/or Guidance for MSOC

Performance of this contract will involve the receipt, generation, and storage of classified material/information. Reports containing classified extracts from other classified sources will contain security markings, which correspond to those of the source documents. Those employees requiring access to classified information must have appropriate personnel security clearances. The contractor is authorized to receive/generate classified material only at approved locations. Classified Information Technology (IT) processing will be involved; however, classified information will not be entered into any IT system until the system has been accredited by the appropriate Designated Approving Authority as meeting the required national standards and/or guidelines. The contractor will be required to operate a COMSEC account issued by the National Security Agency (NSA) for NASA. COMSEC inspections and/or audits will be conducted as required by the NASA Central Office of Records. The NSA, at their discretion, may also conduct inspections for compliance with COMSEC standards and/or guidelines. Only U.S. citizens granted a final personnel security clearance (as appropriate) and who have been COMSEC-briefed and have signed a Cryptographic Access Certification are eligible for access to classified COMSEC information released or generated under this contract, any other employees must have prior written approval from the appropriate NASA official(s).

Security-related activities checked in item #11 also apply to personnel requiring access to security-controlled and/or crypto areas, involved in the generation and receipt of classified information. Due to the need to operate cryptographic equipment and/or devices at the Center, it will require the use of classified as well as unclassified but sensitive cryptographic keying material. The need is thereby established for access to documents such as NACSIs, NACSIMs, NTISSIs, and/or other related national doctrine and/or guidelines.

A Defense Courier Service account is requested; designated contractor employees are authorized to courier classified material up to and including COMSEC/CRYPTO in accordance with the NISPOM.

TEMPEST requirements are to be met in accordance with NTISSI 7000 and/or other related national doctrine and any cost pertaining to this requirement must be approved though the appropriate NASA security official(s). Additionally, the following regulations or directives apply: (1) CSCM-1; (2) NACSI 4005; (3) NACSI 4008; (4) NACSI 4010

ATTACHMENT J-6
LIST OF GOVERNMENT-FURNISHED PROPERTY

This information is included in the Space Program Integrated Contract Environment (SPICE) system. The Contractor will submit a new listing to the Contracting Officer within 30 days at the end of each Government fiscal year, for annual updates into SPICE.

Section J-6 Property List.xls

ATTACHMENT J-7
LIST OF INSTALLATION-ACCOUNTABLE PROPERTY

A. Johnson Space Center On-site Office Space – 6,609.6 square feet

B. Publications and blank forms stocked by the installation (on-site and off-site)

C. Copiers, fax machines (on-site only)

D. Additional plant equipment, which does not meet the criteria for accountability under the NEMS system (under $5,000; not on sensitive list) will also be provided at contract award. The contractor shall replace this plant equipment as necessary for use in the performance of this contract.

E. ODIN Seats – Quantity 50

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0001	Contract Work Breakdown Structure and Dictionary	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0002	Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	.

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0003	Risk Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0004	Contract Configuration Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0005	Phase-In Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval (Plan) [ ] (2) Mandatory Submittal (Reports) [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*: Per Contracting Officer's letter

9. Remarks:

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0006	Performance Measurement Plan and Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*: Per Contracting Officer's letter.

9. Remarks:

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0007	Metric and Status Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [ ] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*: Per Contracting Officer's letter.

9. Remarks:

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0008	Government Property Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*: Per Contracting Officer's letter.

9. Remarks:

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0009	Small Business Subcontracting Plan and Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0010	Information Technology (IT) Plan and Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0011	Emergency Preparedness and Disaster Recovery Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0012	Reports/Reviews	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [ ] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.			b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract			NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0013	Reprocurement Data Package	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0014	Property Financial Reporting	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval (Plan) ☒ (2) Mandatory Submittal (Reports) ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0015	Customer Reporting	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0016	Space Shuttle Termination Plan			See DRD	Per Contracting Officer's Letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's Letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.			b. Contract/RFP No.		c. DRL Date/Mod Date
Mission Support Operations Contract			NAS 9-03056		
1. Line item no. MSOC-JSC-0017	2. DRD Title: Reserved	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request					
	8. Distribution *(Continue on a blank sheet if needed)*		9. Remarks		
1. Line item no. MSOC-JSC-0018	2. DRD Title: Reserved	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request					
	8. Distribution *(Continue on a blank sheet if needed)*		9. Remarks		
1. Line item no. MSOC-JSC-0019	2. DRD Title: Reserved	3. Frequency	4. As-of-Date	5. 1st subm. Date	6. Copies a. type b. number
7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request					
	8. Distribution *(Continue on a blank sheet if needed)*		9. Remarks		
1. Line item no. MSOC-JSC-0020	2. DRD Title: NF 533 M/Q Cost Reporting	3. Frequency: See DRD	4. As-of-Date	5. 1st subm. date: See DRD	6. Copies a. type: Per Contracting Officer's letter b. number
7. Data type: ☒ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request					
	8. Distribution *(Continue on a blank sheet if needed)*: Per Contracting Officer's letter		9. Remarks		

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0021	Wage/Salary and Fringe Benefit Data	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0022	FY Operating Plan (FY OP Plan) and Program Operating Plan (POP)	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval (Tech Op Plan) ☒ (2) Mandatory Submittal (POP) ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0023	Travel Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0024	Workforce Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0025	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0026	Reserved				

7. Data type: ☐ (1) Written approval (Plan) ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request (Report)

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0027	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0028	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0029	Reserved				

7. Data type: ☐ (1) Written approval (Plan) ☐ (2) Mandatory Submittal (Products) ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0030	Safety and Health Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0031	Safety and Health Program, Self Evaluation	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0032	Monthly Safety and Health Metrics	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST **Modification 83**

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0033	System Safety Program Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval. [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
	Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0034	Reserved				

7. Data type: [ ] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0035	Reserved				

7. Data type: [ ] (1) Written approval (Plan) [ ] (2) Mandatory Submittal (Metrics) [ ] (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0036	Reserved				

7. Data type: [ ] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0037	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0038	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0039	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0040	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0041	Quality Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type:	(1) Written approval	(2) Mandatory Submittal	(3) Submitted upon request
	[X]	[ ]	[X]

8. Distribution *(Continue on a blank sheet if needed*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0042	Software Quality Assurance Plan & Reports	See DRD		See DRD	Per Contracting Officer's letter

7. Data type:	(1) Written approval	(2) Mandatory Submittal	(3) Submitted upon request
	[X]	[X]	[ ]

8. Distribution *(Continue on a blank sheet if needed*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0043	Reserved				

7. Data type:	(1) Written approval	(2) Mandatory Submittal	(3) Submitted upon request
	[ ]	[ ]	[ ]

8. Distribution *(Continue on a blank sheet if needed*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0044	GIDEP and NASA Advisory Problem Data Sharing and Utilization Program Documentation and Reporting	See DRD		See DRD	Per Contracting Officer's letter

7. Data type:	(1) Written approval	(2) Mandatory Submittal	(3) Submitted upon request
	[ ]	[X]	[ ]

8. Distribution *(Continue on a blank sheet if needed*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0045	Non-conformance Record	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0046	Safety Lessons Learned	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [ ] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	.

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0047	Reserved				

7. Data type: [ ] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0048	Reserved				

7. Data type: [ ] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0049	Reserved				

7. Data type: ☐ (1) Written approval (Plan) ☐ (2) Mandatory Submittal (Reports) ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0050	Certificate of Flight Readiness Endorsement	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter.	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0051	Integrated Planning System (IPS) Facility Operations Procedures	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter.	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0052	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.			b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract			NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As of Date	5. 1st subm. Date	6. Copies a. Type b. Number
MSOC-JSC-0053	Training and Certification Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. *Distribution (Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0054	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0055	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0056	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0057	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0058	Reserved				

7. Data type: ☐ (1) Written approval (Plan) ☐ (2) Mandatory Submittal (Reports) ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0059	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0060	Change Control Process Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

	8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
	Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0061	Configuration Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0062	Level A and B Requirements	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

2. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. Date	6. Copies a. type b. number
MSOC-JSC-0063	Interface Control Document	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: [ ] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0064	Reserved				

7. Data type: [ ] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0065	Systems Lifecycle Process	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0066	Equipment Replacement Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval (Plan & SLAs) ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's Letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0067	Integrated Planning System (IPS) Future Facility Change Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0068	Test and Verification Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0069	Test and Verification Procedures	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☒ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0070	Test and Verification Report	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval (Plan) ☒ (2) Mandatory Submittal ☒ (3) Submitted upon request (Report)

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0071	Acceptance Review Package	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0072	Design Review	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0073	Design Specifications	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval (Plan) ☒ (2) Mandatory Submittal (Products) ☒ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0074	Integrated Planning System Operations Concept	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☐ (1) Written approval ☒ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0075	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0076	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0077	Reserved				

7. Data type: ☐ (1) Written approval. ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0078	Reserved				

7. Data type: ☐ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0079	Reserved				

7. Data type: ☐ (1) Written approval (Plan) ☐ (2) Mandatory Submittal (Metrics) ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type b. number
MSOC-JSC-0080	Contractor Security Management Plan	See DRD		See DRD	Per Contracting Officer's letter

7. Data type: ☒ (1) Written approval ☐ (2) Mandatory Submittal ☐ (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

ATTACHMENT J-8
DATA REQUIREMENTS DESCRIPTION LIST

Modification 83

a. Title of Contract, Project, SOW, etc.	b. Contract/RFP No.	c. DRL Date/Mod Date
Mission Support Operations Contract	NAS 9-03056	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type	b. number
MSOC-JSC-0081	Facility Security Plan	See DRD		See DRD	Per Contracting Officer's letter	

7. Data type: [X] (1) Written approval [ ] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

1. Line item no.	2. DRD Title	3. Frequency	4. As-of-Date	5. 1st subm. date	6. Copies a. type	b. number
MSOC-JSC-0082	Organizational Conflicts of Interest Avoidance Plan	See DRD		See DRD	Per Contracting Officer's letter	

7. Data type: [ ] (1) Written approval [X] (2) Mandatory Submittal [ ] (3) Submitted upon request

8. Distribution *(Continue on a blank sheet if needed)*	9. Remarks
Per Contracting Officer's letter	

NASA Johnson Space Center
Mission Support Operations Contract (MSOC)
Data Requirements Description (DRD) Sheets

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0001
2.	DRD Title:	Contract Work Breakdown Structure and Dictionary
3.	Data Type:	1
4.	Page:	1 / 1

5. Description/Use - To organize the tasks to be accomplished in this contract in a service oriented structure. The CWBS and dictionary shall provide the framework for structuring the program implementation plans, establishing and tracking budgets, preparing schedules, developing work force and material estimates, preparing work authorization documents, and reporting contract performance.

   SOW Ref.: 1.1

6. Submission:
   a. Initial – Due with proposal
   b. Final – Due contract start
   c. Approval – Due 90 days from contract start
   d. Submission Frequency - Each CWBS update

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The CWBS shall encompass all the services required to achieve all the requirements of this contract. The CWBS shall subdivide the work to be accomplished into elements that serve as the basis for detailed planning and control, and in addition, permit collection of cost and schedule data for each element.
   b. Content – The CWBS shall graphically depict the CWBS tree. The dictionary contains a concise description of contract tasks to be performed and products to be delivered, subdivided by CWBS element. A CWBS element may represent an identifiable product, a set of data, a service, a task, or a budget function. The structure shall be at the RFP SOW level with additional levels as required by the contractor. Lower levels of detail, which the contractor uses for its own management purposes to validate information reported to NASA, shall be compatible with NASA requirements and be accessible by NASA. The relationship between the CWBS and the contractor's internal organizations and processes shall also be provided.
   c. Format: The CWBS tree is to be in organization chart format and the associated CWBS narrative (CWBS Dictionary) in text form and arranged as depicted by the CWBS tree. The CWBS tree and dictionary shall be provided in both electronic and hard copy form.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

(Continue on a blank page if necessary)

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0002
2.	DRD Title:	Management Plan
3.	Data Type:	1
4.	Page:	1 / 1

5. Description/Use - To describe the contractor's integrated management approach, organization, and systems.

   SOW Ref: 1.1, 1.3.1.3

6. Submission:
   a. Initial – Due with proposal
   b. Final – Due 90 days after contract award
   c. Approval – From start of contract + 180 days
   d. Submission Frequency – as required

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope –The Integrated Management Plan shall describe the basis for the contractor management approach, organization, and systems for accomplishing and managing all services and functions described in the SOW. It shall provide a comprehensive integration of all management systems of the prime, subcontractors, and major vendors, including Small and Small Disadvantaged business goals. The systems shall include those specifically required to accomplish the Statement of Work, as well as those systems and procedures that are to be set in place by the contractor.
   b. Content – The Management Plan shall address the contractor's plans for work definition and authorization, schedules and scheduling, budgeting, data accumulation, safety and mission assurance, corrective action, subcontract/material control, indirect cost management, baseline control, and organization structure identifying key personnel, information management. The plan shall address the approach for utilizing commercial-off-the-shelf products and tools where appropriate.
   c. Format: Contractor's electronic format is acceptable
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

(Continue on a blank page if necessary)

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0003
2. DRD Title:	Risk Management Plan
3. Data Type:	1
4. Page:	1 / 1

5. Description/Use - To describe the contractor's implementation approach for performing and reporting risk management, in conformance with the processes that are defined by the Government provided guidelines NPG 7120.5, latest version.

   SOW Ref: 1.1

6. Submission:
   a. Initial – Start of contract + 15 days
   b. Final – Start of contract + 45 days
   c. Approval – From start of contract + 60 days
   d. Submission Frequency – as required

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope – The risk management plan defines the contractor's method to accomplish proactive end-to-end risk analysis management and abatement, throughout the contract duration. Risk management includes risk: identification, analysis, handling, mitigation, tracking, controlling and risk communication.
   b. Content – Present a structured, integrated risk management and abatement implementation approach that correlates with the proposed integrated architecture evolution. The plan shall address the risk sources, magnitude and mitigation, and actions directed toward its elimination or reduction to an acceptable level. The plan shall take into account technical, programmatic, supportability, cost and schedule concerns for the solution implementation, and it shall take into consideration impacts due to external influences, e.g., major schedule delays, NASA funding cuts, mission set adds/deletes. The plan shall specify how the risks are documented, communicated, and reported to the contractor and NASA management.
   c. Format: Contractor's electronic format is acceptable.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0004
2.	DRD Title:	Contract Configuration Management Plan
3.	Data Type:	1
4.	Page:	1 / 1

5. Description/Use - To describe the contractor's method for accomplishing the configuration management of the contract.

   SOW Ref: 1.1

6. Submission:
   a. Initial – Due with proposal
   b. Final – Due 90 days after contract award
   c. Approval – From contract award + 120 days
   d. Submission Frequency – as required

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope – The plan shall describe the contractor's management approach and planned implementation methods for accomplishing the configuration management of the contract.
   b. Content – The plan shall describe the contractor's CM organization, policies, procedures, implementation approach, and control systems that are to be used to ensure proper contract CM activities.
   c. Format: Contractor's electronic format is acceptable.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0005
2. DRD Title:	Phase-in Plan
3. Data Type:	1
4. Page:	1 / 1

5. Description/Use - To provide an approach and rationale for transition of HSF Space Operations activities to the MSOC.

   SOW Ref: 1.1, and 1.5

6. Submission:
   a. Initial – Due with proposal
   b. Final – Contract Award + 5 days
   c. Approval – Contract Award + 10 days

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope – The MSOC Transition Plan provides plans for the transfer of all anticipated operations activities along with supporting logic and rationale.
   b. Content – The Transition Plan shall describe the overall plan for transition. As a minimum, it shall address:
      i. Schedule with key milestones
      ii. Approach and rationale for implementing the plans, procedures, and processes required for performance of the contract, including property, personnel, facilities, and security
      iii. Metrics used to determine progress for contract transition
      iv. Property control transfer
      v. Facilities responsibility transfer
      vi. Mission assurance considerations
      vii. Security considerations
      viii. Classified document control transfer
      ix. Risk mitigation strategy
      x. Configuration management considerations.
   c. Format: Contractor format is acceptable.
   d. Distribution: distribution specified below plus additional distribution per Contracting Officer's letter
      i. Initial – as specified in the Proposal instructions
      ii. Final – Contracting Officer, COTR, Task Manager, each Facility Manager

9. Maintenance - change pages or complete reissue shall incorporate Changes.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0006
2. DRD Title:	Performance Measurement Plan and Reports
3. Data Type:	Plan: 1 Reports: 2
4. Page:	1 / 2

5. Description/Use - The Performance Measurement Plan shall measure and assess the contractor's effective management of all contract requirements and SOW elements in an integrated and time-correlated cost, schedule, content, and quality (technical metrics) system. This plan shall include a surveillance plan that defines technical metrics reporting for SOW Expectations and Standards for Excellence. This plan shall describe both the technical metrics (technical metrics reports) and the cost/schedule/content metrics (cost performance reports) and how these reports are integrated into a comprehensive management performance assessment process. This plan shall describe how the contractor uses these reports and the underlying data to effectively manage the work. These reports shall be used by the Government to assess the contractor's performance.

   SOW Ref: 1.2.2.1

6. Submission:
   a. Initial – Due with proposal
   b. Final – 1/19/2004
   c. Approval – 1/26/2004
   d. Submission Frequency – Plan shall be updated as required. Reports shall be due 10 days after period close and reflect the content of the period closed.

7. Applicable Documents: For the technical metrics use as a reference guides the latest version of the following JSC documents:
   a. JSC-26010 DA3 Software Sustaining Engineering Metrics
   b. JSC-25519 DA3 Software Development Metrics
   c. JSC-36112 DA3 Development Project Metrics
   d. JSC-26458 DA3/SSO Sustaining and Operations Performance Management Metrics
   e. JSC-27450 Performance Measurement System Handbook
   f. NASA Policy Document (NPD) 9501.3 and 9501

8. Data Preparation Information:
   a. Scope – The Performance Measurement Plan shall describe the system, processes, and reports that the contractor shall utilize to measure an integrated and time-correlated cost, schedule, content, and quality performance and shall utilize for accomplishing and managing all services and functions described in the statement of work. This plan shall provide a comprehensive integration of all metrics/measurement and management systems of the prime, subcontractors, team arrangements, and major vendors. The Performance Measurement Reports shall provide the quality metrics, cost, and schedule information in accordance with the

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Performance Measurement Plan. These reports shall be the same metrics and cost/schedule information used by the contractor to effectively measure performance and to manage the work of all services and elements of the SOW. The level of detail in these reports to the government shall normally be limited to the SOW WBS reporting level, as negotiated and finalized in the plan, except for level of detail required to explain variances exceeding reporting thresholds.

b. Content – In accordance with the latest versions of JSC 27450, Performance Measurement System Handbook Performance Measurement System Plan/System Description Document - NPD 9501.3 and 9501.4, Earned Value Performance Management.
    i. Performance Measurement System Plan/Performance Metrics and Surveillance Reports shall use as a guide the metrics handbooks listed under the "Remarks" section of this DRD. These documents shall include definition of metrics and thresholds for variance analysis to identify cause, impact, and corrective action for any out of limit conditions.

c. Format: In accordance with the latest version of JSC 27450 Performance Measurement System Handbook
Cost Performance report - Reference DI-MGMT-81466 and ANSI ASC X.12 Electronic Format
Technical Performance Metrics and Surveillance Reports - Reference metrics handbooks listed under applicable documents as a guide.
Information will be provided at the "Adjusted Total: Cost Plus Fee" level per report.

d. Distribution: per Contracting Officer's letter and DCMA

9. Maintenance - change pages or complete reissue shall incorporate Changes.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0007
2.	DRD Title:	Metric and Status Reports
3.	Data Type:	2
4.	Page:	1 / 1

5. Description/Use – Metric and status Reports shall be provided to the NASA Project Integration and Status meetings and as requested by NASA. The reports are for the MCC, HSR/BCC, IPS, GSDE, and CDE systems.

   SOW Ref.: 1.5.1.1.10, 1.5.1.2.10, 1.5.2.2.10, and 1.5.2.3.10

6. Submission:
   a. Initial – Due monthly after contract start
   b. Final – Due at contract completion
   c. Approval – N/A
   d. Submission Frequency – Metric reports - monthly, Status reports as required

7. Applicable Documents, latest version:
   a. JSC-26010 DA Software Sustaining Engineering Metrics
   b. JSC-25510 DA3 Software Development Metrics
   c. JSC-36112 DA3 Development Project Metrics
   d. JSC-26458 DA3/SSO Sustaining and Operations Performance Management Metrics.

8. Data Preparation Information:
   a. Scope – The report shall contain current and trend data on facility system/subsystem availability, utilization and performance.
   b. Content – Metric and status reports shall be provided. Metric reports shall include, but not be limited to the following: (1) change request status (2) system/subsystem availability (3) system/subsystem utilization (4) Anomaly report and ops note status by system/subsystem (5) system/subsystem performance
      Status reports shall include, but not be limited to: (1) Daily and Weekly activity reports (2) Facility Status Report (3) Progress Report (4) Project Integration meetings (5) Delivery Schedules (6) Work plan (7) DRD status reports (8) Project Status Reports (9) Security reports (10) QA reports
   c. Format: Metric reports shall be in accordance with JSC-27450 Performance Measurement System Handbook. Technical performance metrics and Surveillance Reports – reference metrics handbooks listed under applicable documents as a guide. Status reports are as defined by NASA.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - N/A

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0008
2. DRD Title:	Government Property Management Plan
3. Data Type:	1
4. Page:	1 / 2

5. Description/Use - To describe the method of administering Government personal property.

   SOW Ref: 1.5.5.1.1

6. Submission:
   a. Initial – Due with proposal
   b. Final – Due 90 days after contract award
   c. Approval – From contract award + 180 days
   d. Submission Frequency – as required

7. Applicable Documents, latest version:
   a. Federal Acquisition Regulation (FAR) Part 45
   b. NASA FAR Supplement (NFS) Part 1845

8. Data Preparation Information:
   a. Scope – The Government Property Management plan defines the contractor's use, maintenance, repair, protection, and preservation of Government personal property. It shall describe the contractor's approach to receiving, handling, stocking, maintaining, protecting, and issuing Government property.
   b. Content – This plan shall consist of those procedures which constitute the contractor's Property Management Manual and shall include at a minimum the following categories:
      i. Property Management
      ii. Acquisition
      iii. Receiving
      iv. Identification
      v. Records
      vi. Movement
      vii. Storage
      viii. Physical Inventories
      ix. Reports
      x. Consumption
      xi. Utilization
      xii. Maintenance
      xiii. Subcontractor Control
      xiv. Disposition
      xv. Reconcile Contractor Records with Financial Records
      xvi. Center – Unique Considerations

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xvii. Contractor Closeout
xviii. Facility

c. Format: Contractor's electronic format is acceptable
d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0009
2.	DRD Title:	Small Business Subcontracting Plan and Reports
3.	Data Type:	Plan: 1 Report: 2
4.	Page:	1 / 2

5. Description/Use - To describe the contractor's planned approach to Small Business Subcontracting and their reporting against this plan.

   SOW Ref.: 1.3.1.3

6. Submission:

   Subcontracting Plan:
   Initial - Subcontracting plan shall be submitted with offeror's proposal.
   Approval – Prior to Contract Award
   Submission Frequency – Subcontracting Plan to be updated in accordance with FAR 19.702

   Reports:
   All reports shall be submitted in accordance with FAR 52.219-9 and NFS 1852.219-75.

   SF 294 Subcontracting Report for Individual Contracts shall be submitted semi-annually and at contract completion to the NASA/JSC Contracting Officer.

   SF 295 Summary Subcontract Report shall be submitted semi-annually to NASA Headquarters, Code K.

7. Applicable Documents:
   a. FAR 52.219.8 and 52.219.9
   b. NASA FAR Supplement (NFS) 1852.219-75, 1852.219-76 and 1852.219-79.

8. Data Preparation Information:
   a. Scope – The Small Business Subcontracting Plan shall be in compliance with FAR 52.219.9. The Small Business Subcontracting Reporting shall be in compliance with NFS 1852.219-75.
   b. Content - The Subcontracting plan must include the approach that the Contractor intends to use in meeting the subcontracting goals. Subcontractors whose bid is part of this proposal should be identified. For each subcontractor, the percentage of the proposal and any small or small business subcategory classification should be identified. For areas of potential future subcontracting, the Contractor should identify the area of work, the percentage of contract that this is expected to encompass, potential subcontractors and their small business or small business subcategory classification. Describe the management approach to subcontracting with small, and small disadvantaged 8(a) and HubZoned companies.

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c. Format: Contractor format is acceptable for the plan the; reporting shall be in compliance with NFS 1852.219-75.
d. Distribution: per Contracting Officer Letter.

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0010
2. DRD Title:	Information Technology (IT) Plan and Reports
3. Data Type:	Plan: 1 Reports: 2
4. Page:	1 / 1

5. Description/Use - To document the contractor's compliance with Federal and NASA IT Planning and Reporting regulations and requirements.

   SOW Ref: 1.2.2.2, 1.5.3.1.9

6. Submission:
   a. Plan Initial – Due with proposal
   b. Plan Final – Due 30 days after contract award
   c. Plan Approval – Start of contract + 30 days
   d. Plan Submission Frequency – as required by MOD I/T Planning, Procedures and Guidelines
   e. Report Frequency – per COTR TIRF

7. Applicable Documents, latest version:
   a. JSC 27201 JSC/MOD Standard Facilities Practices and Technologies Handbook
   b. IT Management Reform Act of 1996 (the Clinger-Cohen bill)
   c. Current JSC Chief Information Officer (CIO) instructions/guidelines for I/T plans (JSC CIO and CFO web sites)
   d. Office of Management and Budget Circular A-130 and A-11
   e. Computer Security Act of 1987
   f. JPG 2810.1 (or current version) JSC's I/T Security Handbook
   g. Executive Order 12845, Energy-efficient Microcomputers
   h. Section 508 of the Rehabilitation Act
   i. JSC Capital Planning and Investment Control (CPIC) Process
   j. Mission Operations Directorate I/T Planning, Procedures and Guidelines

8. Data Preparation Information:
   a. Scope –The plan shall document the contractor's compliance with Federal and NASA IT planning and reporting regulations and requirements.
   b. Content – The contractor's Information Technology plan defines the contractor's method to accomplish meeting IT POP, FY IT Plans, IT Capital Planning and Investment Control, and IT Standards. .
   c. Format: Plan – As outlined in the MOD I/T Planning, Procedures and Guidelines document
   d. Distribution: per Contracting Office's letter
      i.

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0011
2. DRD Title:	Emergency Preparedness and Disaster Recovery Plan
3. Data Type:	1
4. Page:	1 / 1

5. Description/Use - To describe the contractor's approach for emergency preparedness and disaster recovery.

   SOW Ref: 1.3.2.1

6. Submission:
   a. Initial – Start of contract + 15 days
   b. Final – Start of contract + 45 days
   c. Approval – Start of contract + 90 days
   d. Submission Frequency – annual

7. Applicable Documents, latest version:
   a. NMI 1040.3 Emergency Preparedness Program
   b. QS-EPP-95-001 NASA Emergency Preparedness Plan
   c. JSC-05900 JSC Emergency Preparedness Plan
   d. JPG 2810 IT Security Handbook

8. Data Preparation Information:
   a. Scope – The Emergency Preparedness and Disaster Recovery Plan describe the contractor's approach for emergency preparedness and disaster recovery.
   b. Content – Content shall include the following: a risk analysis of all facilities/systems; identification of specific equipment/facilities that require backup or alternate sites; identification of backup strategies; emergency response plans; backup facility/alternate sites operating plans.
   c. Format: Contractor's electronic format is acceptable.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0012
2. DRD Title:	Reports/Reviews
3. Data Type:	2
4. Page:	1 / 1

5. Description/Use – To provide information necessary for NASA's insight function.

SOW Ref.: 1.1, 1.2.1.3, 1.5.1.1.10, 1.5.1.2.10, 1.5.2.2.10, 1.5.2.3.10

6. Submission:
   a) Initial – Due at the end of the first reporting period after contract award
   b) Final – Due at the end of the final reporting period
   c) Approval – N/A
   d) Submission Frequency – As described in table below

	Title	Frequency	Comments
	REPORTS		
1.	Activity Report	Daily/Weekly	See DRD MSOC-JSC-0007
2.	Facility Status	Daily	See DRD MSOC-JSC-0007
3.	Progress Report	Weekly	See DRD MSOC-JSC-0007
4.	Availability Report	Weekly	See DRD MSOC-JSC-0007
5.	Metrics Report	Daily/Weekly/Monthly	See DRDs MSOC-JSC-0006 and 0007
6.	Status of DRDs	Monthly	See DRD MSOC-JSC-0007
	REVIEWS/MEETINGS		
7.	Program Manager Status Review	Monthly	DRD MSOC-JSC-0012
8.	Operating Plan Review	As Required	DRD MSOC-JSC-0022
9.	POP Review	As Required	DRD MSOC-JSC-0022

	Title/Description
1.	Activity Report – This report should include high level run reports for simulations, tests, etc., as well as significant facility problems or mishaps.
2.	Program Manager Status Review – This monthly review documents accomplishments; changes in plans; problems being worked and proposed solutions consistent with the requirements of DRD MSOC-JSC-0006. The discussion of plans, progress and

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	problems shall include variance analysis and reporting cause, impact and corrective action. Technical issues shall be covered in terms of performance goals (metrics), exit criteria, schedule progress and/or cost impact. The review shall include current status, year-end estimate and cover upcoming major events.
3.	Project Status Review – This monthly review documents accomplishments; changes in plans; problems being worked and proposed solutions consistent with the requirements of DRD MSOC-JSC-0006. . The discussion of plans, progress and problems shall include variance analysis and reporting cause, impact and corrective action. Technical issues shall be covered in terms of performance goals (metrics), exit criteria, schedule progress.

7. Applicable Documents: None

8. Data Preparation Information:

a. Scope – This DRD establishes the activity reporting for the Contractor's progress and accomplishments as well as performance and utilization of facilities/systems.

b.

c. Content – The report shall include quantitative descriptions of overall technical and administrative progress, and status, of significant activities relating to the accomplishments of the contractual objectives. Risks to the accomplishment of contractual objectives shall also be identified. The report shall also include performance and utilization data for major facilities and systems. Activity Report items covered shall included significant accomplishments, problems encountered, quality assurance results, corrective actions. Metrics Report items shall be in accordance with DRD MSOC-JSC-0006 and 0007. All reports shall be of sufficient depth and clarity to permit understanding and evaluation of progress made. Supporting data in the form of charts, graphs, etc. may be included as appropriate.

d.

e. Format: To be determined by mutual agreement with the COTR and TM.

f.

g. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0013
2. DRD Title:	Reprocurement Data Package
3. Data Type:	2
4. Page:	1 / 2

5. Description/Use - Provide content and format requirements for delivery to NASA of all analytical models, tools, supporting documentation, equipment, data items and resource/cost information used to perform future reprocurement activities. Data contained in Paragraph 7.e.i, "Labor Resources", Paragraph 7.e.ii, "Non-labor Resources", and Paragraph 7.e.iii may be marked "Lockheed Martin Proprietary Data" and "Competition Sensitive". Data contained in Paragraph 7.e.iv, "Technical and Process Information" may be disclosed to competing offerors in the future.

   SOW Ref.: N/A

6. Submission:
   a. Initial/Final – One deliverable at the CO's direction
   b. Approval – N/A
   c. Submission Frequency - No periodic submissions required per this DR (this does not relieve the requirement for periodic or incremental deliveries per other DRs).

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – Analytical models, unique tools, supporting documentation, equipment and resource/cost information shall be submitted in accordance with this Data Requirement (DR).
   d. Content – Data package containing the following:
      i. Labor resources:
         (1) List of all direct labor skills by labor category, segregated by current work breakdown structure (WBS)
         (2) An estimate of the number of indirect labor skills such as business or computer support normally charged through an indirect expense pool or through a service center expense
         (3) Current annual average wage rates for each labor category and when these wages were last adjusted for escalation. Also indicate whether any adjustments are projected to be made prior to contract expiration
         (4) The number of FTEs (Full Time Equivalents) and the estimated number of productive hours for each labor category currently on contract, segregated by current WBS.
         (5) Seniority level of all skills on the current contract
      ii. Non-labor resources:

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(1) List of all materials, equipment, travel, supplies, etc., and the incurred annual cost by WBS. Only include significant items that are used to perform the technical requirements of this contract.
(2) Provide a discussion associated with the major items identified above, such as the materials estimate includes a prompt payment discount of TBD% due to large volume discounts you have negotiated with your vendors.

iii. The projected liability cost associated with unused accrued paid leave associated with non-exempt personnel. Provide a copy of any Collective Bargaining Agreements in place and a current status of any upcoming negotiations with a union.

iv. Technical and Process Information:

Data Requirement Descriptions (DRDs):
MSOC-JSC-0002, Management Plan
MSOC-JSC-0007, Metric and Status Reports
MSOC-JSC-0008, Government Property Management Plan
MSOC-JSC-0010, Information Technology Plan and Reports
MSOC-JSC-0012, Reports/Reviews (excluding Program Manager Status Review charts)
MSOC-JSC-0061, Configuration Management Plan
MSOC-JSC-0062, Level A and B Requirements
MSOC-JSC-0063, Interface Control Document
MSOC-JSC-0073, Design Specifications

e. Format: Electronic format of all submissions shall be compatible with ODIN desktop standard applications or other ISS standard tools. Organizational format of the supporting documentation shall be the contractor's format
f. Distribution: Distribution per Contracting Officer's letter

9. Maintenance - All models/tools and data items shall be maintained electronically. All documentation developed to support the use of each model/tool and data items shall also be maintained electronically. Both the models and the supporting documentation shall be updated as necessary to perform the assessments for which they were developed.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0014
2.	DRD Title:	Contractor-Held Property Reporting
3.	Data Type:	2
4.	Page:	1 / 2

5. Description/Use - To report NASA Property in the custody of Contractors.

   SOW Ref.: N/A

6. Submission:
   a. The data required for the monthly submission is due the 21st day after the close of the month. Example due dates for the monthly submission are as follows:
      August 21 for the month ending July 31
      September 21 for the month ending August 31
      October 21 for the month ending September 30
   b. The due date for the Financial Property annual submission (NASA Form 1018) is November 30.
   c. All reports shall be submitted electronically through the Contractor Held Asset Tracking System (CHATS).

7. Applicable Documents: Procurement Information Circulars (PIC) 03-14 and 04-12 and NASA FAR Supplement Subpart 1845.7101.

8. Data Preparation Information:
   a. Monthly Property Financial Reports are required to be submitted using CHATS. Monthly Financial Report will be submitted in accordance with PIC 04-12.
   b. Annual Property NF 1018 reports shall be submitted using the NF 1018 Electronic Submission System (NESS).
   c. The NF1018 shall be completed in accordance with NASA FAR Supplement Subpart 1845.7101 and any supplemental guidance provided by the Contracting Officer.

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9. Content

Monthly Report General Instructions:

a. Monthly property financial reports are required with item level supporting data. This data shall be submitted for all items with an acquisition cost of $100,000 or more, in the contractor's and its subcontractors' possession, in the following classifications: real property, equipment, special test equipment, special tooling, and agency peculiar property. Monthly reporting is not required for property in the above classifications with an acquisition cost under $100,000. Monthly data shall also be submitted for items of any acquisition cost in the classifications of materials and contract work-in-process (WIP). Itemized monthly data is required for materials and WIP line items of $100,000 and over. Summary monthly data is required for materials and WIP line items under $100,000. The monthly reports shall be electronically submitted using the Contractor-Held Asset Tracking System (CHATS) (http://nasachats.gsfc.nasa.gov/) using the format described in the CHATS user's manual.

b. Acquisition costs shall be developed using actual costs to the greatest extent possible, especially costs directly related to fabrication such as labor and materials. Supporting documentation shall be maintained and available for all amounts reported, including any amounts developed using estimating techniques.

c. All Adjustments shall be thoroughly explained and directly related to a specific fiscal year. If the fiscal year cannot be determined, the default shall be the previous fiscal year.

10. NF 1018 Reports

a. Contractors shall report all NASA-owned property in US dollars, regardless of location.

b. Negative reports are required.

c. This reporting shall be completed in accordance with the NASA FAR Supplement (NFS) Subpart 1845.7101 and any supplemental guidance provided by the Contracting Officer.

11. Distribution

a. The monthly reports shall be electronically submitted using the Contractor-Held Asset Tracking System (CHATS) (http://nasachats.gsfc.nasa.gov/) using the format described in the CHATS user's manual.

b. NASA Form (NF) 1018 reports shall be submitted using the NF 1018 Electronic Submission System (NESS) (http://ness.gsfc.nasa.gov/).

12. Maintenance

a. Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0015	
2. DRD Title:	Customer Reporting	
3. Data Type:	Initial Baseline Report: 1	Monthly Report: 2
4. Page:	1/ 3	

5. Description/Use - The Customer report provides insight into the fully loaded cost per Contractor Work Breakdown Structure (CWBS) Element enabling it for use in the JSC IFMP system.

6. Submission:
   a. Baseline Report:
      i. Initial: 30 days from contract start
      ii. Approval: Initial contract -12/15/03; Subsequent – Annually, As Required by COTR Letter
      iii. Submission Frequency: Annually, As Required by COTR Letter
   b. Monthly Report:
      i. Initial – Synchronized with NF533M report.
      ii. Final – Synchronized with NF533M report
      iii. Submission Frequency –
         i. Monthly - Due not later than 10 days following the close of the contractor's monthly accounting period.
         ii. The due dates reflect the date the Customer reports are received by personnel on the distribution list, not the date the reports are generated or mailed by the contractor. It is critical that the Customer reports are submitted in a timely manner to ensure adequate time for NASA to analyze and record the cost into the NASA accounting system.
         iii. The contractor shall submit the Customer Cost Report prepared in accordance with instructions contained in NPG 9501.2D as amended or revised. Cost shall be identified and recorded in the period of time when the benefit is received or incurred without regard to the date of payment. Monthly forecast costs should reflect the most current and reliable data recognized by both technical community and finance personnel.

7. Applicable Documents: none

8. Data Preparation and Content Information:
   a. Format – Baseline Report – Establishes and Documents the load allocation agreement per CWBS.
      i. Monitory information will be reported thru " Adjusted Total: Cost Plus Fee"
      ii. Header Information required include the following information with title:
         1. Accounting Calendar Period start and end dates (i.e. 09/23/03 – 09/30/04)
      iii. Separate Cost, EPs, and Hours reports shall include a summary roll up of 4th level CWBS' at the Project level by program and CWBS. The source data file for these

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3 reports which includes separate Material, Labor, and ODC costs shall also be included in the electronic copy to the MOD Resources Office.

1. Data required – Columns
   a. Month by Month Plan: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   b. GFY Plan Total: Hours, Dollars, EPs

iv. Data required - Rows
1. Cost, Hours, EPs
2. Allocated line items
3. Total Adjusted Cost

b. Format – Monthly Report
i. Monitory information will be reported thru " Adjusted Total: Cost Plus Fee"
ii. Header Information required include the following information with title:
1. Accounting Calendar Period start and end dates (i.e. 06/23/03 – 07/30/03)
iii. Separate Cost, EPs, and Hours reports shall include a summary roll up of 4th level CWBS' at the Project level by program and CWBS. The data file which includes Material, Labor, and ODC shall also be included in the electronic copy to the MOD Resources Office. Any revised reports shall be resubmitted to the MOD Resources Office prior to closure of the NASA accounting system.
1. Data required – Columns
   a. Current Month Estimate: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   b. Current Month Actuals: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   c. FY Cum-to-Date Actuals: Dollars, Hours
   d. Inception-to-Date (ITD) Actuals: Dollars, Hours
   e. Next Month Estimate: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   f. Next Month Estimated (NME) Plan: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   g. Balance GFY: Hours, Dollars, EPs (2080 hours/year for EP calculation)
   h. Estimate at Complete (EAC): Hours, Dollars, EPs (2080 hours/year for EP calculation)
   i. GFY Plan Through Current Month: Hours, Dollars, EPs

iv. Data required - Rows
1. Cost, Hours, EPs
2. Allocated line items
3. Total Adjusted Cost

c. Cost Report Narrative: The Cost Report Narrative page shall be the first page of the Customer Cost Report following the cover page. Operating Days and Effective Hours (i.e. 19 days / 133 hrs) shall be included in the Narrative, as well as identification and explanation for any significant or unique events:
i. Prior Period Rate Adjustment, i.e., direct/indirect rates, G&A, etc.;
ii. Miscellaneous adjustments, i.e., accounting correction, EAC +/- 15% change from previous reporting period, etc.

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9. The NF533M will be the official control document for actuals expended to date, and the Customer Cost Report will reconcile to the NF533M current month's and cum-to-date actuals. The estimate to complete (ETC) and estimate at complete (EAC) shall be adjusted to reflect a change in the current month's estimate and/or out-months.

10. Distribution: per Contracting Officer's letter

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0016
2. DRD Title:	Space Shuttle Termination Plan
3. Data Type:	1
4. Page:	1 / 1

5. Description/Use - To provide an approach and rationale for Space Shuttle Program (SSP) Termination activities.

   SOW Ref: 1.1

6. Submission:
   a. Initial – Last manifested Shuttle Flight minus 1 year
   b. Final – Last manifested Shuttle Flight minus 9 months
   c. Approval – Last manifested Shuttle Flight minus 7 months

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope – The MSOC Space Shuttle Termination Plan provides plans for the termination of all anticipated operations activities, facility modifications and cleanup along with supporting logic and rationale.
   b. Content – The Space Shuttle Termination Plan shall describe the overall plan for termination of SSP Support. As a minimum, it shall address:
      i. Schedule with key milestones
      ii. Approach and rationale for implementing the plans, procedures, and processes required for termination of the space shuttle program support, including property, personnel, facilities, and security
      iii. Metrics used to determine progress for space shuttle termination
      iv. Property control transfer
      v. Facilities responsibility transfer
      vi. Mission assurance considerations
      vii. curity considerations
      viii. Classified document control transfer
      ix. Risk mitigation strategy
      x. Configuration management considerations.
      xi. Compliance with federal archive regulations
   c. Format: Contractor format is acceptable.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - change pages or complete reissue shall incorporate Changes.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0020
2.	DRD Title:	NF533 M/Q Cost Reporting
3.	Data Type:	Initial Baseline Reports: 1 NASA Forms 533 M/Q: 2
4.	Page:	1/ 4

5. Description/Use - The NASA Form 533 (NF533) reports provide data necessary for the following:
   a. Projecting costs and hours to ensure that dollar and labor resources realistically support project and program schedules.
   b. Evaluating contractors' actual cost and fee data in relation to negotiated contract value, estimated costs, and budget forecast data.
   c. Planning, monitoring, and controlling project and program resources.
   d. Accruing cost in NASA's accounting system, providing program and functional management information, and resulting in liabilities reflected on the financial statements.

   SOW Ref: 1.2.

   Cost is a financial measurement of resources used in accomplishing a specified purpose, such as performing a service, carrying out an activity, acquiring an asset, or completing a unit of work or project. NASA Contractor Financial Management Reporting, NASA Procedures and Guidelines (NPG) 9501.2D, or its most current revision, identifies the cost reporting requirements for a contract.

6. Submission: The due dates for the NF533M and NF533Qreports are outlined in Chapter 3 of NPG 9501.2D. The following is a summary of the NF533 due date requirements.
   a. Initial – NASA Form 533Q – Within 30 days after authorization to proceed.
   NASA Form 533M - No later than 30 days after the incurrence of cost.
   Initial Baseline Reports - An initial NF533 report is required in the NF533Q format to be used as a baseline for the life of the contract. The initial (baseline) NF533Q shall be submitted by the contractor within 30 days after authorization to proceed has been granted. The initial report shall reflect the original contract value detailed by negotiated reporting categories and shall be the original contract baseline plan.
   b. Final – n/a (see item 6. i.)
   c. Approval – Due 90 days from contract start
   d. Submission Frequency –
      i. 533M - Due not later than 10 days following the close of the contractor's monthly accounting period.
      ii. 533Q - Due not later than the 15th day of the month preceding the quarter being reported.
      iii. The due dates reflect the date the NF533 reports are received by personnel on the distribution list, not the date the reports are generated or mailed by the contractor. It is critical that the NF533 reports are submitted in a timely manner to ensure adequate time for NASA to analyze and record the cost into the NASA accounting system.

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7. Applicable Documents, latest version:
   a. NFS 1852.242-73 NASA Contractor Financial Management Reporting
   b. NMI 9501.1 NASA Contractor Financial Management Reporting Systems
   c. NPG 9501.2C NASA Contractor Financial Management Reporting.

8. Data Preparation Information:
   a. NASA is required by law to maintain accrual accounting, which requires cost to be reported in the period in which benefits are received, without regard to time of payment. Examples of accrual accounting for common cost elements reported on the NF533 follow:

Cost Elements:

i. *Labor:* Reported to NASA as hours are incurred.

ii. *Equipment & Materials* (commercial off the shelf) Generally reported to NASA when received and accepted by the contractor.

iii. *Manufactured Equipment:* Defined as any equipment that is produced to specific requirements that make it useless to anyone else without rework. Cost should be reported to NASA as the equipment is being manufactured. The straight-line method for estimating accrued costs or the use of supplemental information obtained from the vendor are acceptable methods used to calculate the cost accrual amount.

iv. *Leases:* Reported to NASA using a prorating over the life of the lease.

v. *Travel:* Reported to NASA as costs are incurred.

vi. *Subcontracts:* Actual and estimated costs reported by prime contractors shall include subcontractors' incurred costs for the same accounting period. Where subcontract costs are material, they should be separately identified on NF533 reports. The prime contractor shall include in the total cost of each subdivision of work the accrued cost (including fee, if any) of related subcontractor effort. Subcontractors should, therefore, be required to report cost to the prime contractor, using the accrual method of accounting. If the G&A and fee reported by a subcontractor are at the total subcontractor level, these costs must be allocated to specific sub-divisions of work. Data submitted by the subcontractor should be structured similar to the prime contractor's NF533 to enable the prime contractor to properly report to NASA. For Firm Fixed Price subcontracts with a contract value greater than $500,000, the prime contractor is required to document the methodology used to generate the sub- contractor costs reported and provide this information to the Contracting Officer and Center Deputy Chief Financial Officer (Finance).

vii. *Unfilled Orders:* Reported as the difference between the cumulative cost incurred to date and amounts obligated to suppliers and subcontractors.

viii. *Fee:* Should be accrued as earned using a consistent and auditable method to determine the amount. For example: an acceptable method would be to use historical data to determine the amount to accrue each

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month. Fee should be reported on the NF533 following the "Total Cost" line. Award fee must be reported by the following categories: Base Fee, Fee Earned, Interim Fee, Provisional Fee, Potential Additional Fee, and Total Fee. If any of the above fee categories do not pertain, they should not be included in the NF533.

ix. *Prompt Payment Discounts:* Cumulative cost reported to NASA should be the full-incurred cost. The prompt payment discount amount taken should be reported as a separate line item on the NF533 below the cumulative cost amounts for the contract.

b. The NF533 reports are the official cost documents used at NASA for cost type, price determination, and fixed price incentive contracts. The data contained in the reports must be auditable using Generally Accepted Accounting Principles. Supplemental cost reports submitted in addition to the NF533 must be reconcilable to the NF533.

c. Uncompensated overtime hours worked should be reported on NF533 reports as a separate line item or in the footnotes.

d. For contracts, which have multiple schedules, a summary NF533 is required to provide a cumulative from inception cost for the contract, regardless of schedule.

e. An initial NF533 report is required in the NF533Q format to be used as a baseline for the life of the contract. The initial (baseline) NF533Q report shall be submitted by the contractor within 30 days after authorization to proceed has been granted. The initial report shall reflect the original contract value detailed by negotiated reporting categories and shall be the original contract baseline plan. In addition to the initial (baseline) report, monthly NF533 reporting shall begin no later than 30 days after the incurrence of cost.

f. Column 7b (planned cost incurred/hours worked for the month) and 7d (cumulative planned cost incurred/ hours worked) of the NF533M represent the negotiated baseline plan for the contract. There may not be a relationship between the estimates provided in columns 8 of the NF533M to columns 7b and 7d. Columns 7b and 7d represent the legally binding contract negotiated baseline plan plus all authorized changes.

g. Short and long-term cost estimates, which include all data entered in columns 8 and 9a on the NF533M and NF533Q reports, shall be based on the most current and reliable information available.

h. Prior period cost adjustments should be reported in column 7a and 7c of NF533M and column 7a of the NF533Q with a footnote discussing the reasons for and amounts of the adjustments.

i. Monthly NF533 reporting is no longer required once the contract is physically complete, provided the final cost report includes actual cost only (no estimates or forecasts). The contractor must continue to submit monthly NF533 reports as long as estimates for the following period are included. If the final cost of a contract changes after the submission of the "final" contractor cost report, the contractor must submit a revised NF533 report in the month the cost change is recognized.

j. Format: (See attached) The reports shall be prepared in accordance with NPG 9501.2C or its most current revision, NMI 9501.1, and NFS 1852.242-73 and as defined in the statement of work and by contracting officer's letter. All reports shall be provided electronically and in hard copy form. The contractor shall report cost and hours via electronic submission or diskette and shall be compatible with Microsoft Excel. A hardcopy of the data shall accompany either method and shall be signed by the same

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person who signs the hard copy NF533. The totals of the submitted data shall agree with the NF533 totals.

k. Format Adjustments:
   i. Information on all 533M and Q pages are reported thru "Adjusted Total: Cost Plus Fee".
   ii. Addition of Government Fiscal Year (GFY) information:
      1. GFY Cum-to-Date
      2. GFY EAC
      3. Balance of GFY
   iii. 533 reports header section will contain the following information with title:
      1. Accounting Calendar Period (i.e. July 20xx)
      2. Accounting Calendar Period start and end dates (i.e. mm/dd/yy – mm/dd/yy)
      3. Operating Days and Effective Hours (i.e. 19 days / 133 hrs)

l. Distribution: per Contracting Officer's letter

9. Maintenance - change pages or complete reissue shall incorporate Changes.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0021
2.	DRD Title:	Wage/Salary and Fringe Benefit Data
3.	Data Type:	2
4.	Page:	1 / 6

5. Description/Use - The Wage/Salary and Fringe Benefit Data shall be used by the NASA Contracting Officer and the Contract Labor Relations Office to provide the necessary data for submittal of Standard Form (SF) 98, Notice of Intention to Make a Service Contract and Response to Notice, to the Department of Labor, and to assist in the monitoring of Service Contract Act compliance.

   SOW Ref: 1.2

6. Submission:
   a. Initial – February 1, 2004
   b. Submission Frequency - Annually, 90 days prior to the anniversary date of the contract.

   c. Applicable Documents: FAR 52.222-41

   d. Data Preparation Information:
      a. Scope – The Wage/Salary and Fringe Benefit Data shall be submitted by the contractor, and any subcontractors, which are subject to the provisions of the Service Contract Act, to the Contracting Federal Agency. In accordance with FAR regulations 22.1007 and 22.1008, the Contracting Officer is required to submit a SF 98 to the Department of Labor, Wage and Hour Division.
      b. Content The Wage/Salary and Fringe Benefit Data shall contain the data included in the enclosed DRD forms, titled "Wage/Salary Rate Information", "Fringe Benefit for Service Employees", and Fringe Benefits per Collective Bargaining Agreement". The Wage/Salary Rate Information shall contain a listing of all exempt and nonexempt labor classifications on the contract. Separate forms shall be utilized for classifications in different geographic areas and for each subcontractor. Wage determination numbers, appropriate labor organization names, and subcontractor names, shall be reflected. All nonexempt labor classifications shall be matched to wage determination classes or to CBA classifications for represented classes. Annotate exempt or nonexempt and union or nonunion. The current hourly rates shall reflect the actual lowest and highest paid employees, along with a computed average rate. State the number of employees in each labor category. Separate Fringe Benefit forms shall be completed for non-represented classifications and for each separate Collective Bargaining Agreement (CBA). A separate form shall be completed for

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the prime and each subcontractor. Three copies of each Collective Bargaining Agreements are required.

c. Format: The Wage/Salary and Fringe Benefit Data shall be in a format substantially the same as enclosed with this DRD. (Forms 2, 3, and 3A enclosed).

d. Distribution: Per Contracting Officer's Letter

7. Maintenance - Changes shall be incorporated as required by change page or complete reissue.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

FORM 2

WORK SHEET FOR SF-98 DATA
WAGE RATE INFORMATION

CONTRACTORS LABOR CLASSIFICATION	WAGE DETERMINATION CLASSIFICATION	EXEMPT OR NONEXEMPT	UNION OR NONUNION	CURRENT HOURLY RATE	MYE NO OF EMPLOYEES
Illustration of required data:					
Project Manager	Not Required	E	N	$25.00	1
Supervisor	Not Required	E	N	$20.00	1
Electrical Engineer	Not Required	E	N	$16.50 - $20.00	3
Technician, Jr	Elect Tech Main 1	N	U	$12.78 - $15.50	12
Technician, Sr	Elect Tech Main II	N	U	$18.20 - $20.00	4
Secretary	Secretary I	N	N	$11.11 - $12.50	2
File Clerk	General Clerk II	N	N	$8.29	1
Clerical Data Entry	Word Processor I	N	N	$9.25 - $10.90	3

Submit data in the above-illustrated format for all labor classifications used, or planned to be used, on this contract.
All contractor labor classifications shall be matched to wage determination classes listed in CBA's represented classes or classes shown in WD 94-2516 for nonrepresented classes.

CONTRACTORS LABOR CLASSIFICATION	WAGE DETERMINATION CLASSIFICATION	EXEMPT OF NONEXEMPT	UNION OR NONUNION	CURRENT HOURLY RATE	MYE NO OF EMPLOYEES

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

FRINGE BENEFITS PER COLLECTIVE BARGAINING AGREEMENT

For period from _____ to _____

Contractor:

Contract Number:

Number of employees in bargaining unit _____

Total number of employees on contract _____

1. Shift Differential: (Describe any pay over and above base rates for 2nd, 3rd, weekend, or other shifts.)

2. Health and Welfare Items and Other Fringe Items: (Indicate whether or not coverage is provided to employees and state current average hourly cost per employee covered by a Collective Bargaining Agreement.)

Item	**Coverage Provided (Yes or No)**	**Average Hourly Cost**
a. Life Insurance		
b. Accidental Death		
c. Disability		
d. Medical and Hospital		
e. Dental		
f. Retirement Plan		
g. Savings/Thrift Plan		
h. Sick Leave		
i. Tuition		
j. Other (Describe)		
TOTAL		

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3. Paid Absences:

	Service Requirement	Days per Year
a. Vacation		
b. Holiday		
c. Sick Leave		
d. Jury Leave		
e. Funeral Leave		
f. Military Leave		
g. Other (Describe)		

4. Severance Pay: (Briefly describe terms and amounts.)

5. Other Fringe Benefits: (Describe any other fringe benefits not included above, and show average hourly cost.)

6. Premium Pay: (Discuss all premium pay provisions not previously shown on this form.)

_____ _____

Signature of Company Representative Date

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

FORM 3A

FRINGE BENEFITS FOR SERVICE EMPLOYEES

For Period from _____ to _____

Contractor:

Number of nonexempt employees on contract: _____

Total number of employees on contract: _____

1. Health and Welfare Items and Other Fringe Items:
(Indicate whether or not coverage is provided to employees and state current average hourly cost per service employee.)

Item	Coverage Provided	Average Hourly Cost
a. Life Insurance		
b. Accidental Death		
c. Disability		
d. Medical & Hospital		
e. Dental		
f. Retirement Plan		
g. Savings/Thrift Plan		
h. Sick Leave		
i. Tuition Reimbursement		
j. Other (Describe)		

2. Paid Absences

	Service Requirement Days per Year
a. Vacation	
b. Holidays	
c. Sick Leave	
d. Jury Leave	
e. Funeral Leave	
f. Military Leave	
g. Other (Describe)	

_____ _____

Signature of Company Representative Date

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0022
2.	DRD Title:	FY Operating Plan (FY Op Plan) and Program Operating Plan (POP)
3.	Data Type:	Op Plan: 1 / POP: 2
4.	Page:	1 / 2

5. Description/Use – The contractor shall provide a separate annual FY Operating Plan and POP addressing all of the services under this contract.

   SOW Ref.: 1.2.1.3, 1.5.1.1.2, 1.5.1.1.3, 1.5.1.2.2, 1.5.1.2.3, 1.5.2.1.2, 1.5.2.1.3, 1.5.2.2.2, 1.5.2.2.3, 1.5.2.3.2, 1.5.2.3.3, 1.5.3.1.2, 1.5.3.1.3, 1.5.4.1.2, 1.5.4.2.3, 1.5.4.6.3, 1.5.4.8.2, and 1.5.5.1.4.

6. Submission:
   a. Initial – FY Op Plan - As Required by COTR Letter, POP – As Required by COTR Letter
   b. Final – FY Op Plan - As Required by COTR Letter, POP – As Required by COTR Letter
   c. Approval – FY Op Plan - 30 days following submittal, POP – N/A
   d. Submission Frequency – FY Op Plan – As Required, POP – As Required

   For the first delivery of FY Op Plan: Final 12/1/03 and Approval 12/15/03.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The FY Operating Plan and POP will include a detailed analysis of the content and cost for the future Government Fiscal Year. The POP will contain a multi-year forecast as specified by requesting letter.
   b. Content. The FY Operating Plan and POP shall include the plans associated with modification, sustaining, Program support, and Architecture and engineering support. estimates of the resources required to perform the specified services of the contract. Estimates shall be provided by CWBS and shall include labor in EP and $, material in $, and contract total price in $. EP, labor hour, and $ estimates shall also be provided by source of funding, such as SSP, ISS, MOD, etc.. A plan summary shall be provided which compares the total resources estimated by funding source to specified funding marks, and to the negotiated contract value.

      The FY Operating Plan shall include estimates by month. Technical work content to be achieved within the plan shall be described by list of tasks to be performed under MCC and IPS Modification and Systems Engineering services. Each task shall be separately described by resource estimates for hardware and software engineering, committed or estimated completion dates, and external dependencies.

      The POP shall designate estimates by FY. Technical work content to be achieved within the plan shall be described by list of equipment replacement and any other major projects to be performed under modification and systems engineering services. Each project shall

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be separately described with major milestones, external dependencies, and estimated completion dates.

c. Format: electronic copy and hardcopy
d. Distribution: per Contracting Officer's letter

9. Maintenance - N/A

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0023
2. DRD Title:	Travel Plan
3. Data Type:	2
4. Page:	1 / 1

5. Description/Use - To describe the contractor's projected travel requirements in support of objectives per fiscal year.

   SOW Ref: 1.2.1.3, 1.4.1, and 1.5.4

6. Submission:
   a. Initial – Start of contract + 30 days
   b. Final – Start of contract + 45 days
   c. Approval – Start of contract + 60 days
   d. Submission Frequency – annually 2 months prior to FY start August 1st.

7. Applicable Documents: none

8. Data Preparation Information:
   a. Scope –The Travel Plan shall describe the travel plans and purpose required to meet the objectives per fiscal year.
   b. Content – The Travel Plan shall address the contractor's plans by SOW item. Identifying purpose, dates and duration for travel.
   c. Format: Contractor's electronic format is acceptable
   d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0024
2. DRD Title:	Workforce Reports
3. Data Type:	2
4. Page:	1

5. Description/Use - To provide workforce information by geographic location.

   SOW Ref: 1.2.

6. Submission:
   a. Initial – 10 Workdays after initial month end
   b. Final – n/a
   c. Approval – Due 90 days from contract start
   d. Submission Frequency –
      i. Monthly Workforce Report - Monthly, no later than the 10th day following the close of the accounting period.
      ii. As Requested Workforce Report - As directed.
      iii. With the FY Operating Plan and POP (reference MSOC-JSC-0022)

7. Data Preparation Information:
   a. Scope – The reports provide workforce data by geographic location. There are two types of reports:
      i. Monthly Workforce Report by location
      ii. As Requested Workforce Report
   b. Content – The monthly workforce report should provide Equivalent Personnel (EPs) by location, specifically on or off site (JSC), and by State for workforce outside of the Clear Lake area. The data should be reconcilable to other financial deliverables. The content of the As Requested Workforce Report will vary based on specific direction provided by NASA Headquarters to support congressional inquiries. Its most common form is an annual request to provide workforce by Zip Code.
   c. Format: Specific formatting to be tailored by NASA and the Contractor.
   d. Distribution: per Contracting Officer's letter

8. Maintenance - Changes shall be incorporated by change page or complete reissue.

9. Distribution:

   Per Contracting Officer's Letter

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0030
2.	DRD Title:	Safety and Health Plan
3.	Data Type:	1
4.	Page:	1 / 10

5. Description/Use - Establishes Safety, Health, and Environmental Compliance Plan for contractors providing support to JSC organizations. ***The Office of Primary Responsibility for this DRD is the JSC Safety, Reliability, and Quality Assurance Office. NOTE: UPON NASA APPROVAL, THE CONTRACTOR'S SAFETY, HEALTH, and ENVIRONMENTAL COMPLIANCE PLAN ("The Plan") BECOMES A CONTRACTUAL REQUIREMENT.

   SOW Ref.: 1.3.2.2

6. Submission:
   a. Initial – Due with proposal
   b. Final – Due 60 days after contract award
   c. Approval – Start of contract
   d. Submission Frequency – as required

7. Applicable Documents, latest version: NPG 8715.3; JPG 1700.1

8. Data Preparation Information:
   a. Scope –
   b. Content – The requirements for this plan as detailed in the instructions on plan content below include instructions for specific reports and data to be submitted to the Government. These instructions are to be included in the plan and represent contractual commitments by the contractor to provide this information.

      1. MANAGEMENT LEADERSHIP AND EMPLOYEE PARTICIPATION.
      1.1. Policy. Provide the contractor's safety, health, and environmental compliance policy statement with the plan. Compare the contractor's policy statement with those of NASA and OSHA and discuss any differences.
      1.2. Goals and Objectives.
      1.2.1. Describe specific safety and health goals and objectives to be met. Discuss status of safety program using the "Performance Evaluation Profile" as safety performance criteria. Describe the contractor's approach to continuous improvement (including milestone schedule) using level 5 of the Performance Evaluation Profile as a guideline.
      1.2.2. Describe Environmental Goals & Objectives to be met for the following:
         a. Pollution Prevention and Source Reduction of:
            (1) Hazardous and Industrial Solid Wastes

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(2) Solid Wastes (trash, refuse)
(3) Wastewater Discharges (sanitary sewerage)
(4) Air Emissions
(5) Medical & Radiological Discharges

b. Affirmative Procurement (Purchase of Environmentally Preferable Materials IAW Executive Order)

c. Hazardous Materials Handling/Purchasing/Reduction/Replacement Elimination from Specifications and Standards requirements for the use of Hazardous/Toxic Substances & Materials

d. Use of an Environmental Planning Checklist to review & document Impacts of New and Modified Programs, Projects, Activities and Operations.

e. Life cycle analysis and costing

f. Incorporating Environmental Requirements in Subcontracts

g. Participation in JSC Recycling

h. Outreach programs

1.3. Management Leadership. Describe management's procedures for implementing its commitment to safety, health, and environmental compliance through visible management activities and initiatives including a commitment to exercise management prerogatives to ensure workplace safety and health. Describe processes and procedures to making this visible in all contract and subcontract activities and products. Include a statement from the project manager or designated safety official indicating that the plan shall be implemented as approved and that the project manager shall take personal responsibility for its implementation.

1.4. Employee Involvement. Describe procedures to promote and implement employee (e.g., non-supervisory) involvement in safety, health, and environmental compliance program development, implementation and decision-making. Describe the scope and breadth of employee participation to be achieved so that approximate safety and health risk areas of the contract are equitably represented.

1.5. Assignment of Responsibility. Describe line and staff responsibilities for safety and health program implementation. Identify any other personnel or organization that provides safety services or exercises any form of control or assurance in these areas. State the means of communication and interface concerning related issues used by line, staff, and others (such as documentation, concurrence requirements, committee structure, sharing of the work site with NASA and other contractors, or other special responsibilities and support.) As a minimum, the contractor shall identify the following:

1.5.1. Safety Representative - identify by title the individual who shall be trained and certified in accordance with JPG 1700.1 to be responsive to Center-wide safety, health, environmental, and fire protection concerns and goals, and who shall participate in meetings and other activities related to the JSC Safety and Health program.

1.5.2. Company Physician/Occupational Injury/illness case manager - identify a point of contact who is responsible for the transfer or receipt of company medical data

and who shall be the primary contact for the company in the event any employee suffers a work related injury or illness (such as the company physician) by name, address, and telephone number to the JSC Clinic. This shall facilitate communication of medical data to contractor management. Prompt notification to the JSC Occupational Health/ Clinic shall be given of any changes that occur in the identity of the point of contact. A letter to the JSC Occupational Health Office can accomplish initial identification of point of contact and subsequent updates with a copy sent to the Contracting Officer. The initial letter is to be received by the Government prior to contract start.

1.5.3. Building Fire Wardens - provide a roster of fire wardens (their names, phone numbers and pagers, and mail codes). Contractor fire wardens are needed to facilitate the JSC fire safety program, including coordination of related issues with NASA facility managers and emergency planning and response officials and their representatives. Fire wardens shall be trained in accordance with JPG 1700.1. The roster shall be maintained by letter to JSC Occupational Safety with copies to the Contracting Officer and COTR. The initial letter shall be received by the Government not later than 15 days after contract start.

1.5.4. Designated Safety Official - identify by title the official(s) responsible for implementation of this plan and all formal contacts with regulatory agencies and with NASA.

1.6. Provision of Authority. Describe consistency of the plan for compliance with applicable NASA and JSC requirements and contractual direction as well as applicable Federal, state, and local regulations and how compliance shall be maintained throughout the life of the contract.

1.7. Accountability. Describe procedures for ensuring that management and employees shall be held accountable for implementing their tasks in a safe and healthful and environmentally compliant manner. The use of traditional and/or innovative personnel management methods (including discipline, motivational techniques, or any other technique that ensures accountability) shall be referenced as a minimum and described as appropriate.

1.8. Program Evaluation. The program evaluation consists of:

1.8.1. Participation in a Performance Evaluation Profile (PEP) survey at the request of the Government. The PEP survey normally shall be scheduled and administered at the discretion of the Government. If the Government chooses not to do the PEP in a given year, the contractor may at its option initiate its own PEP by contacting JSC Occupational Safety for assistance. The contractor shall not be required to take two or more PEP surveys in any contract year.

1.8.2. [Reserved.]

1.8.3. A written self-evaluation report to be delivered by Sept 30 of each year. The self-evaluation shall follow the VPP program evaluation report format found in OSHA TED 8.1, Revised Voluntary Protection Programs (VPP) Policies and Procedures Manual, Appendix H, "Format for Program Evaluation Report", as mandated by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to OSHA in lieu of writing a new self -evaluation provided that all action plans and status are

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updated. The self-evaluation shall as a minimum cover the elements of the approved safety and health plan.

1.8.4. Miscellaneous Reports. The contractor shall acknowledge the following as standing requests of the Government and to be handled as described below.

a. Roster of Terminated Employees. Identify personnel terminated by contractor. Send to the JSC Occupational Health Officer no later than 30 days after the end of each contract year or at the end of the contract, whichever is applicable. At the contractor's discretion, the report may be submitted for personnel changes during the previous year or cumulated for all years. Information required:

(1) Date of report, contractor identity and contract number.

(2) For each person listed, provide name, social security number, and date of termination.

(3) Name, address, and telephone number of contractor representative to be contacted for questions or other information.

b. Material Safety Data. The contractor shall prepare and/or deliver Material Safety Data for hazardous materials brought onto Government property or included in products delivered to the Government. This data is required by the Occupational Safety and Health Administration (OSHA) regulation, 29 CFR 1910.1200, "Hazard Communication", EPA "Emergency Planning and Community Right-to-Know (EPCRA, ref. 40 CFR 302, 311, 312); and the Texas Department of Health (TDH, ref. Chapters 505-507 of the Health and Safety Code), and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. 1 copy of each MSDS shall be sent upon receipt of the material for use on NASA property to the JSC Central Repository, Occupational Health and Test Support along with information on new or changed locations and/or quantities normally stored or used. If the MSDS arrives with the material and is needed for immediate use, the MSDS shall be delivered to the Central Repository by close of business of the next day after it enters the site.

c. Hazardous Materials Inventory. The contractor shall compile an inventory report of all hazardous materials it has located on Government property not less than annually, and which is within the scope of 29 CFR 1910.1200, "Hazard Communication"; and Federal Standard 313 (or FED-STD-313), "Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities", as revised. The call for this annual inventory and instructions for delivery shall be issued by the JSC Occupational Health and Test Support Office. This information shall use the format used by JSC for chemical inventory compilation to provide the following:

(1) the identity of the material;

(2) the location of the material by building and room;

(3) the quantity of each material normally kept at each location

(4) peak quantity stored

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(5) actual or estimated rate of annual usage of each chemical

1.9. Government Access to Safety and Health Program Documentation. The contractor shall recognize in its plan that it shall be expected to make all safety, health, and environmental documentation (including relevant personnel records) available for inspection or audit at the Government's request. Electronic access by the Government to this data is preferred as long as Privacy Act requirements are met and Government safety and health professionals and their representatives have full and unimpeded access for review and audit purposes. For contractor activities conducted on NASA property, the contractor shall identify what records it shall make available to the Government in accordance with the Voluntary Protection Program criteria of OSHA as implemented in JPG 1700.1, "JSC Safety and Health Handbook", as revised. For the purpose of this plan, safety, health, and environmental compliance documentation includes but is not limited to logs, records, minutes, procedures, checklists, statistics, reports, analyses, notes, or other written or electronic document which contains in whole or in part any subject matter pertinent to safety, health, environmental protection, or emergency preparedness.

1.10. The contractor may be requested to participate in the review and modification of safety requirements that are to be implemented by the Government including any referenced documents therein. This review activity shall be implemented at the direction of the NASA COTR in accordance with established NASA directives and procedures.

1.11. Procurement. Identify procedures used to assure that procurements are reviewed for safety, health and environmental compliance considerations and that specifications contain appropriate safety criteria and instructions. Set forth authority and responsibility to assure that safety tasks are clearly stated in subcontracts.

1.12. Certified Professional Resources. Discuss your access to certified professional resources for safety, health, and environmental protection. Discuss their roles in motivation/awareness, worksite analysis, hazard prevention and control, and training.

2. WORKSITE ANALYSIS. Hazards shall be systematically identified through a combination of surveys, analyses, and inspections of the workplace, investigations of mishaps and close calls, and the collection and trend analysis of safety and health data such as: records of occupational injuries and illnesses; findings and observations from preventive maintenance activities; reports on hazardous substance spills and inadvertent releases to the environment; facilities related incidents related to partial or full loss of systems functions; etc. Hazards identified by any of the techniques identified below shall be ranked and processed in accordance with JPG 1700.1. All hazards on NASA property, which are immediately dangerous to life or health, shall be reported immediately to the Occupational Safety Office. All safety engineering products that address operations, equipment, etc., on NASA property shall be subject to JSC SR&QA review and concurrence unless otherwise waived by the JSC Occupational Safety Office.

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2.1. Industrial Hygiene. Describe your industrial hygiene program and how it shall be coordinated with the JSC government provided resources for industrial hygiene. In the event corporate resources are used to determine workplace exposures, copies of all monitoring data shall be provided to JSC Occupational Health within 15 days of receipt of results.

2.2. Hazard Identification. Describe the procedures and techniques to be taken to compile an inventory of hazards associated with the work to be performed on this contract. This inventory of hazards shall address the work specified in this contract as well as operations and work environments in the vicinity or in close proximity to contract operations. The results shall be reported to the Government in a manner suitable for inclusion in facilities baseline documentation as a permanent record of the facility. Specific techniques to be considered include:

2.2.1. Comprehensive Survey – A "wall to wall" engineering assessment of the work site including facilities, equipment, processes, and materials (including wastes – (TNRCC/EPA solid & hazardous, radioactive, explosives, medical-infectious-biological).)). The comprehensive survey shall establish a baseline of hazards that may put contract assets at risk as early as is feasible, preferably at contract start.

2.2.2. Change (Pre-use) Analysis – Typically addresses modifications in facilities, equipment, processes, and materials (including waste); and related procedures for operations and maintenance. Change analyses periodically shall be driven by new or modified regulatory and NASA requirements.

2.2.3. Hazard Analysis – may address facilities, systems/subsystems, operations, processes, materials (including waste), and specific tasks or jobs. Analyses and report formats shall be in accordance with JSC 17773, "Preparing of Hazard Analyses for JSC Ground Operations."

2.3. Inspections.

2.3.1. Routine Inspections. Includes assignments, procedures, and frequency for regular inspection and evaluation of work areas for hazards and accountability for implementation of corrective measures. The contractor shall describe administrative requirements and procedures for control of and regularly scheduled inspections for fire and explosion hazards. The contractor has the option, in lieu of this detail, to identify policies and procedures with the stipulation that the results (including findings) of inspections conducted on NASA property or involving Government furnished property shall be documented in safety program evaluations or the monthly Accident/Incident Summary reports. Inspections shall identify

a. Discrepancies between observed conditions and current requirements, and
b. New (not previously identified) or modified hazards.

2.3.2. Protective Equipment. Set forth procedures for obtaining, inspecting, and maintaining all appropriate protective equipment, as required, or reference written procedure pertaining to this subject. Set forth methods for keeping records of such inspections and maintenance programs.

2.4. Employee Reports of Hazards – identification of methods to encourage employee reports of hazardous conditions (e.g., close calls) and analyze/abate hazards. The contractor shall describe steps it shall take to create reprisal-free employee

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reporting with emphasis on management support for employees and describe methods to be used to incorporate employee insights into hazard abatement and motivation / awareness activities.

2.5. Accident and Record Analysis.

2.5.1. Mishap Investigation – identification of methods to assure the reporting and investigation of mishaps including corrective actions implemented to prevent recurrence. The contractor shall describe the methods to be used to report and investigate mishaps on NASA property and on contractor or third party property. The contractor shall describe its procedures for implementing use of NASA forms as specified in JPG 1700.1 and alternate forms used by contractor with emphasis on timely notification of NASA; investigation procedures; exercise of jurisdiction over a mishap investigation involving NASA and other contractor personnel; follow up of corrective actions; communication of lessons learned to NASA; and solutions to minimize duplications in reporting and documentation including use of alternate forms, etc. The contractor shall discuss its procedures for immediate notification requirements for fires, hazardous materials releases, and other emergencies. The contractor shall include appropriate details to address the use of NASA Form 1627, "Mishap Report" (or equivalent), including 24-hour and ten-day mishap reports to JSC Occupational Safety. Note: the NASA Form 1627 is not attached since it is a three part carbonless form not conducive to reproduction. This form can be obtained from JSC's Printing Services.

2.5.2. Trend Analysis – describe approach to performing trend analysis of data (occupational injuries and illnesses; facilities, systems, and equipment performance; maintenance findings; etc.) Discuss methods to identify and abate common causes indicated by trend analysis. In support of site-wide trend analysis to be performed by the Government, the contractor shall discuss method of providing data as follows:

a. Accident/Incident Summary Report. The contractor shall prepare and deliver Accident/Incident Summary Reports as specified on JSC Form 288, "Accident / Incident Statistics" (attached), as revised. All new and open mishaps, including vehicle accidents, incidents, injuries, fires, and close calls shall be described in summary form along with current status. Negative reports are also required monthly. Report frequency is monthly; Date due is the 10th day of the month following each month reported. Report to be delivered to the JSC Safety, Reliability, and Quality Assurance Office through the Occupational Safety Office by fax to 281-244-0426 or by attaching to an e-mail and transmitting to mishaps@ems.jsc.nasa.gov.

b. Log of Occupational Injuries and Illnesses. For each establishment on and off NASA property that performs work on this Contract, the Contractor shall deliver to the Government a copy of its annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. Copy of all summaries as required above under Contractor's cover letter. If contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor's format is acceptable (such as

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loss runs from insurance carrier) which contains the data required by JSC Form 288. Data shall be compiled and reported by calendar year and provided to the Government within 45 days after the end of the year to be reported (e.g. not later than February 15 of the year following.)

3. HAZARD PREVENTION AND CONTROL. Identified hazards shall be eliminated or controlled. In the multiple employer environment of the center, it is required that hazards including discrepancies and corrective actions be collected in a center wide information system (Hazard Abatement Tracking System (HATS) for risk management purposes. Describe your approach to implementing this requirement.

3.1. Appropriate Controls. Discuss approach to consideration and selection of controls. Discuss use of hazard reduction precedence sequence (see JPG 1700.1). Discuss approach to identifying and accepting any residual risk. Discuss implementation of controls including verifying effectiveness. Discuss scope of coverage (hazardous chemicals, equipment, discharges, waste, energies, etc.). Discuss need for coordination with safety, health, environmental services, and emergency authorities at NASA.

3.2. Hazardous Operations and Processes. Establish methods for notification of personnel when hazardous operations and processes are to be performed in their facilities or when hazardous conditions are found to exist during the course of this contract. JPG 1700.1 shall serve as a guide for defining, classifying, and prioritizing hazardous operations; 29 CFR 1910.119 shall be the guide for hazardous processes. Develop and maintain a list of hazardous operations and processes to be performed during the life of this contract. The list of hazardous operations and processes shall be provided to JSC as part of the plan for review and approval. JSC and the Contractor shall decide jointly which operations and processes are to be considered hazardous, with JSC as the final authority. Before hazardous operations or processes commence, the Contractor shall develop a schedule to develop written procedures with particular emphasis on identifying the job safety steps required. NASA shall have access on request to any contractor data necessary to verify implementation. For all identified operations or processes that may have safety or health implications outside contract operations, the contractor shall identify such circumstances to the JSC Occupational Safety Branch and Occupational Health and Test Support Office who shall provide additional instructions for further NASA management review and approval.

3.3. Written Procedures. Identification of methods to assure that the relevant hazardous situations and proper controls are identified in documentation such as inspection procedures, test procedures, etc., and other related information. Describe methods to assure that written procedures are developed for all hazardous operations, including testing, maintenance, repairs, and handling of hazardous materials and hazardous waste. Procedures shall be developed in a format suitable for use as safety documentation (such as a safety manual) and be readily available to personnel as required to correctly perform their duties.

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3.4. Hazardous Operations Permits. Identify facilities, operations and/or tasks where hazardous operations permits shall be required as specified in JPG 1700.1 such as confined space entry, hot work, etc.) Set forth guidance to adhere to established NASA JSC procedures. Clearly state the role of the safety group or function to control such permits.

3.5. Operations Involving Potential Asbestos Exposures. Set forth method by which compliance is assured with JSC Asbestos Control Program as established in JPG 1700.1, as revised, and JPG 8800.1, "Asbestos Control Manual," as revised.

3.6. Operations Involving Exposures to Toxic or Unhealthful materials. Such operations shall be evaluated by the JSC Occupational Health Office and shall be properly controlled as advised by same. JSC Occupational Health Office shall be notified prior to initiation of any new or modified operation potentially hazardous to health.

3.7. Environmental Operations & Activities

3.7.1. Operations Involving Hazardous Waste. Identify procedures used to manage hazardous waste from point of generation through disposal. Clearly identify divisions of responsibility between contractor and NASA for hazardous waste generated throughout the life of the contract. Operations that occur on site at JSC, SCTF, or Ellington Field shall be evaluated by the JSC Environmental Services Office and shall be properly controlled as advised by same. JSC Environmental Services Office shall be notified prior to initiation of any new or modified operations, equipment, systems, or activities generating new hazardous wastes or where the chemicals change or there are volume increases of 25% or more on site at JSC, SCTF, or Ellington Field.

3.7.2. Operations Involving New or Modified Emissions/Discharges to the Environment. Set forth methods for identifying new or modified emissions/discharges and coordinating results with the Environmental Services Office. Set forth a plan of procedures to conduct pollution prevention, waste minimization or source reduction/elimination of environmental pollution. Address management and continuous improvement for the reduction of hazardous materials; substitution of non-hazardous or less hazardous materials for hazardous materials; proper segregation of hazardous wastes from non-hazardous wastes; and other methods described by NASA, EPA, GSA, and Executive Order recycled content / affirmative procurement purchases. The Environmental Office is the single point of contact for coordinating all JSC environmental permits Emphasis shall be placed on providing for sufficient lead-time for processing permits through the appropriate state agency and/or the Environmental Protection Agency.

3.8. Discuss your responsibilities for maintaining facilities baseline documentation in accordance with JSC requirements. The contractor shall implement any facilities baseline documentation tasks (including safety engineering) as provided in the contractor's plan approved by NASA or as required by Government direction.

3.9. Preventive Maintenance. Discuss approach to preventive maintenance. Describe scope, frequency, and supporting rationale for your preventive maintenance program including facilities and /or equipment to be emphasized or de-emphasized. Discuss methods to promote awareness in the NASA community (such as alerts, safety flashes, etc.) when preventive maintenance reveals design

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or operational concerns in facilities and equipment (and related processes where applicable).

3.10. Medical (Occupational Healthcare) Program. Discuss your medical surveillance program and injury /illness case management to evaluate personnel and workplace conditions to identify specific health issues and prevent degradation of personnel health as a result of occupational exposures. Discuss approach to Cardiopulmonary Resuscitation (CPR), first aid, and, return to work policies and the use of government provided medical and emergency facilities for the initial treatment of occupational injuries/illnesses.

3.11. Hazard Correction and Tracking. Discuss your system for correcting and tracking safety, health, and environmental hazards with particular emphasis on integration with JSC's Hazard Abatement Process (found online at http://wwwsrqa.jsc.nasa.gov/HATS/). (The scope is restricted to establishments at JSC, Sonny Carter Training Facility, and Ellington Field.) This includes the following:

3.11.1. Personnel awareness of hazards. Discuss your approach to communicate unsafe conditions and approved countermeasures to your employees. Discuss your approach to communicating such conditions to the Government and other contractors whose personnel may be exposed to such unsafe conditions. Discuss communications with facility managers. Discuss use of the NASA Lessons Learned Information System for both obtaining lessons from other sources and as a repository for lessons learned during performance of the contract.

3.11.2. Interim and Final Abatement Plans. Describe how you shall approach interim and final abatement of hazards. Describe how you shall provide data to the JSC Hazard Abatement Tracking System for all hazards that are not finally abated (all interim and final abatement actions completed) within 30 days of discovery. Discuss your approach to posting such plans using JSC Form 1240, "JSC Notice of Safety or Health Hazard and Action Plan", or equivalent. Discuss compatibility of your system with JSC's the role of facility managers in abatement planning, implementation, and verification.

3.12. Disciplinary System. Describe your system for ensuring safety and health discipline in your personnel (including subcontractors). Describe your approach to modifying personnel behaviors when personnel are exhibiting discrepant safety and health performance.

3.13. Emergency Preparedness. Discuss approach to emergency preparedness and contingency planning which addresses fire, explosion, inclement weather, environmental spill /releases, etc. Discuss compliance with 29 CFR 1910.120 (HAZWOPER) and role in JSC Incident Command System (see JPG 1700.1 for details). Discuss methods to be used for notification of JSC emergency forces including emergency dispatcher, safety hotline, director's safety hotline, etc. Discuss establishment of pre-planning strategies through procedures, training, drills, etc. Discuss methods to verify emergency readiness.

4. SAFETY AND HEALTH TRAINING. Describe the contractor's training program including identification of responsibility for training employees to assure understanding of safe work practices, hazard recognition, and appropriate responses for protective and/or emergency countermeasures, including training to

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meet federal, state, and local regulatory requirements. In doing so, the contractor shall factor parallel requirements found in other mandates such as environmental protection [example: 29 CFR 1910.38 for emergency action plans and fire prevention plans versus EPA Resource Conservation & Recovery Act (RCRA) for Emergency Planning and Community Right-to-know (EPCRA).] Describe approach to identifying training needs including trace ability to exercises such as job safety analyses, performance evaluation profiles, hazard analyses, mishap investigations, trend analyses, etc. Describe approach to training personnel in the proper use and care of protective equipment (PPE). Discuss tailoring of training towards specific audiences (management, supervisors, and employees) and topics (safety orientation for new hires, specific training for certain tasks or operations). Discuss approach to ensure that training is retained and practiced. Discuss personnel certification programs. Certifications shall include documentation that training requirements and physical conditions have been satisfied (examples include physical examination, testing, and on-the-job performance). Address utilization of JSC safety and health training resources (such as asbestos worker training/certification, hazard communication, confined space entry, lockout/tag out, etc.) as appropriate with particular emphasis on programs designed for the multiple employer work environment on NASA property. All training materials and training records shall be provided to NASA, and other federal, State, and local agencies for their review upon request. If the contractor wishes to train their personnel in any regulatory mandated training, an agreement shall be secured with JSC Occupational Safety Branch and Occupational Health and Test Support office prior to beginning training. The agreement shall ensure that safety and health training resources available from NASA are utilized where appropriate and to ensure that contractor-supplied training is in agreement with JSC safety and health processes.

c. Format:
   1. Cover page - to include as a minimum the signatures of Contractor's project manager and designated safety official (if different); NASA COTR; JSC Occupational Safety Branch; and the NASA Contracting Officer. Other signatures may be required at the discretion of the Government.
   2. Table of Contents. See content above
   3. Body of plan - as required. Contractor's format is acceptable but shall be traceable to the elements of the content below.
   4. When preparing its plan, the offeror/contractor is expected to review all the items above and tailor its plan accordingly. Certain requirements set forth in this DR may be specific for contractor operations performed at JSC, Ellington Field, or Sonny Carter Training Facility in the Clear Lake, Texas, area; tailoring of the plan to the requirements of specific establishments is acceptable. The plan shall clearly identify those resources to be provided by the contractor and provided by the Government. This review and supporting rationale is to be made available to the Government as part of this plan. It can be documented as a checklist or outline, inserted directly in the body of the plan, or in any format developed by the contractor that clearly conveys the results of this review including the basis for any underlying assumptions.

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5. Authority: FAR 52.223-1 through -5, -10; NFS 18-23.70, 18-52.223-70, 18-52.223-73.

i. Distribution: per Contracting Officer's letter

9. Maintenance - The contractor may revise the plan at any time or at the direction of the Government. Revisions are subject to Government review and approval. Distributions of approved revisions shall be as described above.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0031
2.	DRD Title:	Safety and Health Program Self Evaluation
3.	Data Type:	2
4.	Page:	1 / 2

5. Description/Use - Self evaluation of Contractor's safety and health program performance

   a. SOW Ref.: 1.3.2.2

6. Submission:
   a. Initial – NA
   b. Final – Sept 30 of each year
   c. Approval – NA
   d. Submission Frequency - annual

7. Applicable Documents, latest version: JPG 1700.1

8. Data Preparation Information:
   a. Scope – The Contractor shall conduct an annual self-evaluation of its safety and health program as required by its safety and health plan.
   b. Content –
      i. The internal assessment of safety and health program effectiveness during the report period (i.e., the previous year) indicating the status of goals or objectives previously established and areas of strength and weakness in Contractor safety program performance.
      ii. Safety and health concerns and resolutions relating to JSC operations, which may have been identified during the report period.
      iii. Unresolved safety and health concerns relating to JSC operations which the Contractor feels merit attention of JSC safety and health management.
      iv. The goals and objectives of the Contractor safety and health program for the next report period.
      v. An analysis of the contractor's performance, at JSC-administered establishments, in each of the 32 Voluntary Protection Program sub-elements as found in the Federal Register of July 24, 2000 (available at the following link): http://www.osha-slc.gov/FedReg_osha_data/FED20000724A.html
      vi. Action plans shall be attached for identified problem areas. Action plans shall include schedule for periodic progress reports to the Government. Frequency of status reports shall to be agreed to by the Government and the Contractor for each problem area.
   c. Format: as specified in OSHA TED 8.1, "Revised Voluntary Protection Programs (VPP) Policies and Procedures Manual", Appendix H (Program Evaluation Report), Attachment 2 (VPP Onsite Evaluation Format for Safety and Health Programs) for a STAR work site

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which is found at the following link: http://www.osha-slc.gov/OshDoc/Directive_data/TED_8_1A.html. Also, as mandated by the cognizant OSHA regional office. Contractors who have submitted a written self-evaluation as a VPP site may submit their original report to OSHA in lieu of writing a new self - evaluation provided that all action plans and status are updated.

d. Distribution: per Contracting Officer's letter

9. Maintenance - NA

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0032
2.	DRD Title:	Monthly Safety and Health Metrics
3.	Data Type:	2
4.	Page:	1 / 2

5. Description/Use - Establishes selected Safety and Health Program metrics. The Office of Primary Responsibility for this DRD is the JSC Safety, Reliability, and Quality Assurance Office

   a. SOW Ref.: 1.3.2.2

6. Submission:
   a. Initial – a month after contract start
   b. Final – at contract end
   c. Approval – N/A
   d. Submission Frequency - Monthly by 10th of month following month being reported.

7. Applicable Documents, latest version:
   a. DRD MSOC-JSC-0030
   b. Refer to JPG 1700.1 and OSHA requirements for definitions of terms below.
8. Data Preparation Information:
   a. Scope – The scope of the information required is limited to the JSC-administered establishments of Houston Texas at NASA Parkway; Sonny Carter Training Facility; and Ellington Field.
   b. Content –

I. Management Commitment and Employee Involvement.

Date of Management Safety Committee Meeting		Type/Title of Meeting	No. of Managers attending		No. of supervisors attending		No. of non-supervisory attending	
This month	Year to date		This month	Year to date	This month	Year to date	This month	Year to date

Include electronic copies of minutes or representative information

No. of Employee Safety Meeting		Type/Title of Meeting	No. of Employees attending		No. of managers/supervisors attending	
This month	Year to date		This month	Year to date	This month	Year to date

Include electronic copies of minutes or representative information

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II. Worksite Analysis. Refer to JPG 1700.1 for definitions of terms.

Division	No. of Hazard Analyses				No. of Job Safety Analyses				No. of Routine Inspections			
	Required		Performed		Required		Performed		Required		Performed	
	This month	Year to Date	This month	Year to Date	This month	Year to Date	This month	Year to Date	This month	Year to Date	This month	Year to Date
Total												

III. Hazard Prevention and Control - hazards below were found during routine and special inspections, close calls, mishap investigations, etc., and require correction.

No. of Hazards found			No. of Hazards closed <30 days			No. of Hazards open <30 days	No. of Hazards open >30 days			No. of Hazards closed >30 days			No. of JF1240s in place
Prior to month	This month	Year to date	Prior to month	This month	Year to date		Prior to month	This month	Year to date	Prior to month	This month	Year to date	

Attach copies (electronic ok if sent by e-mail) of JF 1240's (or equivalent) including monthly updates. Mark JF 1240's where abatement has been completed as closed.

IV. Safety and Health Training - List courses specific to loss control initiatives (such as slips/trips falls, material handling; etc.) Report other training as "Generic safety training not otherwise specified" (examples include Hazard Communication, Confined Space entry, HAZWOPER, system safety, job safety analysis, etc.) Do not include job proficiency course work where safety is an issue (such as radiography, welding, painting, etc.)

Course Title	No. to be Trained	No. Trained	On Schedule

c. Format: Electronic to Occupational Safety Branch, Occupational Health Officer; hard copy to COTR. Send as Excel spreadsheet or in tables compatible with MS Word.

d. Distribution per Contracting Officer's letter

9. Maintenance - NA

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0033
2.	DRD Title:	System Safety Program Plan
3.	Data Type:	1
4.	Page:	1 / 4

5. Description/Use - Establishes system safety tasks and activities to identify, evaluate, and eliminate or control hazards associated with space flight hardware and related operations.

   SOW Ref.: 1.3.2.2

6. Submission:
   a. Initial -Due with proposal
   b. Final – Due 60 days after contract award
   c. Approval – Start of contract
   d. Submission Frequency – as required

7. Applicable Documents, latest version:
   a. NPG 8715.3 "Safety Manual"
   b. JPG 1700.1, "JSC Safety and Health Handbook."
   c. MIL-STD-882, "System Safety Program for Systems and Associated Subsystems and Equipment, General Requirements for"
   d. NSTS 5300.4, 1D-2, "Safety, Reliability, Maintainability, and Quality Provisions for the Space Shuttle Program." (Note: also used by the Space Station program.)
   e. JSC 17773, "Instruction for Preparation of Hazard Analyses for JSC Ground Operations."
   f. NSTS 1700.7, "Safety Policy and Requirements for Payloads Using the Space Transportation System."
   g. 45 SPW HB S-100/KHB 1700.7, "Space Transportation System Payload Ground Safety Handbook."
   h. NSTS 22254, "Methodology for Conduct of Space Shuttle Program Hazard Analyses."
   i. JESA 30000, Section 9, "Product Assurance Requirements."
   j. SSP 30309, "Safety Analysis and Risk Assessment Requirements Document."

8. Data Preparation Information:
   a. Scope – Detailed System Safety requirements differ according to different flight programs. The elements of a System Safety Program Plan (SSPP) as outlined below are generic; refer to the appropriate applicable references listed above for specific program requirements. System Safety Program Plans are to be tailored for individual safety engineering projects as integral parts of a formal, disciplined system safety program plan implemented by the contractor.
   b. Content – System Safety Program Plan Requirements:
      1. Source Documents. The initial issue of the documents cited herein (including those of any applicable amendments and revisions) shall be as reflected in the contract schedule.

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2. General. The System Safety Program Plan shall be documented in narrative format and shall:

2.a Describe the scope of the project for which the safety engineering activity is to be tailored.

2.b Describe any interrelationships to other contract requirements, tasks and functional elements including appropriate cross references to minimize duplication.

2.c List the contractor and NASA documents, which shall be applied either as directives or as guidance in the conduct of the SSPP and related system safety tasks.

2.d Identify the system safety engineering requirements, tasks, and responsibilities on an item-by-item basis in accordance with the schedule.

3. Content.

3.1 System Safety Engineering Organization. The SSPP shall describe:

3.1.a The system safety organization or function within the organization of the contract including charts to show the organizational and functional relationships and lines of communication.

3.1.b The responsibility, authority, and accountability of system safety personnel and other contractor organizational elements (including subcontractors) involved in the system safety effort. Identify each organizational unit responsible for executing each task. Identify the authority in regard to resolution of all identified hazards. Include the title, address, and telephone number of the System Safety Program Manager.

3.1.c The staffing of the system safety organization for the duration of the project including manpower loading and qualifications of assigned key personnel.

3.1.d The procedures by which the contractor shall integrate and coordinate the system safety efforts. Include methods of dissemination of system safety requirements to action organizations and subcontractors; coordination of subcontractors' system safety programs; integration of hazard analyses; management and engineering reviews; program status reporting; and the identities and charters of any system safety groups.

3.1.e. The process through which contractor management decisions shall be made to include notification and subsequent actions for the following: critical and catastrophic hazards; corrective actions taken; mishaps or malfunctions; waivers to safety requirements; and program deviations.

3.1.f. The interfaces between the system safety organization and all other applicable disciplines such as Engineering, Occupational Safety and Health, Reliability, Quality

Assurance, Medical Support, etc., at all levels of the project (NASA, contractor, and subcontractor.)

3.2 System Safety Project Milestones. The SSPP shall:

3.2.a Identify safety milestones required accomplishing evaluations of the effectiveness of the system safety effort at critical safety checkpoints (such as design reviews, self-evaluations, operational readiness reviews, audits, etc.)

3.2.b Provide a contract schedule of safety tasks showing start and completion dates, reports, review, and man loading, in relationship to other contract milestones.

3.2.c To preclude duplication identify integrated system activities (i.e., design analyses, test, demonstrations, etc.) applicable to the system safety program but specified within other engineering tasks. Include as part of this section the estimated system safety manpower loading required to accomplish these integrated tasks.

3.3 System Safety Requirements. The SSPP shall:

3.3.a Describe or reference the methods that shall be used to identify and apply hazard control requirements and criteria for the design and operation of equipment, software, and facilities, and for procedures covering all phases of acquisition specified in the schedule. List the safety standards and system specifications, which are the sources of safety requirements with which the contractor either is required to comply or intends to adopt as a requirement.

3.3.b Describe the risk assessment procedures including the hazard severity categories, hazard probability (or frequency) levels, and the precedence to be followed in satisfying safety requirements. State any qualitative or quantitative measures of system safety, which the contractor is required to meet, including a description of the acceptable risk levels. Include system safety definitions, which are in addition to those in JSC documents or are unique to the project covered by the SSPP.

3.3.c Describe the management controls that shall be used to ensure compliance or justify waivers and deviations with general design and operational safety criteria and the closed loop procedures to ensure hazard resolution and control.

3.4 Hazard Analyses. The SSPP shall describe:

3.4.a The analysis techniques and format that shall be used in qualitative and quantitative analysis to identify hazards, their causes and effects, and recommended corrective actions.

3.4.b The depth to which each analysis technique shall be used within the system, operation, or scenario being analyzed. This description shall include identification of hazards associated with the system, subsystem, components, personnel, support equipment, government furnished equipment, facilities, and their interrelationships in the

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logistics support, training, maintenance, transportability, operational environments, and phase out or disposal.

3.4.c The integration of subcontractor hazard analyses and techniques within the overall project including contractor hazard analyses.

3.4.d The techniques to be used to establish a single closed loop tracking system.

3.5 System Safety Data. The SSPP shall:

3.5.a Describe the approach for researching, disseminating, and analyzing pertinent historical hazard or mishap data.

3.5.b Identify deliverable data and the level of approval required for customer acceptance. Attach a copy of the appropriate sheets from the data requirements list (DRL) of the schedule.

3.5.c Identify safety related non-deliverable data and describe the procedures for accessibility by NASA and the retention of data.

3.6 Safety Verification and Audits. The plan shall describe:

3.6.a The verification and audit requirements and procedures for ensuring that the objectives and requirements of the system safety program have been adequately demonstrated and implemented.

3.6.b The procedures for ensuring feedback of safety-pertinent information for management and engineering review and analysis.

3.6.c The review procedures established by the contractor's system safety organization to ensure safe conduct of hazardous tests with particular emphasis on those involving human test subjects.

3.7 Training. Describe techniques and procedures to be used by the contractor to ensure that the objectives and requirements of the system safety program are implemented in training for engineers, test subjects, technicians, operators, and support (including maintenance) personnel.

Authority. NFS 18-52.223-70, 18-52.223-73, 18-52.223-73 (Alt 1); JPI 52.223-92

c. Format: Contractor's electronic format is acceptable.
d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0041
2. DRD Title:	Quality Plan
3. Data Type:	1
4. Page:	1 / 2

5. Description/Use - The Quality Plan is used to document the specific details of the contractor's Quality Management System (QMS) related to a specific product or process

   SOW Ref.: 1.3.2.4

6. Submission:
   a. Initial – Due with Proposal
   b. Final – Start of contract + 30 days
   c. Approval – Start of contract + 90 days
   d. Submission Frequency – As required

7. Applicable Documents: latest version of ANSI/ISO/ASQ Q 9001-2000

8. Data Preparation Information:
   a. Scope – A contract specific Quality Plan shall be prepared which identifies activities performed both on-site and off-site of JSC to ensure the quality products and services. The Quality Plan is to be submitted with the Contractor's proposal. The plan shall be approved by the Contracting Officer concurrent with Contract award
   b. Content – The quality plan shall address each element of ANSI/ISO/ASQ Q 9001-2000 and the additional requirements identified below:
      i. Identify the methods, procedures, and controls that shall be used to ensure the quality, quantity, and timeliness of the required contract requirements.
      ii. Explain how training shall be provided to personnel responsible for quality assurance, quality engineering and software quality assurance on-site at JSC, including JSC processes for Discrepancy Reporting and Tracking, Work Authorization Documents (Task Performance Sheets) and Flight Equipment Pre-Shipment Readiness Review.
      iii. Explain in detail how in-line quality assurance (Quality Assurance, Quality Engineering, and Software Quality Assurance) shall be performed on-site at JSC. Include discussion of specific allocation of responsibilities, authority and resources.
      iv. Describe how controlled work instructions shall be provided to all applicable employees, on and off-site JSC.
      v. Explain how timely review of technical documents that affect quality and changes thereto shall be performed.
      vi. Describe participation including responsibilities/activities in design reviews.

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vii. Explain how quality aspects are ensured, and fully included in all designs and are continuously maintained in the fabricated articles and during operations.

viii. Explain and ensure how quality requirements are implemented and satisfied throughout all phases of contract performance, including preliminary and engineering design, development, subcontracting, fabrication, processing, assembly, inspection, test, checkout, packaging, shipping, storage, maintenance, field use, flight preparations, flight operations, and post-flight analysis, as applicable, on and off-site JSC.

ix. Explain how to ensure, monitor, measure, and control the quality of products produced by the contractor and subcontractors. Explain how you shall ensure that products, which do not conform to product requirements, are identified and controlled to prevent their unintended use or delivery.

x. Describe the methodology for inspection and test planning (economical and effective use of personnel, facilities and equipment) for both off and on-site.

xi. Describe the methodology/criteria for assigning itinerate or resident quality assurance personnel at subcontractor or supplier facilities.

xii. Explain how the monitoring and measuring, and cross-utilization of personnel will be performed to assure that contract products and services shall not be negatively affected.

xiii. Describe your techniques, procedures, and mechanisms to ensure quality output despite schedule and/or priority pressures.

xiv. Provide and explain the schedule, including milestones, outlining your plan on accomplishing ANSI/ISO/ASQ Q 9001-2000 compliance within one year of the contract award date.

xv. Explain how inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements shall be established.

xvi. Explain how to verify that all personnel performing work affecting product quality are competent as a result of appropriate education, training, skills, and experience. In addition explain the system that shall be used to monitor and maintain this level of personnel competency required during the duration of the contract.

xvii. Describe the responsibilities and requirements for planning and conducting audits (internal and external), and for reporting results and maintaining records.

xviii. Explain the process of involvement in waivers and deviations when quality assurance is affected.

xix. Explain the methods for measuring the achievement of your quality objectives.

c. Format: - The Quality Plan format shall match the elements of the ANSI/ISO/ASQ Q 9001-2000.

d. Distribution: per Contracting Officer's letter

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9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0042
2.	DRD Title:	Software Quality Assurance Plan & Reports
3.	Data Type:	Plan =1 Reports = 2
4.	Page:	1 / 2

5. Description/Use - Software assurance planning is used to document the software assurance activities to be performed during the life cycle phases. Reports document the status of the activities.

   SOW Ref.: 1.3.2.4

6. Submission:
   a. Initial – Start of contract + 15 days
   b. Final – Start of contract + 45 days
   c. Approval – Start of contract + 90 days
   d. Submission Frequency - Review as required, annually at a minimum. Reports due Monthly.

7. Applicable Documents, latest version:
   a. Certification Data Package (CDP);
   b. Problem Reporting and Corrective Action (PRACA)
   a. NASA-STD-2201-93, Software Assurance Standard
   b. NPD 2820.1, NASA Software Policies
   c. NASA-STD-2100-91, NASA Software Document Standard
   d. ANSI/ISO/ASQ Q9001-2000 - Quality Systems –Aerospace- Model for Quality Assurance in Design, Development, Production, Installation, and Serving.
   e. Other approved vendor/contractor, international, U.S., or Military Standards
   f. Project planning documents per the SOW (Statement of Work)
   g. JSC 27291, GFE Software Design, Development, Test and Evaluation Work Instruction

8. Data Preparation Information:
   a. Scope – Software Assurance includes Quality Assurance, Quality Engineering, Verification and Validation, Nonconformance Reporting and Corrective Action, Safety Assurance, Software Reliability and Security Assurance. Software Assurance activities are conducted during the software development life cycle. The phases of the software development life cycle are:
      i. Concept and Initiation Phase
      ii. Requirements Phase
      iii. Design Phase
      iv. Implementation Phase
      v. Integration and Test Phase
      vi. Acceptance and Delivery Phase
      vii. Operations/Maintenance Phase

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Software Quality Assurance applies to all software developed for NASA, including:

i. deliverable software,
ii. software included as part of deliverable hardware (including firmware),
iii. non-deliverable software (Commercially available or user-developed) used for development, fabrication, manufacturing process control, testing, or acceptance of deliverable software or hardware (test and acceptance software; software design, test, and analysis tools; compilers, etc.)
iv. Commercially available (COTS), reused, or government-furnished software (GFS)

b. Content – Contractor shall provide a Software Assurance Plan in accordance with M400 as contained in NASA-STD-2100-91. The Software Assurance Plan shall identify the software assurance approval authority responsible for the establishment and composition of all software baselines and any changes to the baseline. (Per NASA-STD-2201-93 section 3.2.6.). Contractor shall provide software assurance activity reports in accordance with R008 as contained in NASA-STD-2100-91.
c. Format: - Contractor's format.
d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENT DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0044
2. DRD Title:	Government Industry Database for Electronic Parts (GIDEP) and NASA Advisory Problem Data Sharing and Utilization Program Documentation and Reporting
3. Data Type:	2
4. Page:	1 / 3

5. Description/Use - This DRD provides the minimum information to be incorporated into the contractor's and sub tier contractor implementation procedures and contractual data reporting requirements to comply with the requirement to participate in GIDEP and NASA Advisory Problem Data Sharing and Utilization Program. Data types include:
   a. Contractor and sub tier implementation procedures.
   b. Preparation and submittal of GIDEP documents.
   c. Preparation and submittal of NASA Advisories.
   d. Task management, control, and tracking status.
   e. Milestone/mission support (assessment/impact status reports).
   f. Cost data on special problems (involving criminal investigations).

   SOW Ref.: 1.3.2.4

6. Submission:
   a. Initial –
      i. Contractor and sub tier implementation procedures (60 days after contract award).
      ii. Release of GIDEP documents (in compliance with GIDEP Operations Manual and Policy).
      iii. Release of NASA Advisories (in accordance with NASA policy).
      iv. Problem data assessments (30 days after receipt of the problem data).
      v. Milestone/mission support (as required to support the milestone or mission events).
      vi. Cost data (as required for special problems involving criminal investigations).
   b. Final – NA
   c. Approval – NA
   d. Submission Frequency - As required

7. Applicable Documents, latest version:
   a. SO300-BT-PRO-010 GIDEP Operations Manual and Policy.
   b. SO300-BU-GYD-010 GIDEP Requirements Guide
   c. NPG 8735.1 NASA Procedure and Guidelines, "Procedure for Exchanging Parts, Materials, and Safety Problem Data Utilizing the Government-Industry Data Exchange Program and NASA Advisories."
   d. Non-Conforming Parts and Materials Reports

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8. Data Preparation Information:
   a. Scope – Incidents involving non-conforming products or materials are to be reported through the GIDEP Reporting System to comply with Government Policy as defined by Office of Federal Procurement Policy, Policy Letter No. 91-3 (Appendix D of GIDEP Operation Manual, SO300-BT-PRO-010). Generic problems reported by GIDEP or NASA Advisory distribution networks shall be assessed to determine if there is a real or potential impact on the program or program assets. Generic problems experienced by the program or by program assets shall be reported in the GIDEP or NASA Advisory network, as appropriate. Management documentation shall be adequate to ensure that (1) the subject problem data are received, properly distributed, and thoroughly assessed for potential impact; (2) identified impact issues are resolved or corrected with NASA program management concurrence; (3) cost data for special problem issues are accumulated and reported; and (4) all this information is captured and retained in a database. Special controls shall be implemented to comply with the confidentiality of the problem reports involving criminal investigations. The implementation procedures shall address this special need for the control of information with the restricted distribution as well as the need to track and report the cost of the problem investigation and resolution.
   b. Content –
      i. The contractor and sub tier Implementation procedures shall provide details that shall ensure that the contractor understands and shall implement these procedures, which cover the scope; task importance; management responsibilities; technical expertise to identify and resolve any impacts; "special problem" information sensitivity; and documentation necessary to comply with GIDEP and NASA policies.
      ii. GIDEP documents are to comply with the GIDEP Operations Manual and Policy requirements for the appropriate document being prepared and released.
      iii. NASA Advisories are to comply with contents as required to complete the JSC NASA Advisory Form, JSC Form 1159 (JF1159), and to accurately report the problem and conditions.
      iv. Implementation documentation shall include an index of problem reports received and assessed for impact; hardware/systems/subcontractors subject to the assessments; status of the impact assessments by problem report by hardware/system/subcontractor; and corrective actions for problems with identified impacts, including (1) NASA program management involvement and concurrence, (2) required supporting documentation for all problems experienced on the program/project that meet the criteria for release of a GIDEP report or NASA Advisory and the released GIDEP reports and NASA Advisories, and (3) any other data required to comply with the applicable GIDEP and NASA documents.
      v. Details of the required milestone/mission support efforts and reports with the associated roles and responsibilities shall be provided.
      vi. Financial data to justify and substantiate any reported "cost impacts" are to be included.

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c. Format: - Electronic submittal is the preferred medium for providing access to or submittal of information and data under this DRD. Format guidelines are as follows:
   i. The contractor's format is acceptable for their internal implementation procedures.
   ii. GIDEP documents are to be prepared on the appropriate GIDEP form found in the GIDEP Operations Manual.
   iii. NASA Advisories are to be prepared on the JSC NASA Advisory Form, JF1159.
   iv. The contractor's format is acceptable for providing the "Task Management, Control, and Tracking Status," as long as it includes all the necessary information. An electronic database with access permission to appropriate NASA personnel is preferred.
   v. Formats for these reports are to comply with the applicable milestone/mission event.
   vi. f. Cost data are to be provided as required by the financial management reporting system and as necessary to substantiate the data being submitted in support of criminal investigations.

d. Distribution: per Contracting Officer's letter

9. Maintenance - Data shall be maintained as required to:
   a. Document the current implementation procedures and GIDEP and NASA Advisory policies.
   b. Ensure that the released GIDEP information is complete, factual, accurate, and up to date.
   c. Ensure that the released NASA Advisory information is complete, factual, accurate, and up to date.
   d. Tracking status provided periodically to demonstrate complete accomplishment of the task.
   e. Stay current and accurate or as requested to support management activities.
   f. Substantiate submitted costs or to include additional costs as they are identified.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0045
2.	DRD Title:	Nonconformance Record
3.	Data Type:	1
4.	Page:	1 / 2

5. Description/Use - To provide that all nonconformance are documented in consistent manner and to assure that all the necessary data is included and available

   SOW Ref.: 1.3.2.4

6. Submission:
   a. Initial – Due with Proposal
   b. Final – Due 90 days after contract award
   c. Approval – Due 180 days after contract award
   d. Submission Frequency – As required

7. Applicable Documents, latest version: Problem Reporting and Corrective Action (PRACA) for Johnson Space Center (JSC) Government Furnished Equipment (GFE), ANSI/ISO/ASQ Q 9001-2000

8. Data Preparation Information:
   a. Scope – This DRD establishes the minimum data elements necessary to provide records of the closed loop system for the control of nonconforming products. Nonconformance shall commence with initial receipt of materials or articles for the procurement and continue through all subsequent phases of the program. A nonconformance is defined as when an item fails to meet a specified requirement.
   b. Content – The record shall contain the following data elements:
      i. A unique and traceable number
      ii. Identification of the nonconforming article or material;
         1. Nomenclature
         2. Part identification number
         3. Serial no./Lot no./Version
         4. Manufacturer's name or the Manufacturer's Contractor and Government Entity (CAGE) code (preferable)
      iii. The date the nonconformance was discovered
      iv. The name of the initiator of the nonconformance record
      v. A description of the nonconformance including a description of the required characteristics or specification
      vi. The type of activity being conducted (e.g., fabrication, assembly, qualification test, system test, pre-delivery or pre-installation test, etc.,). Reference shall be made to applicable procedure numbers
      vii. When appropriate, identification of the next higher assembly
         1. Nomenclature
         2. Part identification number

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3. Manufacturer's name or the Manufacturer's CAGE code (preferable)

viii. Disposition of the nonconforming article or material;
ix. The signatures of the personnel authorized to provide disposition;
x. Verification that the prescribed disposition was acceptably completed; and
xi. When applicable, a cross-reference to an associated PRACA reports.

c. Format: - Contractor's format.
d. Distribution: per Contracting Officer's letter

9. Maintenance - Revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0046
2.	DRD Title:	Safety Lessons Learned
3.	Data Type:	2
4.	Page:	1 / 1

5. Description/Use - Obtains Lessons learned from Contractor for possible publication in NASA Lessons Learned Information System (LLIS)

   SOW Ref.: 1.3.2.2

6. Submission:
   a. Initial – N/A
   b. Final – N/A
   c. Approval – N/A
   d. Submission Frequency - 30 days after triggering event or 30 days after mishap investigation or hazard analysis / evaluation is completed.

7. Applicable Documents, latest version:
   a. DRD MSOC-JSC-0030

8. Data Preparation Information:
   a. Scope – Criteria for Selecting Lessons Learned. Uncommon insight arising from any event or observation that shall benefit from sharing with a larger community of interested parties. Lessons learned are intended to prevent recurrence of undesirable events and to allow NASA and its team members to capitalized to the greatest extent practical on unique successes.
   b. Content –
      i. Subject - one line subject of the lesson.
      ii. Lesson Learned - usually one sentence that describes insight gained
      iii. Description of Event - narrative of what happened.
      iv. Recommendations - may be an action plan, suggestion, etc., that was adopted at event source.
      v. Supporting documentation - as needed to give clear picture of lesson (photographs, illustrations, drawings, etc.)
      vi. Contact name and e-mail address (for follow up by Government prior to publication of lesson)
      vii. Definitions. Refer to NASA LLIS at http://llis.gsfc.nasa.gov/ for definitions of terms used.
   c. Format: Per Contractor format
   d. Distribution: per Contracting Officer's letter

9. Maintenance - NA

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0050
2. DRD Title:	Certificate of Flight Readiness Endorsement
3. Data Type:	2
4. Page:	1 / 1

5. Description/Use – To certify the completion of disposition of all contractor tasks and planned work required preparing the ground systems (i.e., ground hardware and software; support facilities and equipment; operational procedures; certified personnel; and service operators) to safely support a specific mission in accordance with NSTS 08117 and SSP 50108.

   SOW Ref.: 1.5.1.1.1 and 1.5.1.2.1

6. Submission:
   a. Initial – First Flight Readiness Review (FRR) after contract award
   b. Final – N/A
   c. Approval – NA
   d. Submission Frequency – Each Flight Readiness Review per MOD schedules

7. Applicable Documents, latest version:
   a. NSTS 08117 Certification of Flight Readiness Requirements
   b. SSP 50108 Certification of Flight Readiness for Space Station

8. Data Preparation Information:
   a. Scope – The COFR defines the contractor's responsibilities as well as product and process status for certifying readiness for launch, mission and landing operations.
   b. Content – Data shall include integrity metrics for all processes and products specified in the applicable documents, as well as necessary supporting data, required to satisfy the contractor's responsibilities and readiness to support the launch, mission and landing operations as defined in applicable documents, and other data per direction of the Flight Director Office.
   c. Format: In accordance with NSTS 08117 (Certificate of Flight Readiness Requirements) and SSP 50108 (Certification of Flight Readiness for Space Station).
   d. Distribution: per Contracting Officer's letter.

9. Maintenance – N/A

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0051
2. DRD Title:	Integrated Planning System (IPS) Facility Operations Procedures
3. Data Type:	2
4. Page:	1/ 2

5. Description/Use - This document provides the procedures by which the IPS contractor manages, operates, and maintains the on-site and off-site IPS platform and its standalone systems and subsystems to support the development, production, and direction of mission support activities. It also provides guidelines to the IPS users on IPS usage.

   SOW Ref: 1.5.1.2.4, 1.5.1.2.5, and 1.5.1.2.11

6. Submission:
   a. Initial – Start of contract + 60 days
   b. Final – Start of contract + 90 days
   c. Approval – NA
   d. Submission Frequency – Semi-annually

7. Applicable Documents, latest versions:
   i. Integrated Planning System (IPS) Facility Operations Procedures, MSOC-DRD-0051
   ii. Integrated Planning System Future Facility Change Plan, MSOC-DRD-0067
   iii. Emergency Preparedness and Disaster Recovery Plan, MSOC-DRD-0011
   iv. IPS Master External Interface Control Document (ICD), SFOC-FL0493
   v. Hardware Engineering Change Workflow, EM11
   vi. JSC Sustaining Engineering Procedures – JSC Reliability Engineering and Analysis, LOP-00237
   vii. MSOC Change Control Process, MSOC-DRD-0060
   viii. PRO-0129, MSOC Standard Operating Procedure for Software Engineering Process
   ix. JSC IT Security Handbook, JPG-2810.1
   x. SFOC Configuration Management Plan SFOC PG-9605
   xi. DOLILU Operations Support Plan, NSTS 08329 Vol. VIII
   xii. USA Houston Operations Disaster Recovery and Continuity of Operations Plan (DRCOP), USA000018
   xiii. MCC and IPS Operational Change Control Procedures, USA001235
   xiv. Flight Operations Reliability Engineering Operating Procedure Anomaly Reporting, Basic USA002304
   xv. IPS Multi-Purpose Support Room (MPSR) Configuration Management Plan, USA003377

8. Data Preparation Information:
   a. Scope:

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To identify and document the type and level of operations support provided for the IPS platform. This document includes the procedures used to manage, operate, and maintain an efficient platform for all IPS users and developers.

b. Content – This document shall provide the information the IPS contractor uses to manage, operate, and maintain the on-site and off-site IPS platform and its standalone systems and subsystems to support the development, production, and direction of mission support activities. It also provides the guidelines for the IPS users on how to use the IPS.
c. Format: - Contractor provided format is acceptable
d. Distribution: - per Contracting Officer's.

9. Maintenance – The Integrated Planning System (IPS) Facility Operations Procedures shall be reviewed and updated on a semi-annual basis, as appropriate, but revised, annually, at a minimum.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0053
2. DRD Title:	Training and Certification Plan
3. Data Type:	2
4. Page:	1/1

5. Description/Use – To describe the contractor's plans for training and certification of operational support personnel for the MCC (including BCC/HSR) and IPS facilities.

   SOW Ref.: 1.5.1.1.4 and 1.5.1.2.4

6. Submission:
   a. Initial – Start of contract + 15 days
   b. Final – Start of contract + 45 days
   c. Approval – N/A
   d. Submission Frequency – As required

7. Applicable Documents, latest version: DA-WI-16 (MOD Training and Certification Work Instruction)

8. Data Preparation Information:
   a. Scope – The certification and training plans shall delineate the specific training requirements required by personnel to become certified in operations support.
   b. Content – The training and certification plan shall generally follow the guidelines of DA-WI-16.
   c. Format: Contractor's format
   d. Distribution: distribution per the Contracting Officer's letter

9. Maintenance – The training and certification plan shall be updated to reflect any contract changes and revisions shall be incorporated by change page or complete reissue.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0060
2.	DRD Title:	Change Control Process and Plan
3.	Data Type:	1
4.	Page:	1 / 1

5. Description/Use - This process plan describes the change control process for modifications and sustaining changes to all the facilities and systems covered by this contract. SOW Ref.: 1.5.5.2.1

6. Submission:
   a. Initial – with proposal
   b. Final – Award + 60 days
   c. Approval – at contract start
   d. Submission Frequency – as required due to organizational restructures or process improvement activities.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The Change Control Process plan shall address all of the facilities, systems and subsystems covered by this contract. It shall include contractor, NASA, and other organizations roles and responsibilities. The plan shall address deliverables such as change control database and metric reports.
   b. Content – The process shall include submittal, NASA and contractor screening, impact assessment, NASA and contractor control board review and approval, authorization, and implementation status. Also included shall be quality assurance, security engineering and security assessment. Products of this plan would be the change control database and metric reports.
   c. Format: hardcopy and electronic format, JSC web domain accessible
   d. Distribution: per Contracting Officer's letter.

9. Maintenance - as required due to organizational restructures or process improvement activities.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0061
2. DRD Title:	Configuration Management Plan
3. Data Type:	1
4. Page:	1 / 2

5. Description/Use – The Configuration Management Plan shall prescribe the configuration management processes for hardware, software, and documentation to be implemented, methods to be utilized for configuration identification, interface control, documentation, and accounting.

   SOW Ref.: 1.5.5.2

6. Submission:
   a. Initial – due with proposal
   b. Final – Award + 60 days
   c. Approval – At contract start
   d. Submission Frequency – as required

7. Applicable Documents, latest version: ISO 10007

8. Data Preparation Information:
   a. Scope – A program specific Configuration Management Plan shall be prepared which defines the requirements, and identifies the activities to be carried out in order to achieve them.
   b. Content – The Configuration Management Plan shall contain those subjects listed in the Configuration Management paragraph of this SOW and the following as a minimum:
      i. The steps in the processes that constitute the operating practice of the organization (a flowchart or similar diagram can be used to demonstrate the elements of the process);
      ii. The specific allocation of responsibilities, authority, and resources during the different phases of the project;
      iii. The applicable documented procedures and instructions to be applied for the purpose of coordinating, defining, testing, monitoring, and controlling such things as floor plans, equipment lists, workstation configuration configurations, software loads and all technical interfaces.
      iv. Suitable testing, inspection, examination, and audit programs at appropriate stages (e.g., design and development) for maintaining integrity of hardware and software throughout their respective life cycle(s).
      v. A documented procedure for changes and modifications in the Configuration Management Plan as projects proceed;
      vi. Method for measuring the achievement of the objectives;

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vii. Other actions necessary to meet the objectives.
viii. Provisions for complying with the Quality Assurance supplements required in the Statement of Work.

c. Format: - Contractor format is acceptable
d. Distribution: per Contracting Officer's letter

9. Maintenance - Update as required due to configuration management process or procedure changes. Revisions shall be incorporated by change page or complete resubmit.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0062
2.	DRD Title:	Level A and B Requirements
3.	Data Type:	1
4.	Page:	1 / 1

5. Description/Use – The current Level A and B requirements for EOC, IPS, MCC, BCC and HSR shall be maintained. The requirements establish the functional and detailed requirements for each system and subsystem.

   SOW Ref.: 1.5.1.1.11, 1.5.1.2.11, 1.5.3.1.2

6. Submission:
   a. Initial – Starting October of each FY.
   b. Final – August of each FY.
   c. Approval – September of each FY.
   d. Submission Frequency - updated yearly on the above schedule or as agreed to by the NASA Project Manager.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The requirements packages shall be divided into system (Level A) and subsystem (Level B) functional requirements. System functional (Level A) requirements shall be provided separately for MCC, HSR/BCC, EOC and IPS. Subsystem functional (Level B) requirements shall be provided for each subsystem identified in the Level A requirements.
   b. Content – System functional (Level A) requirements shall identify the functions to be performed by major system and shall include a general description of the functional capabilities required; the relationship with other functions, the user interface requirements, including input and output characteristics, and planned functional uses. These requirements will be traceable to parent requirement. Subsystem functional (Level B) requirements shall include a complete description and allocation of the capabilities required of each subsystem. It shall identify subsystem interface requirements, including input and output data requirements, and performance. The subsystem Level B requirements shall describe the test and verification methodology and are traceable to the Level As. Detailed design specifications should not be included in the Level A requirements, but in the Design Specification.
   c. Format: Shall include, but not be limited to, the following sections: Introduction, Related Documentation, Assumptions and Constraints, Interface Requirements, Functional requirements, Performance, Human Factors, Security, Testing Methodology, Reliability, Maintainability, Availability, Trace ability, Acronyms, and a glossary.
   d. Distribution: – per contracting officer's letter

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9. Maintenance - The requirements are updated once a year, if required based upon system/subsystem changes.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0063
2.	DRD Title:	Interface Control Document
3.	Data Type:	internal – 2, external – 2 (relative to facility and it's systems/subsystems)
4.	Page:	1 / 1

5. Description/Use – The ICD is to define the technical and data interface between systems and/or subsystems internal or external to the IPS, MCC, HSR, BCC, CDE and GSDE systems. All the external and internal interfaces as defined in the MCC and IPS Level A and B requirements

   SOW Ref.: 1.5.1.1.11, 1.5.1.2.11, 1.5.2.2.8, 1.5.1.1.8, and 1.5.2.3.8

6. Submission:
   a. Initial – as required for each interface
   b. Final – within 60 days of initial submission
   c. Approval – within 90 days of initial submission
   d. Submission Frequency – as required due to changes.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – Separate ICDs shall be provided for each system and/or subsystem interfaces defined in the MCC and IPS Level A and Level B requirements.
   b. Content – The ICD shall define the data exchange requirements (input and output) between the specified systems and/or subsystems. This shall include data rates, volumes, frequencies, response times, performance expectations, sizing, and data format.
   c. Format: The ICD shall contain, but not be limited to, the following sections: Introduction, Applicable documents, Reference documents, Interface description and requirements, Security, Availability, Maintainability, and Reliability, Verification, Trace ability, Acronyms, and Glossary.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - The ICDs as required, based upon system/subsystem changes.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0065
2. DRD Title:	Systems Lifecycle Process
3. Data Type:	2
4. Page:	1 / 1

5. Description/Use - This process shall be prepared and approved for each of the Mission services functions and shall cover all hardware, software, and integration efforts being performed by the contractor. The process shall indicate the contractor's planned approach to managing the full end-to-end lifecycle of Mission services projects.

   SOW Ref.: 1.5.1.1.2, 1.5.1.1.3, 1.5.1.2.2 and 1.5.1.2.3.

6. Submission:
   a. Initial – prior to August of each FY.
   b. Final – August of each FY.
   c. Approval – September of each FY.
   d. Submission Frequency – yearly with updates as required

7. Applicable Documents, latest version:
   a. 71xx.x NASA System Engineering Processes and Requirements
   b. JPR 7120.3 JSC Procedural Requirements for Project Management: Systems Engineering and Project Control Processes and Requirements
   c. SE JPD 8090 JSC System Engineering Guidelines

8. Data Preparation Information:
   a. Scope – The process shall be prepared separately for the MCC (including BCC/HSR) and IPS mission services. It shall outline the contractor's methodology for project and system modification and sustaining. It shall define the full lifecycle of Mission services projects.
   b. Content – The process shall include, but not be limited to, the following tasks: requirement generation, design reviews, approval, decision points, contractor, NASA, and external organization roles and responsibilities, verification, acceptance, sustaining, operations, and replacement.
   c. Format: The process shall define the tasks listed above and provide a flow from generation to operations.
   d. Distribution: per Contracting Officer's letter.

9. Maintenance - This document shall be a working document and shall be maintained to reflect current management data and policies.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0066
2.	DRD Title:	Equipment Replacement Plan
3.	Data Type:	2
4.	Page:	1 / 1

5. Description/Use - The Equipment Replacement Plan is a two-part document. This document is required for strategic planning of equipment and system replacement due to non-maintainability. Part 1 is a 15-year forecast of equipment support and maintainability. Part II is a replacement proposal for specific equipment and/or systems identified in Part I. An NME Plan Part II is provided for each system that is identified in the NME Plan Part I.

   SOW Ref.: 1.5.5.1.4 Equipment Replacement

6. Submission:
   a. Initial – Prior to August of each FY.
   b. Final – September of each FY..
   c. Approval – NA
   d. Submission Frequency – Part I is submitted yearly, by August first. Part II is submitted as required.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The Equipment Replacement Plan Part I includes all the equipment in all the facilities under this contract. Equipment Replacement Plan Part II addresses only the specific equipment or system that is within 36 months of non-maintainability. Equipment or systems that total replacement costs (not per unit cost) is under $100,000 per government fiscal year is excluded from the Equipment Replacement Plan Part II requirement, with NASA Project Management approval.
   b. Content –Equipment Replacement Plan Part I is a list of all equipment maintained under this contract that is non maintainable in the next 15 years. It is based upon failure trend analysis, performance analysis, spares availability, required vendor support, availability of COTS software and/or licensing agreements. It contains a projection of equipment end of life and an estimate per government fiscal year as to the replacement cost. Equipment Replacement Plan Part II is a detailed system engineering study and replacement proposal to NASA. . It addresses current requirements, performance enhancements, and the strategic architecture team vision/tactical plan. It shall provide analysis and comparison of current technology availability and trends. The Part II plan would also address security, RMA, integration, and provide schedule. It also contains an estimate per government fiscal year of the lifecycle costs of the proposed replacement system.
   c. Format: deliverable document for both Part I and II. A summary of Part II will be provided as a presentation to NASA upon delivery of Part II documented study.
   d. Distribution: per Contracting Officer's letter

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9. Maintenance - updates as required.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.: MSOC-JSC-0067
2. DRD Title: Integrated Planning System (IPS) Future Facility Change Plan
3. Data Type: 2
4. Page: 1/ 2

5. Description/Use – Defines and documents the Integrated Planning System (IPS) platform contents. This document provides the planned system upgrades and deletions for a five-year period. The document contains appendices identifying the hardware, current and projected; current version COTS software and where it is used; network equipment with port assignments; and external interface connectivity indicating approved sessions.

   SOW Ref: 1.5.1.2.3 and 1.5.1.2.11

6. Submission:
   e. Initial From start of contract + 60 days
   f. Final – From start of contract + 90 days
   g. Approval – N/A
   h. Submission Frequency – Semi-annually

7. Applicable Documents, latest version:
   a. Integrated Planning System Future Facility Change Plan, MSOC-DRD-0067
   b. Integrated Planning System (IPS) Facility Operations Procedures, MSOC-DRD-0051
   c. Emergency Preparedness and Disaster Recovery Plan, MSOC-DRD-0011
   d. IPS Master External Interface Control Document (ICD), SFOC-FL0493

8. Data Preparation Information:
   a. Scope – This document identifies and separates the major elements of the IPS platform into the following appendices:
      i. Appendix A – Future Facility Change Plan (identifies platform changes by projects)
      ii. Appendix B - Hardware Elements
      iii. Appendix C - Software Elements
      iv. Appendix D - Router (and router connectivity) Definitions
      v. Appendix E - IPS General Purpose External Interface/JIN Connectivity's.
      vi. Appendix F - Equipment Replacement Phase

   Each of these Appendices provides information regarding the current platform elements and the planned changes to these elements, both on a short term and long-term basis. While this document does not serve as the official configuration of the platform, it will provide configuration information, which can be used for planning purposes.

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This document also identifies the policies for setting priority, captures the generic work plan priority assignments and discusses how conflicts are resolved.

b. Content – This document defines and documents the Integrated Planning System (IPS) platform contents. This document provides the planned system upgrades and deletions for a five-year period. The document contains appendices identifying the hardware, current and projected; current version COTS software and where it is used; network equipment with port assignments; and external interface connectivity indicating approved sessions and approved file types for transfer into IPS.
c. Format: Contractor defined format is acceptable
d. Distribution: - per Contracting Officer's letter

9. Maintenance – The Integrated Planning System (IPS) Future Facility Plan shall be reviewed and updated as required.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0068
2.	DRD Title:	Test and Verification Plan
3.	Data Type:	1
4.	Page:	1/ 1

5. Description/Use – Separate Test and Verification Plans shall be prepared and submitted for approval for the following mission services: 1) IPS, 2) MCC (including BCC/ HSR). The plans shall supply a level of detail, which shall support test management, tool development, dependency identification, and resource planning. The plans shall indicate the overall test methodology for modification and sustaining releases/deliveries and independent releases/deliveries.

   SOW Ref.: 1.5.1.1.7 and 1.5.1.2.7

6. Submission:
   a. Initial – with contract proposal
   b. Final – Start of contract + 30 days
   c. Approval – Start of contract + 60 days
   d. Submission Frequency – review yearly for updates due to organizational or process changes.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The contractor shall describe the overall test philosophy for all releases/deliveries. It shall contain a high level description of the test types and objectives.
   b. Content – The plan shall contain the following, but not limited to: Identification of systems covered, organizational responsibilities, test descriptions, success criteria, test tools required, documentation requirements, test milestones, objectives, test support requirements, test environment, anomaly tracking, and test reporting.
   c. Format: hardcopy and electronic document, JSC web assessable.
   d. Distribution: per Contracting Officer's letter

9. Maintenance - reviewed yearly for updates due to organizational or process changes

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0069
2.	DRD Title:	Test and Verification Procedures
3.	Data Type:	System Level: 2/ Subsystem level: 3
4.	Page:	1 / 1

5. Description/Use – Test procedures are to specify formal testing of hardware and software systems for the following mission services: 1) IPS, 2) MCC and BCC/HSR 3) GSDE 4) CDE. The test procedures shall be developed prior to test execution. The test procedures shall include requirement verification matrices for all changes. Test procedures shall be created for subsystem and system level testing. Subsystem test procedures shall not be provided unless requested by NASA. System test procedures shall be provided prior to test execution.

   SOW Ref.: 1.5.1.1.7, 1.5.1.2.7, 1.5.2.2.7, and 1.5.2.3.7

6. Submission:
   a. Initial – draft, 5 working days prior to start of Dry Run
   b. Final – 5 working days prior to start of Formal Test
   c. Approval – NA
   d. Submission Frequency – as required for every release/delivery test activity

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – Test procedures shall be created for subsystem and system testing for the MCC (including BCC/HSR), IPS, GSDE, and CDE services. The test procedures shall contain detailed procedures to be followed, acceptance criteria, and requirements trace ability.
   b. Content – The subsystem and system test procedures shall contain the following information, but not be limited to:
      i. Identification of system or subsystem to be tested
      ii. Test objectives
      iii. Resource requirements (including personnel, test equipment, test environment, configuration, external requirements)
      iv. Step-by-step procedures (including performance)
      v. Pass/Fail criteria
      vi. Requirement trace ability
   c. Format: Contractor discretion
   d. Distribution: per Contracting Officer's letter

9. Maintenance – no updates required.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0070
2.	DRD Title:	Test and Verification Report
3.	Data Type:	System Level: 2/ Subsystem level: 3
4.	Page:	1 / 1

5. Description/Use – Test reports are to specify the formal testing results of hardware and software systems for the following mission services: 1) IPS, 2) MCC and BCC/HSR 3) GSDE 4) CDE. The test results shall be developed posttest execution. The test reports shall include requirement verification matrices for all changes. Test reports shall be created for subsystem and system level testing. Subsystem test reports shall not be provided unless requested by NASA. System test reports shall be provided prior to test execution.

   SOW Ref.: 1.5.1.1.7, 1.5.1.2.7, 1.5.2.2.7, and 1.5.2.3.7

6. Submission:
   a. Initial – NA
   b. Final System – 30 days after test completion
   c. Approval – NA
   d. Submission Frequency – as required for every release/delivery test activity

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – Test reports shall be created for subsystem and system testing for the MCC (including BCC/HSR), IPS, GSDE, and CDE services. The test reports shall contain detailed results of the test and verification activities
   b. Content – The subsystem and system test reports shall contain the following information, but not be limited to:
      i. Identification of system or subsystem tested
      ii. Test objectives results
      iii. Resource actuals (including personnel, test equipment, test environment, configuration, external requirements)
      iv. Procedure verification results (including performance)
      v. Pass/Fail results
      vi. Requirement trace ability
   c. Format: Contractor discretion
   d. Distribution: per Contracting Officer's letter

9. Maintenance – no updates required.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0071
2. DRD Title:	Acceptance Review Package
3. Data Type:	1
4. Page:	1 / 1

5. Description/Use – The Acceptance Review package is to be provided to NASA for approval of each modification deliveries for the following mission services: 1) IPS, 2) MCC (including BCC/HSR).

   SOW Ref.: 1.3.24, 1.5.1.1.2, 1.5.1.2.2, and 1.5.1.2.3

6. Submission:
   a. Initial – NA
   b. Final – within 4 weeks of system test completion
   c. Approval – within 8 weeks of system test completion
   d. Submission Frequency – required for each modification delivery or independent delivery

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The Acceptance Review package is a summary of the modification delivery content, test status, and delivery readiness to operations.
   b. Content – The package shall include, but not be limited to, the following specific to the changes: content overview, overview of subsystem and system test plan/procedures, test report status, AR status, documentation status, performance review, security review, QA, issues, operations procedure status, open items
   c. Format: presentation format
   d. Distribution: per Contracting Officer's letter

9. Maintenance - none required.

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0072
2.	DRD Title:	Design Review
3.	Data Type:	1
4.	Page:	1 / 2

5. Description/Use - The contractor shall provide a design review for each delivery to the IPS, MCC, BCC and HSR systems/subsystems. The Design Review shall provide NASA insight into the contractor proposed design to meet the NASA approved changes. The Design Review shall be provided prior to implementation to allow for changes to design. NASA shall approve the Design Review, prior to commencing implementation. There are two types of Design Review packages: (1) System/Subsystem Functional Design Review (SFDR) and (2) System/Subsystem Detailed Design Review (SDDR).

   SOW Ref.: 1.5.1.1.2, 1.5.1.2.2, 1.5.1.1.6, and 1.5.1.2.6

6. Submission:
   a. Initial – SFDR – NA, SDDR -1 week prior to final
   b. Final – SFDR – per Performance Standards for modification design and cost response, SSDR - 30 days prior to implementation start
   c. Approval – SFDR – within 30 days of final SFDR submission, SSDR - at implementation start
   d. Submission Frequency – required for all modification changes

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The Design Review packages, SFDR and SSDR, shall contain a system engineering analysis and design based on the requirement(s) of the proposed modification.
   b. Content –
      i. The System/Subsystem Functional Design Review package shall contain, but not limited to, the following: requirement description, assumptions and constraints, design proposal, feasibility and tradeoff studies, impact assessment (including performance, QA, Safety, RMA, and security), cost estimates, schedule estimates, interface definition, resource requirements, operational concepts, and verification philosophy.
      ii. The System/Subsystem Detailed Design Review package shall contain, but not be limited to, the following: detailed system/subsystem requirement, assumptions and constraints, detailed design proposal and engineering assessment, impact assessment (including performance, QA, Safety, RMA, and security), documentation identification, revised cost estimates, schedule, interface definition, resource requirements, operational concepts, and verification matrix. The contractor shall

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also provide at the SSDR the Design Specification (DRD MSOC-JSC-0073) for the system/subsystem modification.

c. Format: presentation
d. Distribution: per Contracting Officer's letter

9. Maintenance - change pages only due to action item responses.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0073
2.	DRD Title:	Design Specifications
3.	Data Type:	System Design Spec: 2 / Subsystem Design Spec: 3
4.	Page:	1 / 1

5. Description/Use – A separate system design specification for the MCC (including BCC/HSR) and IPS systems shall be provided that defines the current architecture baseline. In addition, design specifications shall be provided for each IPS, MCC, BCC, and HSR subsystems, both hardware and software.

   SOW Ref.: 1.5.1.1.3, 1.5.1.2.3, 1.5.1.1., and 1.5.1.22

6. Submission:
   a. Initial – NA
   b. Final – System Design specification shall be provided annually at the end of the government fiscal year.
   c. Approval – NA
   d. Submission Frequency - annual

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope – The System Design Specification shall contain the overview of the hardware and software content, data flows, functional system diagrams, and system engineering points of contact. The subsystem design specifications shall contain
   b. Content – Block diagrams with associated descriptions of each function to be performed shall be included. The specifications shall include at least information flow, capacity requirements/limits, design constraints, performance parameters, interface description, environment information, RMS, operability, requirements trace ability, standards, and drawings.
   c. Format: technical document in Contractor's format
   d. Distribution: per Contracting Officer's letter

9. Maintenance - as changes occur

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JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0074
2. DRD Title:	Integrated Planning System (IPS) Operations Concept
3. Data Type:	2
4. Page: 1/ 2	

5. Description/Use - This document defines the operational concept for the satisfaction of the system requirements, describes the way in which the system will appear to its users, and the ways in which the users will interact with the system.

SOW Ref.: 1.5.1.2.11

6. Submission:
   a. Initial – From start of contract + 90 days
   b. Final – NA
   c. Approval – Due 30 days after submittal.
   d. Submission Frequency – As Required

7. Applicable Documents, latest version:
   a. Integrated Planning System (IPS) Level A Requirements, JSC-13565
   b. Integrated Planning System (IPS) Operations Concept, JSC-13601

8. Data Preparation Information:

   a. Scope: To identify and document the operations concept used to satisfy system requirements and describe user interface/interaction.
   b. Content – This document shall contain, as a minimum:
      i. A definition of each user group and scenarios that are applied to operate, maintain, or support the software in an operational environment.
      ii. A summary of the user needs for the system in terms of the primary use, secondary use, and the environment in which the user operates.
      iii. A description of the system operational capability in terms of system functions, functional relationships, and operations table (user actions and responses to system functions for each operations mode).
      iv. A set of scenarios depicting operational flow from a functional perspective.
      v. A set of scenarios depicting operational flow from a data/information flow perspective.
      vi. Where appropriate, high-level scenarios will be supported by more detailed scenarios addressing processing/data flow at a lower level.

   c. Format: - Contractor provided format is acceptable

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d. Distribution: - per Contracting Officer's letter
   i. .

9. Maintenance – The Integrated Planning System (IPS) Operations Concept shall be reviewed on an annual basis, as appropriate, and revised as necessary.

JSC DATA REQUIREMENTS DESCRIPTION (DRD)

(Based on JSC-STD-123) **Modification 83**

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0080
2.	DRD Title:	Contractor Security Management Plan
3.	Data Type:	1
4.	Page:	1 / 2

5. Description/Use: The plan shall be used to define the contractor security management task and shall include separate annexes/appendices for COMSEC procedures and Secure Operations Procedures and Sensitive/Protected Operations Procedures

SOW Ref.: 1.3.2.1, 1.5.3.1.9

6. Submission
   a. Initial: due with proposal
   b. Final: Award of contract + 60 days
   c. Approved: Start of contract
   d. Submission frequency: annual

7. Applicable documents (note: some documents may fall into more than one category and are grouped for reference only)

   a. Federal Documents:
      i. OMB circular A-130, App. III, Security of Federal Automated Information Resources
      ii. Federal Information Processing Standards (FIPS)
      iii. NIST Special Publication 800 Series, all applicable documents, including but not limited to:
         -NIST Special Publication 800-18 "Guide for Developing Security Plans for Federal Information Systems"
         -NIST Special Publication 800-26 "Guide for the Security Certification and Accreditation of Federal Information Systems"
         -NIST Special Publication 800-30 "Risk Management Guide for Information Technology Systems"
         -NIST Special Publication 800-34 "Contingency Planning Guide for Information Technology Systems"
         -NIST Special Publication 800-53 "Requirements for Security Controls"
         -NIST Special Publication 800-60 "Guide for Mapping Types of Information and Information Systems to Security Categories"
      iv. Homeland Security Presidential Directive (HSPD) 12 – Policy for a Common Identification Standard for Federal Employees and Contractors
      v. FAR 52.204-2

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vi. National Security Decision Memorandum (NSDM) 119
vii. Space Network Security Classification Guide
viii. Export Administration Regulations (EAR)
ix. Arms Export Control Act (AECA)
x.
xi. NISPOM National Industrial Security Program Operating Manual
xii. Internal Program Security Requirements Handbook

b. NASA Agency and JSC Center documents (latest version)
   i. NPR 2810.1 NASA Security of Information Technology
   ii. JSC JPR 2810.1 JSC IT Security Handbook
   iii. NASA Security Handbook 1620.3, ch. 46
   iv. JSC-29234 "MOD IT Security and Contingency Planning Process"
   v. Agency CIO Applicable "NASA IT Requirements" (NITRs)
   vi. NPR 1600.1 "NASA Security Program Procedural Requirements"

c. National Security documents (latest version)
   i. Executive Order 12958: National Security Information
   ii. MSOC COMSEC Security Procedures (MSOC -JSC-PRO-001548)
   iii. TEMPEST Countermeasures for Facilities (NTISSI 7000)
   iv. JSC COMSEC Maintenance Support Plan
   v. COMSEC Logistics Control Guide
   vi. STS COMSEC Key Control Agreement
   vii. NASA COMSEC Manual NHB 1600
   viii. NASA Security Handbook 1620.3, ch. 46

d. International Standards documents
   i. SSP 50525 "SART Security Management Processes" Section 6

8. Data Preparation Information
   a. Scope: The Security Management Plan shall describe the Contractor's approach for meeting and maintaining the security integrity of the security baseline. The plan shall address the security requirements for facilities, systems, equipment, personnel, information, classified automated information systems, communications, sensitive IT security procedures, COMSEC, and Secure Operations Procedures. This plan establishes the security procedures, Government/contractor relationships and assigns responsibilities for all physical, personnel, and IT security required for the activity specified in the SOW. It is applicable to all contractor and subcontractor personnel, operations and procedures. This plan includes the MCC Mission Critical Systems, the IPS, the MCC development and integration systems (GSDE & CDE), and the MCC COMSEC.
   b. Content: The management structure, processes and reporting requirements, techniques and formats shall be established, defined and documented to ensure adequate visibility and insight for Government personnel. The Security Management Plan shall include, as a minimum, the following:

(Continue on a blank page if necessary)

i. A description of the Contractor's security management structure and assignment of responsibilities.
ii. Methodology used to ensure separation of duties of IT security and operational elements.
iii. The approach for integrating security requirements into functions as described in the SOW, including interfacing with subcontractors.
iv. Identification of the security interfaces with NASA, DoD, and other government agencies and contractors
v. Description of the security baseline configuration management program.
vi. The methodology for obtaining certifications and re-certifications including as a minimum
   (a) Security Plan approval
   (b) Authorization to Process, mission critical systems
   (c) Authorization to Process, non-mission critical systems.
vii. Process for developing security implementation plans for approved systems in development including to identification, documentation, development and protection of new systems under this contract
viii. Approach to development and approval of COMSEC procedures
ix. Approach to development of procedures for protection of sensitive information.
x. Process for identification, reporting and resolution of IT security incidents, with MOD

c. Format: Format shall be in the form specified by NIST computer security guidelines.
d. Distribution: per Contracting Officer's letter

9. Maintenance: Document shall be updated and approved annually.

DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD No.:	MSOC-JSC-0081
2. DRD Title:	Facility Security Plan
3. Data Type:	1
4. Page:	1 / 2

5. Description/Use:
   i. The facility security plan is used to document the security requirements of the facility and describe the controls in place or planned for meeting those requirements. Controls include system capabilities, processes and procedures.
   ii. The facility security plan is used to document the results of the risk analysis, identify the unmitigated security risks, and identify potential impact of those risks.
   iii. The facility plan is used to delineate responsibilities and expected behavior of all individuals who access the system.
   iv. The facility security plan includes by definition the facility contingency plan identified as the Emergency Preparedness and Disaster Recovery Plan (DRD No. SMSDSC – JSC 0011)

   SOW Ref.: Section 1.5.5.4

6. Submission
   a. Initial: Jan 31st of each year
   b. Final: March 1st of each year
   c. Approved: March 30th of each year
   d. Submission frequency: annual for Mission Critical Systems, all others as required

7. Applicable documents, latest versions:
   a. Federal Documents:
      i. OMB circular A-130, App. III, Security of Federal Automated Information Resources
      ii. Federal Information Processing Standards (FIPS)
      iii. NIST Special Publication 800 Series, all applicable documents, including but not limited to:
         -NIST Special Publication 800 -18 "Guide for Developing Security Plans for Federal Information Systems"
         -NIST Special Publication 800-26 "Guide for the Security Certification and Accreditation of Federal Information Systems"
         -NIST Special Publication 800-30 "Risk Management Guide for Information Technology Systems"
         -NIST Special Publication 800-34 "Contingency Planning Guide for Information Technology Systems"
         -NIST Special Publication 800-53 "Requirements for Security Controls"
         -NIST Special Publication 800-60 "Guide for Mapping Types of Information and Information Systems to Security Categories"

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iv. Homeland Security Presidential Directive (HSPD) 12 – Policy for a Common Identification Standard for Federal Employees and Contractors
v. FAR 52.204-2
vi. National Security Decision Memorandum (NSDM) 119
vii. Space Network Security Classification Guide
viii. Export Administration Regulations (EAR)
ix. Arms Export Control Act (AECA)
x. NISPOM National Industrial Security Program Operating Manual
xi. Internal Program Security Requirements Handbook

b. NASA Agency and JSC Center documents (latest versions)
   i. NPR 2810.1, NASA Procedural Requirements: Security of Information Technology
   ii. JSC JPR 2810.1B, JSC IT Security Handbook
   iii. NASA Security Handbook 1620.3, ch. 46
   iv. JSC-29234 "MOD IT Security and Contingency Planning Process"
   v. Agency CIO applicable "NASA IT Requirements" (NITRs)
   vi. NPR 1600.1 "NASA Security Program Procedural Requirements"

c. National Security documents (latest version)
   i. Executive Order 12958: National Security Information
   ii. MSOC COMSEC Security Procedures (MSOC-JSC-PRO-001548)
   iii. TEMPEST Countermeasures for Facilities (NTISSI 7000)
   iv. JSC COMSEC Maintenance Support Plan
   v. COMSEC Logistics Control Guide
   vi. STS COMSEC Key Control Agreement
   vii. NASA COMSEC Manual NHB 1600
   viii. NASA Security Handbook 1620.3, ch. 46

d. International Standards documents
   i. SSP 50525 "SART Security Management Processes" Section 6

8. Data Preparation Information
   a. Scope: A separate Facility Security Plan shall be provided for each facility covered by this contract. The Plan shall describe the facility security capabilities, processes and procedures implemented to maintain the security integrity for the facility. The plan shall address the security requirements for facilities, systems, equipment, personnel, information, classified automated information systems, communications, sensitive IT security procedures, COMSEC, and Secure Operations Procedures. Each security plan shall be specifically generated to address the type of facility and information processed in the facility as defined JPG 2810.1 (latest version). It is applicable to all facilities identified in this Statement of Work.
   b. Content: The processes for data collection and risk analysis shall be established, defined and documented to ensure adequate visibility and insight for Government personnel.

(Continue on a blank page if necessary)

i. The content described in JPG 2810.1B (latest) Section 5.11 "IT Security Plan Content" shall be adhered to.

ii. Additional content shall address and include MCC/IPS Mission critical requirements not necessarily included in JPG system security guidelines.

c. Format: Security Plan Templates as defined by Mission Operations and Center Operations Directorates Computer Security Officers

d. Distribution: per Contracting Officer letter.

9. Maintenance:

a. Changes to each facility security plan shall be documented per the NASA/JSC Facility Computer Security Officer guidelines for addendums to security plans. Contents of addendums shall be incorporated into the next release of the security plan.

b. Security plans for General Support Systems and Major Application systems shall be updated as a minimum every three years, as significant architecture or functional changes are incorporated, or as required by NASA.

c. Security plans for Major Application Systems and/or JSC Major Information Systems (JSC JPG 2810.1 B Appendix A) shall be updated as a minimum every 12 months, as significant architecture or functional changes are incorporated, or as required.

d. Certification and Accreditation products shall be provided per NIST Special Publication 800-26 "Guide for the Security Certification and Accreditation of Federal Information Systems", NITR 2810.4 "Certification and Accreditation", and NPR 2810 "NASA Security of Information Technology" (latest version).

(Continue on a blank page if necessary)

DATA REQUIREMENTS DESCRIPTION (DRD)

1.	DRD No.:	MSOC-JSC-0082
2.	DRD Title:	Organizational Conflicts of Interest Avoidance Plan
3.	Data Type:	2
4.	Page:	1 / 1

5. Description/Use – To document the contractor's implementation plan for avoiding organizational conflicts of interest as required by NASA FAR Supplement Clause 1852.237-72, Access to Sensitive Information.

   SOW Ref: 1.1

6. Submission:
   a. Initial – Whenever contract performance will necessitate contractor access to sensitive information
   b. Final – To be incorporated into the contract as a compliance document
   c. Approval – Contracting Officer
   d. Submission Frequency – Whenever circumstances change requiring a revision to the plan.

7. Applicable Documents: None

8. Data Preparation Information:
   a. Scope –The Organizational Conflicts of Interest Avoidance Plan shall describe the contractor's management approach and planned implementation methods for accomplishing conflicts of interest avoidance.
   b. Content – The plan shall thoroughly analyze all organizational conflicts of interest that might arise because the service provider has access to other companies' sensitive information, and shall establish specific methods to control, mitigate, or eliminate all problems identified. The Contracting Officer shall review the plan for completeness and the effectiveness of the plan, and shall identify to the service provider substantive weaknesses and omissions for necessary correction. The approved plan shall be incorporated into the contract.
   c. Format: Contractor's electronic format is acceptable
   d. Distribution: per Contracting Officer's letter

9. Maintenance - N/A

(Continue on a blank page if necessary)

ATTACHMENT J-11

MISSION SUPPORT OPERATIONS CONTRACT (MSOC)

INDEFINITE DELIVERY / INDEFINITE QUANTITY (IDIQ) MODIFICATION SERVICES

J-11.1 INDEFINITE QUANTITY/INDEFINITE DELIVERY CLAUSES

In the event that IDIQ Modification tasks are performed under Attachment J-11, the following clauses shall be applicable to that work. In addition, all clauses contained in the contract NAS 9-03056, are applicable to all tasks performed under Attachment J-11.

(End of clause)

J-11.2 ORDERING

a) Any supplies and services to be furnished under this contract shall be ordered by issuance of task orders by the Contracting Officer. Such orders may be issued during the base period of October 1, 2006 through September 30, 2008. Orders may be issued during the option periods if any are executed:

Option 4 - October 1, 2008 through September 30, 2009
Option 5 - October 1, 2009 through September 30, 2010
Option 6 - October 1, 2010 through September 30, 2011

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

(c) If mailed, a task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

J-11.3 ORDER LIMITATION (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 $100, 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 $5,000,000;

(2) Any order for a combination of items in excess of $10,000,000; or

(3) A series of orders from the same ordering office within 5 days that together call for quantities exceeding the limitation in subparagraph (b) (1) or (2) of this section.

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

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 3 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)

J-11.4 **INDEFINITE QUANTITY (FAR 52.216-22) (OCT 1995)**

(a) This is an indefinite-quantity contract for the supplies or services specified and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after September 30, 2008, provided that none of the Options of the contract are exercised. If an Option is exercised, the Contractor shall not be required to make any deliveries under this contract after the Option period end date:

Option 4 - September 30, 2009
Option 5 - September 30, 2010
Option 6 - September 30, 2011

(End of clause)

J-11.5 TASK ORDERING PROCEDURE (NFS 1852.216-80) (OCT 1996)

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

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

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

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

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

(c) Within 10 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.

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

(1) Date of the order.

(2) Contract number and order number.

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

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

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

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

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

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

(e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 5 calendar days after receipt of the task order.

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

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

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

(End of clause)

J-11.6 METHOD OF PLACING TASK ORDERS

Task Orders may be placed only by the contracting officer. Task Orders will be in writing on form OF347 or orally, followed by written confirmation. Task Orders will be numbered "1," second will be Number "2", and each succeeding Task Order will be numbered consecutively.

Each Task Order placed against this contract shall consist of the following information: (A) task order number and contract number; (B) place of delivery or performance (including consignee); (C) item/items ordered, including quantity, unit price, and amount of each; (D) date of order, and required delivery date; (E) name of person placing order; (F) funding and appropriation data; (G) Procurement placement code; (H) total amount; (I) signature of the contracting officer.

Amendments to orders may be issued in the same manner as original orders. Each order or amended order shall contain a citation of funds from which payment for the supplies or services ordered shall be made.

(End of clause)

J-11.7 STATEMENT OF WORK FOR IDIQ MODIFICATION SERVICES

The contractor shall provide modification support and services to all stages of NASA programs or projects involved with the human space flight mission. These modification support and services will be used to address program or project mandated changes to the identified facilities that exceed the completion form baseline content, which is approved each year by NASA in DRD 22 – FY Operating Plan (FY Op Plan) and Program Operating Plan (POP). Modification support and services will be for

the Mission Control Center (MCC), the Integrated Planning System (IPS), and the Houston Support Room/Control Backup Command and Control Center (HSR/BCC) systems.

Modification is defined as any change to the configuration of the facility resulting in the update to the current capabilities and services, expansion of existing capabilities and services; or the addition to or deletion of existing capabilities and services. Modification support includes the functions of product design, product fabrication or programming, product specification testing and acceptance, and product integration and testing. Modification service is defined as a service that results in the modification of a hardware, firmware, or software product. This also includes the integration and installation of the developed product into an existing system. The Contractor will be required to provide M&O and sustaining engineering for all modifications.

The contractor shall provide Modification Services in accordance with the following:

Modification Services

The contractor shall provide system software design, implementation and test services as specified below.

Std. Of Excellence:	Contractor shall adhere to or exceed to the baseline schedules and/or performance requirements and underrun task order costs.
Expectation:	Contractor shall adhere to the baseline schedules, requirements, and costs.

The contractor shall provide modification cost estimates. Detailed Pricing Information must assume a start date no less than 2 week from cost information delivery.

Std. Of Excellence:	Contractor shall have an earlier than 10 Government Business day delivery for the final delivery order Detailed Pricing Information.
Expectation:	Contractor shall adhere to a 10 Government Business day delivery for the final task order Detailed Pricing Information.

(End of clause)

J-11.8 INDEFINITE DELIVERY/INDEFINTE QUANTITY

a. The minimum amount of combined task orders required for services detailed in Attachment J-11 shall be $5,000. The total maximum contract value for Attachment J-11 is as follows:

	Base (10/01/06-09/30/08)	Option 4 (10/01/08-09/30/09)	Option 5 (10/01/09-09/30/10)	Option 6 (10/01/10-09/30/11)	Total Maximum
Not to Exceed (NTE)	$13,000,000	$6,500,000	$6,500,000	$6,500,000	$32,500,000

*Award Fee will be negotiated in each Task/Delivery Order and will be allocated within the appropriate award fee periods.

b. Breakout of estimated cost and fee earned by Task/Delivery Order is as follows. The fee will be negotiated for each task order and will be divided by the appropriate Award Fee periods.

Period Covered	IDIQ Order Number	Rev. No.	Estimated Cost	Award Fee	Total Order Value

(End of clause)

J-11.9 INDEFINITE DELIVERY/INDEFINTE QUANTITY RATE PROVISION

The purpose of this clause is to set forth the direct, indirect, and fee rates to be utilized in the subsequent negotiation and cost establishment of ID/IQ Task Orders in accordance with Task Ordering Procedure. The contractor will utilize the direct, indirect and fee rates established herein to determine the estimated costs for each ID/IQ Task Order. The following form is to be filled out for each of the 5 years of the duration of the contract with options. The award fee to be negotiated for each Task/Delivery Order shall not exceed **9 %** of the estimated cost.

ATTACHMENT J-12

PERSONAL IDENTITY VERIFICATION (PIV) OF CONTRACTOR PERSONNEL

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.

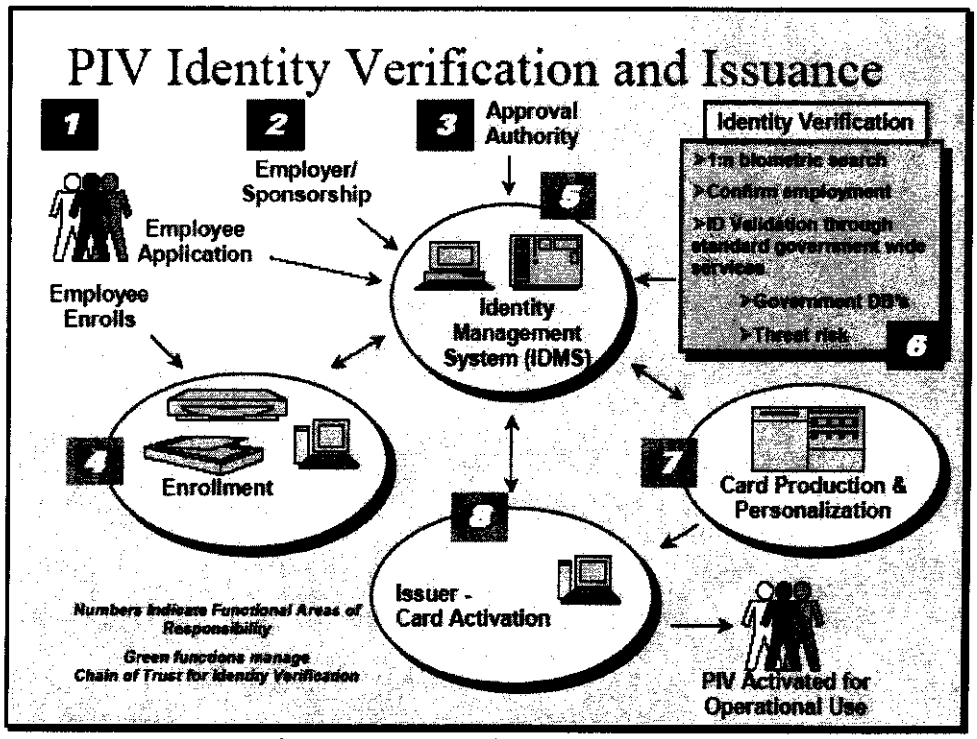

Figure A-1, FIPS 201, Appendix A

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.

[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

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 a National Crime Information Center (NCIC) with an Interstate Identification Index check is/has been performed. In the case of a foreign national, a national check of the Bureau of Immigration and Customs Enforcement (BICE) database will be performed for each applicant. If this process yields negative information, the CCS will immediately notify the COTR/host of the determination regarding access made by the CCS.

Step 5:
Upon receipt of the completed NAC, the CCS will update IDMS from the NAC portion of the NACI and indicate the result of the suitability determination. If an unsatisfactory suitability determination is rendered, the COTR will advise the contractor that the employee is being denied physical access to all federally-controlled facilities and Federal information systems.

Based on a favorable NAC and NCIC/III or BICE check, the CCS will authorize the issuance of a PIV federal credential in the Physical Access Control System (PACS) database. The CCS, based on information provided by the COTR/host, will determine what physical access the applicant should be granted once the PIV issues the credential.

Step 6:
Using the information provided by the applicant during his or her in-person appearance, the PIV card production facility creates and instantiates the approved PIV card for the applicant with an activation date commensurate with the applicant's start date.

Step 7:
The applicant proceeds to the credential issuance facility to begin processing for receipt of his/her federal credential.

The applicant provides to the credential issuing operator proof of identity with documentation that meets the requirements of FIPS 201 (DHS Employment Eligibility Verification (Form I-9) documents. These documents **must** be the same documents submitted for registration.

The credential issuing operator will verify that the facial image, and optionally reference finger print, matches the enrollment data used to produce the card. Upon verification of identity, the operator will locate the employee's record in the PACS database, and modify the record to indicate the PIV card has been issued. The applicant will select a PIN for use with his or her new PIV card. Although root data is inaccessible to the operator, certain fields (hair color, eye color, et al.) may be modified to more accurately record the employee's information.

The applicant proceeds to a kiosk or other workstation to complete activation of the PIV card using the initial PIN entered at card issuance.

ALTERNATIVE FOR APPLICANTS WHO DO NOT HAVE A COMPLETED AND ADJUDICATED NAC AT THE TIME OF ENTRANCE ON DUTY

Steps 1 through 4 shall be accomplished for all applicants in accordance with the process described above. If the applicant is unable to appear in person until the time of entry on duty, or does not, for any other reason, have a completed and adjudicated NAC portion of the NACI at the time of entrance on duty, the following interim procedures shall apply.

1. If the documents required to submit the NACI have not been completed prior to EOD, the applicant will be instructed to complete all remaining requirements for submission of the investigation request. This includes presentation of I-9 documents and completion of fingerprints, if not already accomplished. If the applicant fails to complete these activities as prescribed in NPR 1600.1 (Chapters 3 & 4), it may be considered as failure to meet the conditions required for physical access to a federally-controlled facility or access to a Federal information system, and result in denial of such access.

2. Based on favorable results of the NCIC, the applicant shall be issued a temporary NASA identification card for a period not-to-exceed six months. If at the end of the six month period the NAC results have not been returned, the agency will at that time make a determination if an additional extension will be granted for the temporary identification card.

3. Upon return of the completed NAC, the process will continue from Step 5.