

SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)

RATING

C9

PAGE 1 of 330

2. CONTRACT NO.

NNJ04AA01C

3. SOLICITATION NO.

9-BG-44-02-77P-a

4. TYPE OF SOLICITATION

SEALED BID (IFB)
 NEGOTIATED (RFP)

5. DATE ISSUED

11/12/03

6. REQUISITION/PURCHASE NO.

4200035844

7. ISSUED BY

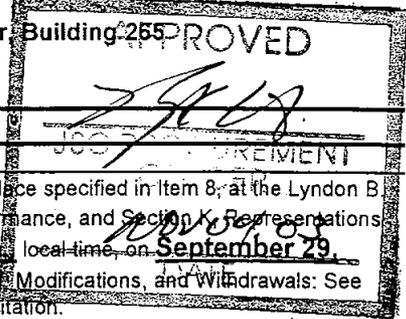
CODE

BG

8. ADDRESS OFFER TO (If other than Item 7)

NASA Lyndon B. Johnson Space Center
Space Station Procurement Office
2101 NASA Road One
Mail Code: BG
Houston, TX 77058

NASA Lyndon B. Johnson Space Center
2101 NASA Road One
Attn: N. L. Dawn Alexander
Houston, TX 77058



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

SOLICITATION

9. Sealed offers in original and copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, at the Lyndon B. Johnson Space Center, until **11:00 a.m.**, local time, on **September 29, 2003**. NOTE: Volume III, Past Performance, and Section K, Representations and Certifications are due at the place specified in Item 8, at the Lyndon B. Johnson Space Center, until **11:00 a.m.**, local time, on **September 29, 2003**. All offers are subject to all terms and conditions contained in this solicitation. CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:

A. NAME

N. L. Dawn Alexander

B. TELEPHONE NO. (NO COLLECT CALLS)

AREA CODE (281)

NUMBER 244-7689

EXT.

C. EMAIL ADDRESS

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OFFER (Must be fully completed by offeror)

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

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

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

10 CALENDAR DAYS	20 CALENDAR DAYS	30 CALENDAR DAYS	CALENDAR DAYS
%	%	%	%

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION).

AMENDMENT NO	DATE	AMENDMENT NO	DATE
1	05/13/03	6	06/03/03
2	05/13/03	7	06/04/03
3	05/14/03	8	06/06/03
4	05/20/03	9	08/15/03
5	05/23/03	BG-03-540	09/11/03

For offerors and related documents numbered and dated:

15. NAME AND ADDRESS OF OFFEROR

CODE	1BYL8	FACILITY	5316
Corporate Office	Local Office		
ARES Corporation	ARES Aerospace and Technology Services		
1440 Chapin Avenue, Suite 390	1331 Gemini Street, Suite 120		
Burlingame, CA 94010	Houston, TX 77058		

16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
Stanley C. Lynch, Vice-President

15B. TELEPHONE NO. (Include area code) 281-461-9797

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

17. SIGNATURE: *Stanley Lynch*

18. OFFER DATE: 09/29/03

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED

20. AMOUNT

21. ACCOUNTING AND APPROPRIATION

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

23. SUBMIT INVOICES TO ADDRESS SHOWN IN: (4 copies unless otherwise specified) ITEM G-6

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

25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER (Type or print) N. L. Dawn Alexander

27. UNITED STATES OF AMERICA *Dawn Alexander* (Signature of Contracting Officer)

28. AWARD DATE 11/12/03

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

Program Integration and Control Contract

International Space Station Program

ARES Basic Contract

September 2003

National Aeronautics and Space Administration
International Space Station Program
Johnson Space Center
Houston, Texas



MODIFICATION AND HISTORY PAGE

MOD. NO.	DESCRIPTION	DATE
-	Basic Contract	TBD

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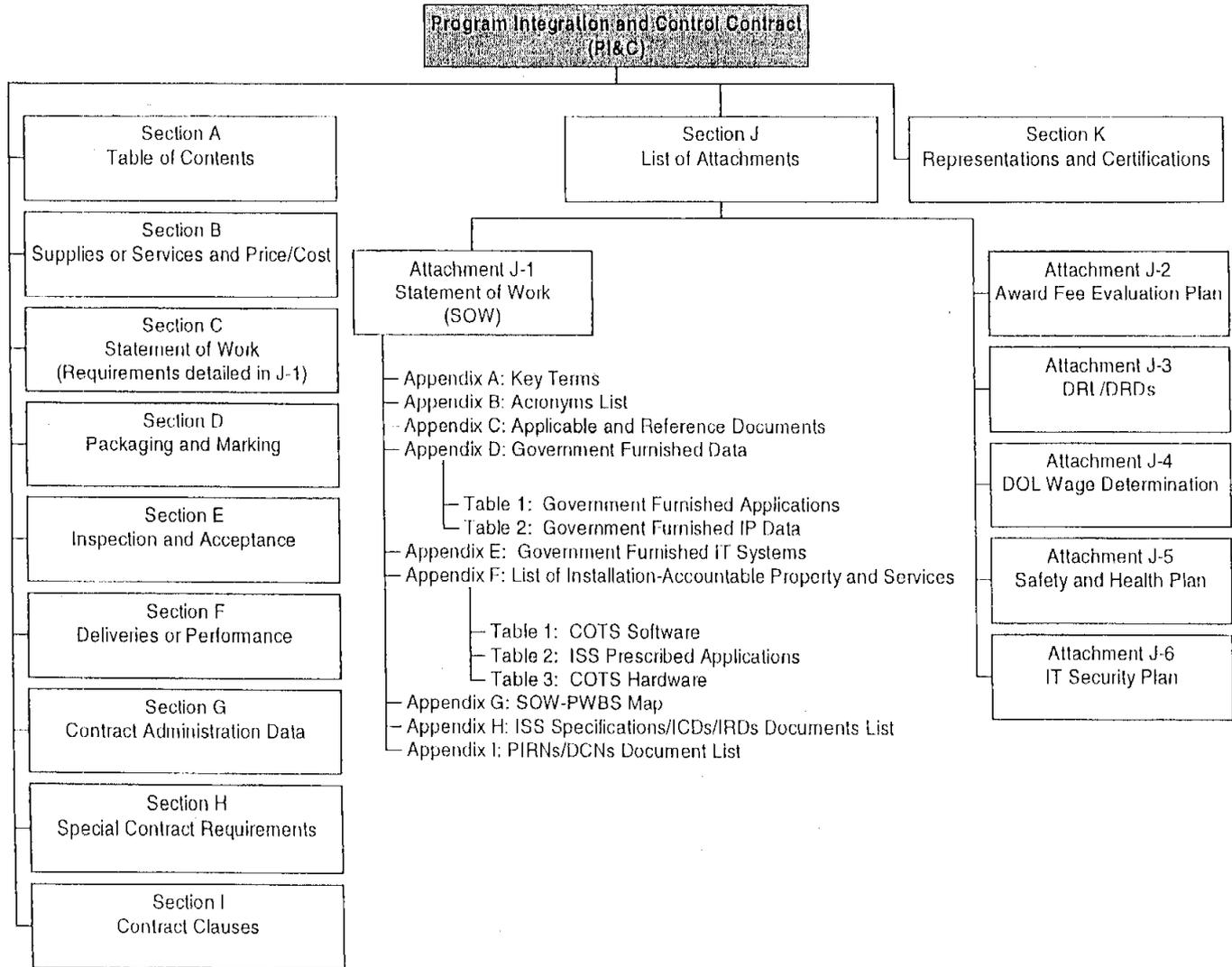
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SECTION K – REPRESENTATIONS AND CERTIFICATIONS



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52.202-1	I	DEC 2001	REF	DEFINITIONS
52.203-3	I	APR 1984	REF	GRATUITIES
52.203-5	I	APR 1984	REF	COVENANT AGAINST CONTINGENT FEES
52.203-6	I	JUL 1995	REF	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	I	JUL 1995	REF	ANTI-KICKBACK PROCEDURES
52.203-8	I	JAN 1997	REF	CANCELLATION, RESCISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	I	JAN 1997	REF	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	I	JUN 2003	REF	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
18 52.203-70	I	JUN 2001	REF	DISPLAY OF INSPECTOR GENERAL HOTLINE POSTERS
52.204-1	I	DEC 1989	FT	APPROVAL OF CONTRACT
52.204-2	I	AUG 1996	REF	SECURITY REQUIREMENTS
52.204-4	I	AUG 2000	REF	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER
18 52.204-74	H	MAY 2002	REF	CENTRAL CONTRACTOR REGISTRATION
18 52.204-76	I	JUL 2002	FT	SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES
JSC 52.204-91	G	MAR 2002	FT	SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES/ REPRESENTATIVES OF FOREIGN/CONTRACTORS
18 52.208-81	H	OCT 2001	REF	RESTRICTIONS ON PRINTING AND DUPLICATING
52.209-6	I	JUL 1995	REF	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
18 52.209-72	I	DEC 1988	REF	COMPOSITION OF THE CONTRACTOR
JSC 52.209-90	H	SEP 1998	FT	REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS
52.211-15	I	SEP 1990	REF	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS
18 52.211-70	D	JUN 2000	FT	PACKAGING, HANDLING, AND TRANSPORTATION
52.215-2	I	JUN 1999	REF	AUDIT AND RECORDS - NEGOTIATION
52.215-8	I	OCT 1997	REF	ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT

CLAUSE	CONTRACT SECTION	DATE		TITLE
52.215-11	I	OCT 1997	REF	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS
52.215-13	I	OCT 1997	REF	SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS
52.215-14	I	OCT 19997	REF	INTEGRITY OF UNIT PRICES
52.215-15	I	DEC 1998	REF	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-17	I	OCT 1997	REF	WAIVER OF FACILITIES CAPITAL COST OF MONEY
52.215-18	I	OCT 1997	REF	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS
52.215-19	I	OCT 1997	REF	NOTIFICATION OF OWNERSHIP CHANGES
52.215-21	I	OCT 1997	REF	REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA - MODIFICATIONS AND ALTERNATES II (OCT 1997) & III (OCT 1997) [INSERT ALT III: 3.5" DISK OR CD-ROM]
18 52.215-84	I	JUN 2000	FT	OMBUDSMAN [INSERT: Susan H. Garman, Associate Director (Management)/Mail Code: AC/Phone: 281-483-0490/ FAX: 281-483-2200]
52.216-7	I	DEC 2002	REF	ALLOWABLE COST AND PAYMENT
52.216-19	I	OCT 1995	REF	ORDER LIMITATIONS (IDIQ) [INSERT: \$25,000; \$25,000,000;25,000,000; 5; AND 5]
52.216-22	I	OCT 1995	REF	INDEFINITE QUANTITY
18 52.216-76	G	JUN 2000	REF	AWARD FEE FOR SERVICE CONTRACTS
18 52.216-85	B	SEP 1993	FT	ESTIMATED COST AND AWARD FEE
18 52.216-87	G	MAR 1998	FT	SUBMISSION OV VOUCHERS FOR PAYMENT
18 52.216-89	I	JUL 1997	REF	ASSIGNMENT AND RELEASE FORMS
JSC 52.217-90	F	OCT 1996	FT	OPTION TO EXTEND COMPLETION DATE
52.219-6	I	JUN 2003	REF	NOTICE OF SMALL BUSINESS SET-ASIDE
52.219-8	I	OCT 2000	REF	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-14	I	DEC 1996	REF	LIMITATIONS ON SUBCONTRACTING
18 52.219-74	I	SEP 1990	REF	USE OF RURAL AREA SMALL BUSINESSES
18 52.219-75	I	JUL 1997	REF	NASA 8 PERCENT GOAL
52.222-1	I	FEB 1997	REF	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES

CLAUSE	CONTRACT SECTION	DATE		TITLE
52.222-2	I	JUL 1990	FT	PAYMENT FOR OVERTIME PREMIUMS
52.222-3	I	JUN 2003	REF	CONVICT LABOR
52.222-21	I	FEB 1999	REF	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	I	APR 2002	REF	EQUAL OPPORTUNITY AND ALTERNATE I (FEB 1999)
52.222-29	I	JUN 2003	REF	NOTIFICATION OF VISA DENIAL
52.222-35	I	DEC 2001	REF	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-36	I	JUN 1998	REF	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES
52.222-37	I	DEC 2001	REF	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-41	I	MAY 1989	REF	SERVICE CONTRACT ACT
52.222-42	I	MAY 1989	FT	STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES
52.223-5	I	APR 1998	REF	POLLUTION PREVENTION & RIGHT-TO-KNOW INFORMATION
52.223-6	I	MAY 2001	REF	DRUG FREE WORKPLACE
52.223-10	I	AUG 2000	REF	WASTE REDUCTION PROGRAM
52.223-14	I	JUN 2003	REF	TOXIC CHEMICAL RELEASE REPORTING
18 52.223-70	H	APR 2002	REF	SAFETY AND HEALTH
18 52.223-74	I	MAR 1996	REF	DRUG-AND-ALCOHOL - FREE WORKPLACE
18 52.223-75	H	FEB 2002	REF	MAJOR BREACH OF SAFETY OR SECURITY
52.225-13	I	JUN 2003	REF	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
18 52.225-70	H	FEB 2000	REF	EXPORT LICENSES AND ALTERNATE 1 (FEB 2000) AND PARAGRAPH (B) [INSERT: "JOHNSON SPACE CENTER"]
52.227-1	I	JUL 1995	REF	AUTHORIZATION AND CONSENT AND ALTERNATE I (APR 1984)
52.227-2	I	AUG 1996	REF	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-11	I	JUN 1997	REF	PATENT RIGHTS - RETENTION BY THE CONTRACTOR (SHORT FORM) AS MODIFIED BY 1852.227-11
52.227-14	I	JUN 1987	REF	RIGHTS IN DATA - GENERAL AS MODIFIED BY NFS 1852.227-14 (JUL 1995)
52.227-16	I	JUN 1987	REF	ADDITIONAL DATA REQUIREMENTS
18 52.227-72	G	JUL 1997	FT	DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE
18 52.227-86	G	DEC 1987	REF	COMMERCIAL COMPUTER SOFTWARE - LICENSING
JSC 52.227-91	H	MAY 2002	FT	(LIMITED) RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION (CBI)

CLAUSE	CONTRACT SECTION	DATE		TITLE
52.228-7	I	MAR 1996	REF	INSURANCE—LIABILITY TO THIRD PERSONS
18 52.228-75	I	OCT 1988	REF	MINIMUM INSURANCE COVERAGE
18 52.228-76	H	DEC 1994	REF	CROSS-WAIVER OF LIABILITY FOR SPACE STATION ACTIVITIES
52.232-9	I	APR 1984	REF	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-17	I	JUN 1996	REF	INTEREST
52.232-18	I	APR 1984	REF	AVAILABILITY OF FUNDS
52.232-22	I	APR 1984	REF	LIMITATION OF FUNDS
52.232-23	I	JAN 1986	REF	ASSIGNMENT OF CLAIMS
52.232-25	I	FEB 2002	REF	PROMPT PAYMENT AND ALTERNATE I (FEB 2002)
18 52.232-81	B	JUN 1990	FT	CONTRACT FUNDING
52.233-1	I	JUL 2002	REF	DISPUTES AND ALTERNATE I (DEC 1991)
52.233-3	I	AUG 1996	REF	PROTEST AFTER AWARD AND ALTERNATE I (JUN 1985)
18 52.235-70	I	FEB 2003	REF	CENTER FOR AEROSPACE INFORMATION
18 52.235-71	H	MAR 1989	FT	KEY PERSONNEL AND FACILITIES
52.237-2	I	APR 1984	REF	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION
52.237-3	I	JAN 1991	REF	CONTINUITY OF SERVICES
18 52.237-70	I	DEC 1988	REF	EMERGENCY EVACUATION PROCEDURES
52.242-1	I	APR 1984	REF	NOTICE OF INTENT TO DISALLOW COSTS
52.242-3	I	MAY 2001	REF	PENALTIES FOR UNALLOWABLE COSTS
52.242-4	I	JAN 1997	REF	CERTIFICATION OF FINAL INDIRECT COSTS
52.242-13	I	JUL 1995	REF	BANKRUPTCY
52.242-15	F	AUG 1989	REF	STOP-WORK ORDER (ALTERNATE I) (APR 1984)
18 52.242-70	G	SEP 1993	FT	TECHNICAL DIRECTION
18 52.242-71	G	DEC 1988	REF	TRAVEL OUTSIDE OF THE UNITED STATES
18 52.242-72	H	AUG 1992	REF	OBSERVANCE OF LEGAL HOLIDAYS AND ALTERNATES I (SEP 1989) AND II (OCT 2000)
18 52.242-73	G	JUL 2000	REF	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING
18 52.242-76	I	MAR 1999	REF	MODIFIED COST PERFORMANCE REPORT
18 52.242-78	I	APR 2001	REF	EMERGENCY MEDICAL SERVICES AND EVACUATION
JSC 52.242-92	G	MAR 2002	FT	IDENTIFICATION OF EMPLOYEES
52.243-2	I	AUG 1987	REF	CHANGES-COST-REIMBURSEMENT AND ALTERNATE II (APR 1982)
52.243-6	I	APR 1984	REF	CHANGE ORDER ACCOUNTING
18 52.243-70	I	OCT 2001	REF	ENGINEERING CHANGE PROPOSALS
18 52.243-71	I	MAR 1997	REF	SHARED SAVINGS

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52.244-2	I	AUG 1998	REF	SUBCONTRACTS - ALTERNATE I (JUL 1998)
52.244-5	I	DEC 1996	REF	COMPETITION IN SUBCONTRACTING
52.244-6	I	APR 2003	REF	SUBCONTRACTS FOR COMMERCIAL ITEMS
18 52.244-70	H	APR 1985	REF	GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM
52.245-5	I	JUN 2003	REF	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) W/DEVIATION AS PROVIDED BY NASA PIC 99-15, DTD 9/10/99 AND SHOWN IN I.14
18 52.245-70	G	JUL 1997	REF	CONTRACTOR REQUEST FOR GOVERNMENT-OWNED EQUIPMENT
18 52.245-71	G	JUN 1998	FT	INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY
JSC 52.245-73	G	AUG 2001	FT	FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS
18 52.245-77	G	JUL 1997	FT	LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES
JSC 52.245-91	G	JUN 1996	FT	REPAIR OF GOVERNMENT PROPERTY
52.246-3	E	MAY 2001	REF	INSPECTION OF SUPPLIES - COST REIMBURSEMENT
52.246-5	E	APR 1994	REF	INSPECTION OF SERVICES - COST REIMBURSEMENT
52.246-11	E	FEB 1999	FT	HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT
52.246-25	I	FEB 1997	REF	LIMITATION OF LIABILITY -- SERVICES
18 52.246-70	H	MAR 1997	REF	MISSION CRITICAL SPACE SYSTEMS PERSONNEL RELIABILITY PROGRAM
18 52.246-72	E	JUN 1995	FT	MATERIAL INSPECTION AND RECEIVING REPORT
JSC 52.246-90	E	JUN 1991	FT	INSPECTION AND ACCEPTANCE
52.247-1	I	APR 1984	REF	COMMERCIAL BILL OF LADING NOTATIONS
52.247-63	I	JUN 2003	REF	PREFERENCE FOR U.S. FLAG AIR CARRIER
52.247-64	I	APR 2003	REF	PREFERENCE FOR PRIVATELY OWNED U.S. - FLAG COMMERCIAL VESSELS
52.247-67	I	JUN 1997	REF	SUBMISSION OF COMMERCIAL TRANSPORTATION BILL TO THE GENERAL SERVICES ADMINISTRATION FOR AUDITS
18 52.247-73	F	JUN 2002	FT	BILLS OF LADING
JSC 52.247-94	F	APR 1997	FT	SHIPPING INSTRUCTIONS
52.248-1	I	FEB 2000	REF	VALUE ENGINEERING
52.249-6	I	SEP 1996	REF	TERMINATION (COST-REIMBURSEMENT)
52.249-14	I	APR 1984	REF	EXCUSABLE DELAYS
52.251-1	I	APR 1984	REF	GOVERNMENT SUPPLY SOURCES
52.252-2	I	FEB 1998	FT	CLAUSES INCORPORATED BY REFERENCE
52.252-6	I	APR 1984	FT	AUTHORIZED DEVIATIONS IN CLAUSES
52.253-1	I	JAN 1991	REF	COMPUTER GENERATED FORMS

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F 3	F		FT	PLACE OF PERFORMANCE
F 4	F		FT	INDEFINITE DELIVERY INDEFINITE QUANTITY (IDIQ) - LIMITATIONS
F 5	F		FT	LEVEL-OF EFFORT - LIMITATIONS
F 6	F		FT	TASK ORDERING PROCEDURES
F 7	F		FT	OPTION FOR THE INCREMENTAL INCREASE OF LEVEL-OF-EFFORT (LOE)
G 2	G		FT	ADVANCED AGREEMENT ON PAYMENT OF PHASE-IN COSTS
G 9	G		FT	RUSSIAN TRAVEL
G 15	G		FT	ADMINISTRATIVE PROVISIONS RELATING TO INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY AND SERVICES
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H 9	H		FT	MANAGEMENT AND PROTECTION OF DATA OF THIRD PARTIES
H 10	H		FT	REPROCUREMENT DATA PACKAGE
H 12	H		FT	GOVERNMENT-PROVIDED RUSSIAN LANGUAGE AND LOGISTICS SERVICES (RLLS)
H 13	H		FT	ADJUSTMENT FOR IDIQ TASK ORDERS
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I 10	I		FT	TECHNICAL INFORMATION RELEASES AND PUBLICATIONS
I 11	I		FT	DATA RIGHTS NOTICE
I 12	I		FT	ACCESS TO CONTRACTOR DATA
I 13	I		FT	LIMITED RIGHTS DATA NOTICE
I 14	I		FT	BATMAN CLAUSE
I 15	I		FT	PIC 99-15, DTD 9/10/99, DEVIATION TO 52.245-5, GOVERNMENT PROPERTY

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PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

B.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
None included by reference		

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

CLAUSE NUMBER	DATE	TITLE
None included by reference		

B.2 ESTIMATED COST AND AWARD FEE (NFS 1852.216-85) (SEP 1993)

The contractor shall provide products and/or services that support International Space Station Program (ISSP) functions related to Program Integration and Control in accordance with Sections C and Attachment J-1, Statement of Work and specific task/delivery orders issued within the scope of this contract.

The estimated costs and available award fee for this contract are as follows:

	ESTIMATED COST	FEE	PRICE
PHASE-IN			638,667
LOE*	18,321,290	1,312,483	19,633,773
IDIQ			
TOTAL	18,321,289	1,312,483	20,272,440

*Note: LOE Costs include \$16,406,040 for hours and \$1,915,250 for Non-Labor Resources Pool.

(End of clause)

B.3 INDEFINITE DELIVERY/INDEFINITE QUANTITY (IDIQ) ORDERS

The Government may order IDIQ services at any time after contract start, in accordance with the procedures set forth in this contract. The contractor shall utilize the rates shown in the following table for the pricing of IDIQ task orders.

Labor Category	FY 1	FY 2	FY 3	FY 4	FY 5	FY 6	FY 7
Program Manager							
Manager							
Supervisor							
Technical Professional III							
Technical Professional II							
Technical Professional I							
Technician III							
Technician II							
Technician I							
IT Professional III							
IT Professional II							
IT Professional I							
Analyst III							
Analyst II							
Analyst I							
Secretary							
Clerk							
Business Specialist							
Data/Documents Management Specialist							
Other (Specify)							
Program Manager (off-site)							
Manager I							
Technical Professional IV							
Technical Professional							
Business Specialist II							
Business Specialist I							
Rates to be applied to non-labor cost such as materials. Identify the rate and basis of application (e.g., G&A, Material Handling, etc.)							
1. Material BASIS: <i>G&A applied to full cost of materials</i>							
2. Travel BASIS: <i>G&A applied to full cost of travel</i>							
3. Equipment BASIS: <i>G&A and escalation applied to full cost of equipment</i>							

4. Training Material
 BASIS: *G&A and escalation applied to full cost of materials*

5. Special Software, Service Calls for Equipment, Safety Awards
 BASIS: *G&A and escalation applied to full cost of Special Software, Service Calls for Equipment and Safety Awards*

Maximum Fee -- % of total proposed cost for estimating purposes

--	--	--	--	--	--	--	--

(End of clause)

B.4 CONTRACT FUNDING (NFS 1852.232-81) (JUN 1990)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is:

PHASE-IN:	\$ 640,000
IDIQ:	\$ 296,296
LOE:	\$ 74,766 (\$8,224 for ODC Pool)
TOTAL:	\$ 1,011,062

This allotment is for activities performed within the scope of the Statement of Work in Section C and Attachment J-1 of this contract and covers the following estimated period of performance:

January 1, 2004 through January 31, 2004

(b) An additional amount of \$ 28,938 is obligated under this contract for payment of fee as follows:

IDIQ:	\$ 23,704
LOE:	\$ 5,234

(c) The total amount of funds obligated to this contract for the payment of cost and fee is:

\$ 1,040,000.

(End of clause)

[END OF SECTION]

SECTION C - STATEMENT OF WORK

The contractor shall provide Program Integration and Control (PI&C) products and services in support of the continued development and operation of the International Space Station (ISS) for the purpose of conducting physical, engineering, and life sciences research for the benefit of life on Earth and to advance exploration of our solar system and enable commerce in Space. Thorough knowledge and expertise of the ISS will be necessary to perform this contract. The contractor is to provide products and services in support of the following functional areas:

- Program Management;
- Business Management;
- Configuration Management and Data Integration;
- Program Information Technology;
- International Partner (IP) Elements Integration Management;
- Systems Analysis and Integration;
- Engineering and Technical Services; and
- Safety and Mission Assurance.

The objective of this contract is to assist the National Aeronautics and Space Administration (NASA) in the management of the International Space Station Program (ISSP) by utilizing effective performance approaches and adequate resources to accomplish PI&C requirements in the most cost-efficient manner.

The detailed performance requirements are described in Attachment J-1, Statement of Work (SOW).

All tasks within the SOW are IDIQ with the exception of the following paragraphs within Attachment J-1, which are LOE:

- 1.2.4 ISSP Budget Support / Assessments
- 1.5.3 IP Elements Integration Management
- 3.1.1.1 Engineering and Technical Services

SECTION D

PACKAGING AND MARKING

D.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
None included by reference		

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

CLAUSE NUMBER	DATE	TITLE
None included by reference		

**D.2 PACKAGING, HANDLING, AND TRANSPORTATION (NFS 1852.211-70)
(JUN 2000)**

(a) The contractor shall comply with NPG 6000.1E, "Requirements for Packaging, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components", dated April 26, 1999, as may be supplemented by the statement of work or specifications of this contract, for all items designated Class I, II, or III.

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

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

(End of clause)

[END OF SECTION]

SECTION E - INSPECTION AND ACCEPTANCE

E.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

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
52.246-3	MAY 2001	INSPECTION OF SUPPLIES-COST REIMBURSEMENT
52.246-5	APR 1984	INSPECTION OF SERVICES-COST REIMBURSEMENT

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

CLAUSE NUMBER	DATE	TITLE
None included by reference		

**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:

Quality Standard Description of Quality Standard

SAE AS9100 Quality Systems-Aerospace-model for Quality Assurance in Design, Development, Production, Installation and Servicing

(End of Clause)

**E.3 MATERIAL INSPECTION AND RECEIVING REPORT
(NFS 1852.246-72) (JUN 1995)**

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

(b) The contractor shall prepare the DD Form 250 in accordance with NASA FAR Supplement 1846.672-1. 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 any of the locations specified in the statement of work where services shall be provided.

(End Of Clause)

E.5 SURVEILLANCE PLAN

A 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 surveillance contemplated in this plan will be based, in part, on the content described in the Award Fee Evaluation Plan (reference Attachment J-2).

(End of clause)

[END OF SECTION]

SECTION F - DELIVERIES OR PERFORMANCE

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 (ALTERNATE I) (APR 1984)

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

CLAUSE NUMBER	DATE	TITLE
None included by reference		

F.2 PERIOD OF PERFORMANCE

The Period of Performance for Indefinite Delivery Indefinite Quantity (IDIQ) and level-of-effort (LOE) work issued under this contract is from **January 1, 2004, through September 30, 2008.**

(End of clause)

F.3 PLACE OF PERFORMANCE

The primary effort required under this contract shall be performed at or near the Lyndon B. Johnson Space Center (JSC) and at other locations as covered by the Statement of Work.

(End of clause)

F.4 INDEFINITE DELIVERY INDEFINITE QUANTITY (IDIQ) - LIMITATIONS

Payment for supplies and services to be furnished under IDIQ task orders shall be made based on the total value of IDIQ task orders issued under this contract. Payments shall be in accordance with the provisions set forth in NFS 1852.216-87, "SUBMISSION OF VOUCHERS FOR PAYMENT."

(a) For the purpose of placing a maximum Not-To-Exceed (NTE) amount on this contract, the maximum amount of IDIQ supplies and services ordered in total under this contract shall not exceed the maximum NTE amount of \$100 Million. This NTE amount includes both cost and fee. The maximum NTE amount is an estimate and does not reflect an obligation of the Government. The Government's obligation hereunder shall be based on that specified in the task/delivery orders issued during the period of the contract.

(b) The minimum amount of IDIQ supplies and services ordered in total and paid for under this contract shall be \$5 Million. This amount includes both cost and fee.

(c) The total cost plus award fee contract value for IDIQ task orders issued under this contract is listed in Section B clause entitled, "ESTIMATED COST AND AWARD FEE (NFS 18-52.216-85)."

(End of clause)

F.5 LEVEL-OF-EFFORT - LIMITATIONS

(a) During the term of this contract, the contractor is obligated to provide not less than 95 percent nor more than 105 percent of 336,700 total direct labor hours.

(b) "Direct labor hours" are those productive hours expended by contractor personnel (including subcontractors, consultants, etc.) in 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, holiday leave, military leave, or any type of administrative leave.

(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 of the direct labor hours specified in paragraph (a) of this clause. Any estimated cost and fee(s) adjustments for additional direct labor hours shall be based solely upon those hours being added to the maximum number of direct labor hours specified in this clause through a modification to the contract.

(d) The fee, if any, is based upon the furnishing of at least the specified minimum number of direct labor hours (including subcontractor, consultant, etc., hours). If the contractor provides less than the specified minimum number of direct labor 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 upon 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), which contributed to the under run. Any information provided by the contractor will be considered by the Contracting Officer in determining the amount of the downward adjustment in fee.

(e) Non-Labor Resources Pool: \$2,595,250 is set aside for non-labor resources (e.g., material, travel, etc.) for the LOE work performed under this contract.

(End of clause)

F.6 TASK ORDERING PROCEDURES

(a) Only the Contracting Officer may issue task/delivery orders and amendments to task/delivery 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 amendments to task orders issued in accordance with this clause and within the dollar amounts specified in B.3 IDIQ – Limitations and B.4 LOE - Limitations. 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 (or his/her designated representative) shall provide the contractor with the following data:

(1) A functional description of the work identifying the objectives or results desired from the contemplated order, as applicable. {IDIQ task orders are to describe the work as performance-based requirements in terms of “what” is to be the required output or outcome.}

(2) Where applicable, proposed quality assurance and performance standards to be used as criteria for determining whether the task order requirements have been met (i.e., acceptance criteria, terms of quality, timeliness, quantity, etc.)

(3) A request for a task plan, broken out by task, from the contractor to include the Basis of Estimate (BOE), including technical approach, period of performance (including milestones and schedules), deliverables, appropriate cost information, and any other information required to determine the reasonableness of the contractor's proposal.

(4) List of any Government-Furnished items, services, facilities, etc., required to perform the task order.

(c) Within 5 working days after receipt of the Contracting Officer's (or his/her designated representative's) request, the contractor shall submit a task plan conforming to the request. In special circumstances, the Contracting Officer may allow more than 5 working days, if deemed appropriate.

(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) Where appropriate, the items discussed above and provided in the contractor's task plan, as agreed to by the Government.

(4) Not-to-Exceed (NTE) dollar amount authorized.

(5) Subcontractor hours and dollars.

(6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.

(7) Delivery/performance schedule including start and end dates.

(e) The contractor shall provide acknowledgment of receipt to the Contracting Officer within 5 working days after receipt of the task/delivery order.

(f) The Contracting Officer may amend specified work within the task order in the same manner in which it was issued. However, the parties agree that for any task order, no amendment to the task order shall give rise to an equitable adjustment in the task order estimated cost or fee when the amendment causes an increase or decrease of \$250,000 or less in the estimated cost of the task order.

(g) In the event of a conflict between the requirements of the task/delivery order and the contractor's approved task plan, the task/delivery order shall prevail.

(h) 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.

(End of clause)

F.7 OPTION FOR THE INCREMENTAL INCREASE OF LEVEL OF EFFORT (LOE)

(a) The Government may increase the number of labor-hours required to be furnished by an amount ranging from 1 to 110,000 labor-hours for this contract. The terms and conditions relating to the Government's option rights as provided herein are as follows:

(b) The Government may increase the labor-hours to be furnished (up to the maximum amount specified above) by the exercise of one option, or by the exercise of multiple options, during the period of performance of this contract including exercising options.

(c) The Government may increase the number of labor-hours required to be furnished during any Government Fiscal Year (GFY) for this contract, including any option years.

(d) If the Government exercises one or more options pursuant to this clause, the contractor will be so notified by a contract amendment executed by the Contracting Officer.

(e) The estimated cost and fee values will be increased by the following amounts for every hour ordered by the exercise of an option:

GFY
FY04
FY05
FY06
FY07
FY08
FY09
FY10

(f) Clause F.5 LEVEL-OF-EFFORT – LIMITATIONS, total direct labor hours will be modified to reflect the increase in hours resulting from exercise of this option.

(End of clause)

F.8 OPTION TO EXTEND THE COMPLETION DATE (JSC 52.217-90) (OCT 1996)

(a) The Government may extend the term of this contract by written notice to the contractor within 30 days prior to the date set forth in clause "F.2, Period of Performance," provided that the Government gives the contractor a preliminary written notice of its intent to extend at least 60 days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 6 years and 9 months.

(d) Should an option be exercised, the resultant contract will include all terms and conditions of the basic contract as it exists immediately prior to the exercise of the option except for the following changes:

OPTION 1: (October 1, 2008 – September 30, 2009)

A. Table in B.2 will be modified as follows:

	ESTIMATED COST	FEE	PRICE
LOE*	3,573,196	258,656	3,831,851
IDIQ	20,275,050	1,622,004	21,897,054
TOTAL	23,848,246	1,880,660	25,728,905

*Note: LOE Costs include \$3,140,000 for hours and \$340,000 for Non-Labor Resources Pool.

B. Clause F.4, INDEFINITE DELIVERY INDEFINITE QUANTITY (IDIQ) – LIMITATIONS not to exceed amount is increased by \$25M.

C. Clause F.5, LEVEL-OF-EFFORT – LIMITATIONS, total direct labor hours is increased by 61,800. The total amount for the Non-Labor Resource Pool is increased by \$340,000.

D. Clause F.2 is hereby deleted and replaced by the following clause F.2:

“F.2 Period of Performance

All work required under this contract, including submission of all reports, shall be complete on or before September 30, 2009.”

OPTION 2: (October 1, 2009 – September 30, 2010)

A. Table in B.2 will be modified as follows:

	ESTIMATED COST	FEE	PRICE
LOE*	3,670,062	266,405	3,936,467
IDIQ	20,889,656	1,671,173	2,560,829
TOTAL	24,559,718	1,937,577	26,497,296

*Note: LOE Costs include \$3,300,062 for hours and 340,000 for Non-Labor Resources Pool.

B. Clause F.4, INDEFINITE DELIVERY INDEFINITE QUANTITY (IDIQ) – LIMITATIONS not to exceed amount is increased by \$25M.

C. Clause F.5, LEVEL-OF-EFFORT – LIMITATIONS, total direct labor hours is increased by 61,800. The total amount for the Non-Labor Resource Pool is increased by \$340,000.

D. Clause F.2 is hereby deleted and replaced by the following clause F.2:

“F.2 Period of Performance

All work required under this contract, including submission of all reports, shall be complete on or before September 30, 2010.”

(End of clause)

F.9 BILLS OF LADING (NFS 1852.247-73) (JUN 2002)

The purpose of this clause is to define when a commercial bill of lading or a government bill of lading is to be used when shipments of deliverable items under this contract are 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 made by Government bills of lading (GBLs). As used in this clause, "domestic overseas" means non-continental United States, i.e. Hawaii, Commonwealth of Puerto Rico, and possessions of the United States.

(2) At least 15 days before shipment, the contractor shall request in writing GBLs from: the JSC designated transportation officer or other official delegated responsibility for GBLs. If time is limited, requests may be by telephone. 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.10 SHIPPING INSTRUCTIONS (JSC 52.247-94) (APR 1997)

All documentation shall be shipped to the addresses cited in Attachment J-3, Data Requirements List – Data Requirements Documents. 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 Road One
Houston, TX 77058-3696

Mark for: Accountable Property Officer
Mark with: Purchase Request No.: _____
Mark with: Contract Number: NNJ04AA01C
For reissue to: _____

(Name) (Mail Code) (Bldg/Rm)

(End of clause)

[END OF SECTION]

SECTION G – CONTRACT ADMINISTRATION DATA

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
None included by reference		

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

CLAUSE NUMBER	DATE	TITLE
1852.227-86	DEC 1987	COMMERCIAL COMPUTER SOFTWARE LICENSING
1852.242-73	JUL 2000	NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING
1852.245-70	JUL 1997	CONTRACTOR REQUEST FOR GOVERNMENT-OWNED EQUIPMENT

G.2 ADVANCED AGREEMENT ON PAYMENT OF PHASE-IN COSTS

The contractor shall be entitled to payment for the phase-in/transition period (from the date of contract award through contract start date) in the Firm-Fixed Price amount of \$638,667 to be received in payments for the following milestones upon concurrence from the Contracting Officer that each milestone has been accomplished:

Milestone 1: Staffing

\$241,933

The successful offeror has hired all personnel proposed as *key* personnel and all of these personnel are performing phase-in work at the level proposed; and at least 90% of all personnel proposed to perform all contract requirements have provided written acceptance of firm job offers.

Milestone 2: ISS Applications Competency

\$63,667

The successful offeror has operational competency with the following ISS Applications.

Reference: Attachment J-1, Appendix F, Table 2	Reference: Attachment J-1, Appendix D, Table 1
1. SAPHIRE	8. ExCATT (or equivalent)
2. CSD	9. SCROALE (or equivalent)
3. COSMOS	10. TRAM (or equivalent)
4. PRACA	11. STRAP (or equivalent)
5. IRMA	12. TPS (or equivalent)
6. ORUDD	13. IEBT (or equivalent)
7. SANMIS	14. CEBT (or equivalent)
	15. HITS (or equivalent)
	16. MODGEN (or equivalent)

Milestone 3: Major Subcontracts

\$31,833

The successful offeror has major subcontracts in place and ready to perform contract requirements.

Milestone 4: Plans and Other Data Deliverables

\$269,400

The successful offeror has completed and submitted the following plans and other Data Deliverables for NASA review and/or approval (per DRD):

1. A-IT-03, IT Security Plan
2. A-PM-01, PI&C Management Plan
3. A-PM-03, Certification of Flight Readiness (CoFR) Plan
4. A-PR-03, Wage/Salary and Fringe Benefit
5. A-SA-01, Mission Assurance & Risk Management Plan

Milestone 5: Accounting System

\$31,834

The successful offeror has implemented an accounting system fully capable of accurately reporting projected and actual accrued cost and fee in accordance with DRD A-PC-01. This system must also enable the capability to submit proper invoices for payment of completed work.

(End of clause)

G.3. SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES/REPRESENTATIVES OF FOREIGN CONTRACTORS (JSC 52.204-91) (MAR 2002)

(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.

(b) All visit/badge requests for persons described in (a) above must be entered in the NASA Request for Request (RFR) and Foreign National Management System (NFMMS) for acceptance, review, concurrence and approval purposes. When an authorized company official requests a JSC or WSTF badge for site access, he/she is certifying that steps have been taken to ensure that its contractor or subcontractor employees, visitors, or representatives will not be given access to export-controlled or classified information for which they are not authorized. These individuals shall serve as the contractor's representative(s) in certifying that all visit/badge request forms are processed in accordance with JSC and WSTF security and export control procedures. No foreign national, representative, or resident alien contractor/subcontractor employee shall be granted access into JSC or WSTF until a completed RFR has been approved and processed through the NFMMS. Unescorted access will not be granted unless a favorable National Agency Check (NAC) has been completed by the JSC Security Office.

(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.

(d) 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.4 AWARD FEE FOR SERVICE CONTRACTS (NFS 1852.216-76) (JUN 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 6 months after the effective date of this contract, the Government shall evaluate the contractor's performance every 6 months to determine the amount of award fee earned by the contractor during the period. The 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 Section J-2, Award Fee Evaluation Plan. 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 Commercial Accounts Office, Code LF will make payment based on the unilateral contract modification issued by the Contracting Officer.

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

(e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth at Appendix 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 percent or the prior period's evaluation score.

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

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

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

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

(End of clause)

G.5 SUBMISSION OF VOUCHERS FOR PAYMENT (NFS 1852.216-87) (MAR 1998)

(a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to this contract, NAS-9-03002.

(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
LF2/Financial Management (Payables)
2101 NASA Road 1
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:

Peninsula Branch Office Western Region
Defense Contract Audit Agency
Milton Yanagisako, Supervisory Auditor
480 San Antonio Road, Suite 150
Mountain View, CA 94040-1253
Telephone Number: 650-917-5058
Fax Number: 650-917-5050
dcaa-fao4281@dcaa.mil

(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
BG/Contracting Officer
2101 NASA Road One
Houston, TX 77058

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

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

Office Title	Code	Address
New Technology Representative	HA	NASA, Lyndon B. Johnson Space Center Technology Utilization Officer Houston, TX 77058
Patent Representative	HA	NASA, Lyndon B. Johnson Space Center Patent Counsel Houston, TX 77058

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any

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

(End of clause)

G.7 TECHNICAL DIRECTION (NFS 1852.242-70) (SEP 1993)

(a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer's Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 18-42.270. "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 the 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) above, the contractor shall not proceed but shall notify the Contracting Officer in writing within 5 days after receiving it and shall request the Contracting Officer to 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.8 TRAVEL OUTSIDE OF THE UNITED STATES (NASA 1852.242-71) (DEC 1988)

(a) The Contracting Officer must authorize in advance and in writing travel to locations outside of the United States by contractor employees that is to be charged as a cost to this contract. This approval may be granted when the travel is necessary to the efforts required under the contract and it is otherwise in the best interest of NASA.

(b) The contractor shall submit requests to the Contracting Officer at least 48 hours (2 working days) in advance of the start of the travel.

(c) The contractor shall submit a travel report at the conclusion of the travel. The Contracting Officer's approval of the travel will specify the required contents and distribution of the travel report.

(End of clause)

G.9 RUSSIAN TRAVEL

The contractor shall comply with Management Directive, ISSP-MD-114 entitled "Guidelines for Travel to Russia and from Russia to Support Meetings". The Russian Element Team in the OC/Mission Integration and Operations Office is the approving authority for U.S. personnel traveling to Russia and Russian personnel traveling out of Russia.

(End of Clause)

G.10 IDENTIFICATION OF EMPLOYEES (JSC 52.242-92) (MAR 2002)

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 badges will be issued only between the hours of 7:30 a.m. to 4 p.m., Monday through Thursday, and 7:30 am to 12:00 pm on Friday. JSC visitor badges will be issued between the hours of 6 a.m. to 10 p.m., 7 days a week. 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 declare citizenship and personally sign for the badge. The contractor shall be held accountable for issued badges and all other related items and must assure that they are returned to the NASA Badging & Visitor Control Offices upon completion of work under the contract in accordance with Security Management Directive (SMD) 500-15, "Security Termination Procedures." Failure to comply with the NASA contractor termination procedures upon completion of the work (e.g., return of badges, decals, keys, 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 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (NFS 1852.245-71) (JUNE 1998) AND ALTERNATE I (MAR 1989)

(a) The Government property described in the clause at G.12 (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:

The responsibilities of the contractor as contemplated by this clause are defined in the following property management directives and installation supplements to these directives.

- a. NPG 4200.1, NASA Equipment Management Manual
- b. NPG 4200.2, NASA Equipment Management Procedures and Guidelines for Property Custodians
- c. NPG 4300.1, NASA Personal Property Disposal Procedures and Guidelines
- c. NPG 4100.1, NASA Materials Inventory Management Manual. JSC will provide the contractor with all applicable regulations, handbooks, and other materials that may be required.
- e. JPG 5151.2, Johnson Space Center Support Contractor Procedures and Guidelines

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 record keeping, 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.

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

(End of clause)

G.12 LIST OF INSTALLATION-ACCOUNTABLE PROPERTY AND SERVICES (NFS 1852.245-77) (JULY 1997) (JSC Version FEB 03)

Note: Paragraph (c) below "Supplies from stores stock" is no longer available

In accordance with the clause 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-1, Appendix E, List of Installation-Accountable Property and Services. 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: As listed in J-1, Appendix F, List of Installation Accountable Property and Services.

(1) Audiovisual: Presentation services, sound services, Release Print Film Library, Film Repository, and loan of audiovisual equipment.

(2) Automatic Data Processing (ADP) Services (onsite only): Generally, this includes access to large general-purpose computer systems, workstations, and the accessing media; i.e., terminals, printers, data communications, and consultation and training in the use of said

systems. Unless otherwise specified in the contract, this does not include providing computer systems or ADP services for the contractor business management, accounting, and administrative functions.

(3) Transportation: Shuttle bus service for contractor employees within the parameters provided for Government employees.

(4) Disposal Services: Disposal services for excess onsite and offsite contractor-held/Government-owned property.

(5) Fabrication Services: Fabrication services such as machining, sheet metal and welding, electronics, metal finishing, model and plastics, and precision cleaning.

(6) Photography, Processing, and Closed-Circuit Television: For technical and scientific photography, photographic processing, photographic sciences, and closed-circuit television.

(7) 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.

(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)

G.13 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (NFS 1852.245-73) (AUG 2001)

(a) The contractor shall submit annually a NASA Form (NF) 1018, NASA Property in the Custody of Contractors, in accordance with the provisions of 1845.505-14, the instructions on the form, subpart 1845.71, and any supplemental instructions for the current reporting period issued by NASA.

(b)(1) Subcontractor use of NF 1018 is not required by this clause; however, the contractor shall include data on property in the possession of subcontractors in the annual NF 1018.

(2) The contractor shall mail the original signed NF 1018 directly to the cognizant NASA Center Deputy Chief Financial Officer, Finance, unless the contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission.

(3) One copy shall be submitted (through the Department of Defense (DOD) Property Administrator if contract administration has been delegated to DOD) to the following address (unless the contractor uses the NF 1018 Electronic Submission System (NESS) for report preparation and submission):

NASA Johnson Space Center
2101 NASA Parkway
Houston, TX 77058
Attn: Mail Code JF

(c) The annual reporting period shall be from October 1 of each year through September 30 of the following year. The report shall be submitted in time to be received by October 31. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 31. The Contracting Officer may, in NASA's interest, withhold payment until a reserve not exceeding \$25,000 or 5 percent of the amount of the contract, whichever is less, has been set aside, if the contractor fails to submit annual NF 1018 reports in accordance with 1845.505-14 and any supplemental instructions for the current reporting period issued by NASA. Such reserve shall be withheld until the Contracting Officer has determined that the required reports have been received by NASA. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(d) A final report shall be submitted within 30 days after disposition of all property subject to reporting when the contract performance period is complete in accordance with (b)(1) through (3) of this clause.

(End of clause)

G.14 REPAIR OF GOVERNMENT PROPERTY (JUNE 1986) (JSC 52.245-91)

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.15 ADMINISTRATIVE PROVISIONS RELATING TO INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY AND SERVICES

(a) Requests for specific support to be furnished by the Government pursuant to the "Installation-Provided Government Property" clause and the "List of Installation-Accountable Government Property and Services" clause shall be made by the contractor to the Contracting Officer in accordance with the current issue of JPG 5151, "Support Contractor Handbook." The completion of forms, needed to obtain support, shall be accomplished by the contractor.

(b) If the contractor requests property or services which are not available or cannot be made available from the Government to meet the contractor's schedule needs, the requesting document will be canceled and returned to the contractor. The contractor will thereafter be responsible for acquiring the needed items or services.

(c) If the contractor initiates a transfer of accountability (DD Form 1149) from the contractor to the Government, the contractor shall continue to account for the property in question until contractor receives notification that the form has been signed by the JSC Supply and Equipment Management Officer (SEMO) or his/her authorized representative. If the contractor does not receive such notice in a reasonable time, contractor will make inquiry through the Property Administrator as to the status of the transfer.

(End of clause)

[END OF SECTION]

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
None included by reference		

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

CLAUSE NUMBER	DATE	TITLE
1852.204-74	MAY 2002	CENTRAL CONTRACTOR REGISTRATION
1852.208-81	OCT 2001	RESTRICTIONS ON PRINTING AND DUPLICATING
1852.223-70	APR 2002	SAFETY AND HEALTH
1852.223-75	FEB 2002	MAJOR BREACH OF SAFETY OR SECURITY
1852.225-70	FEB 2000	EXPORT LICENSES AND ALTERNATE 1 (FEB 2000) AND PARA (B) [INSERT: "JOHNSON SPACE CENTER"]
1852.228-76	DEC 1994	CROSS-WAIVER OF LIABILITY FOR SPACE STATION ACTIVITIES
1852.242-72	AUG 1992	OBSERVANCE OF LEGAL HOLIDAYS AND ALTERNATE II (OCT 2000)
1852.244-70	APR 1985	GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM
1852.246-70	MAR 1997	MISSION CRITICAL SPACE SYSTEMS PERSONNEL RELIABILITY PROGRAM

H.2 REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS (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 dated June 11, 2003, by reference, with the same force and effect as if it were given in full text.

H.3 ISS CONTRACT STRATEGY CONFLICT OF INTEREST AGREEMENT

(a) An organizational conflict of interest exists for this contract as it relates to the contracts awarded as part of the overall ISS Contract Strategy in that the contractor may be in a position to favor its own products or capabilities. Two of the six contracts to be awarded will be responsible for support to ISS Program Management. These two contracts are the Program Integration and Control contract and the Mission Integration contract. The other four contracts to be awarded will be responsible for the overall implementation of these Program requirements. These four contracts are for Cargo Mission, Payload Integration/Payload Mission, USOS Acceptance and ISS Vehicle Sustaining, and Flight Equipment Sustaining and Operations. The intent of this clause is to prohibit a contractor from developing Program requirements in one of the aforementioned two contracts designed for "Support to ISS Program Management" and also implementing those requirements in one of the additional four contracts responsible for "ISS Program Implementation." Therefore, the contractor, by signing this contract, fully understands, agrees, and will comply with the following conditions:

- (1) The contractor will not perform work as a prime for the following contracts: Cargo Mission, Payload Integration/Payload Mission, USOS Acceptance and ISS Vehicle Sustaining, and Flight Equipment Sustaining and Operations.
- (2) The contractor will perform no more than 49% (total contract costs) of the work as a subcontractor under any of the contracts mentioned above in number 1.
- (3) The contractor shall not, and will not, make the day-to-day program management decisions under any of the contracts set forth in number 1.

(b) If by the performance of this contract, or by any other means, the contractor believes they may violate any of these conditions above, the contractor shall notify the Contracting Officer in writing immediately.

(End of clause)

H.4 ASSOCIATE CONTRACTOR AGREEMENT FOR ISS

(a) The success of the International Space Station (ISS) Program is dependent on the efforts of multiple contractors. The PI&C contractor is a key participant. The other contracts of the key participating contractors are:

NAS9-03003	Mission Integration Contract
NAS9-03043	Cargo Mission Contract
Contract	Extravehicular Activity (EVA) Systems Contract
NAS9-02099	Payload Integration Contract
NAS15-10000	USOS Acceptance and ISS Vehicle Sustaining Contract
NAS9-20000	Space Flight Operations Contract (SFOC)
Contract	Flight Equipment Sustaining and Operations
NAS10-02007	Checkout, Assembly, and Payload Processing Services (CAPPS)

Under the aforementioned contracts the contractors will provide the necessary technical, engineering and processing products and services required to develop, operate, maintain and utilize the International Space Station.

(b) In order to achieve efficient and effective implementation of the operation and utilization phase of the ISS, the contractor shall establish the means for coordination and exchange of information with associate contractors. The information to be exchanged shall be that required by the contractors in the execution of their respective contract requirements. The contractors are strongly encouraged to seek out and foster cooperative efforts that will benefit the ISS Program with increased safety, efficiency, and productivity.

(c) Given the unique role of this contract, and interrelations with the development, operation, maintenance and utilization of the ISS, the contractor will engage in cooperative relationships that facilitate effective management of the overall ISS effort. This joint cooperation will be evaluated as part of the contract award fee process, as defined in the Award Fee Plan for the contract.

(d) To ensure successful implementation and utilization of the ISS, the contractors shall establish formal guidelines to address coordination, cooperation and communication. All program elements shall work in a coordinated fashion. Each contractor shall establish the means for the exchange of such data as needed to keep other project elements fully informed.

(End of clause)

H.5 ADDITIONAL EXPORT CONTROL REQUIREMENTS

In addition to the requirements set forth in NFS 1852.225-70 Export Licenses, the Contractor shall perform the following tasks.

The following requirements shall be met by the Contractor and its Subcontractors, respectively, to use Department of Commerce or Department of State export licenses obtained by NASA and to use any NASA export license exceptions or exemptions as they apply to the International Space Station Program.

For exports (hardware, software, technical data) originating from Houston, Huntsville, AL or Cape Canaveral, FL, submit the equivalent information described below to the Center Export Administrator (CEA) at the geographically closes NASA Space Flight Center (Johnson Space Center (JSC), Marshall Space Flight Center (MSFC) or Kennedy Space Center (KSC)) according to the policies and procedures of that center. A courtesy copy of equivalent information submitted to MSFC or KSC shall be provided to the JSC CEA's office. Provide copies of shipping documents for shipments made under a NASA Export License, exemption or exception to the appropriate CEA within two weeks after the shipment.

a. A minimum of 15 working days prior to export, the Contractor or its subcontractors who are exporting on behalf of NASA must obtain approval from the Center Export Administrator's (CEA) office by following an Advance Notification of Shipment (ANS) process.

b. Before effecting an export on behalf of NASA, the Contractor or its subcontractors shall determine the classification recommendation of the item(s) or document(s) and whether it needs a license. If required, the contractor or its subcontractors shall provide a more technical rationale supporting the classification, if requested by NASA

c. Formal letter, fax or email is sufficient, addressed to the CEA's office, and must include the details listed below.

- NASA license number (include date of expiration) or license exception/exception.
- Quantity and description as it appears on the applicable license.
- Date of planned shipment (and expected date of return if not a permanent export).
- Origin of shipment (Company and city).
- Destination of shipment (Country, city and company).
- Point of contact (for technical questions – must be a representative of the originating shipper).
- Export Classification Control Number (ECCN) or category under Export Administration Regulations or United States Munitions List regulations.
- Rationale for classification.
- Requirement to export (i.e., MOU, contract number, meeting minutes). You may be asked to provide copy of the requirement.
- Additional information as necessary to clarify the export.

d. A copy of the completed Pro Forma Invoice (JSC Form 1735) attached to an email is sufficient to meet this requirement as long as all required information above is also included.

e. After all the information is submitted, the CEA's office will respond to Contractor or its subcontractor within ten working days. Once approved, NASA will provide the destination control statement to use on all export documentation.

Included in the applicable export exceptions, the Contractor or its subcontractors are authorized to export hardware, software or data to ISS International Partner (IP) governmental offices that meet the conditions of license exception GOV (15 CFR 740.11(b)(2)(iii)(A)).

For Verification of End Use, Contractor or its subcontractors shipping on behalf of NASA using a license or license exception or exemption, shall provide a copy of all shipping documentation within two business weeks of the shipment date to the CEA's office.

For temporary exports, Contractor or its subcontractors shipping on behalf of NASA, shall notify the CEA in writing within five business days of the date that the item was actually returned.

The Contractor or its subcontractors shall keep those records required by Department of Commerce and Department of State regulations for all exports and make them available upon request to NASA and its representatives.

These requirements, do not apply to Contractor or subcontractor commercial contract related exports or exports pursuant to Technical Assistance Agreements or other license authorizations received by the Contractor or its subcontractors and for which the Contractor or its subcontractors will be the exporter of record.

The Contractor and its subcontractors shall perform self-annual audits of their export control processes and provide written audit results to the CEA in accordance with DRD A-II-02, Export Control Audit Results.

The Contractor and its subcontractors shall report to the NASA JSC EST, in writing, any potential export issues (including those related to support of sustaining engineering and operations of ISS) that cannot be resolved by the Contractor or its subcontractors, respectively. Such report and/or notification of issues and technical tasks should be reported to the NASA JSC EST at least three months in advance of requested action.

Upon discovery of unforeseen adverse export issues, the Contractor shall immediately notify NASA JSC EST by telephone or email of said issue and shall report to the NASA JSC EST, in writing, as the facts become known.

When directed in writing by the Contracting Officer or designated representative, the Contractor, shall export on behalf of NASA, NASA specifically identified technical data, computer software, hardware, or defense services to a named foreign entity or person, in the manner and under the conditions provided for in the direction.

(End of clause)

H.6 GOVERNMENT INSIGHT

(a) Definitions. For the purpose of this contract, the following definitions apply:

“Insight,” as used in this clause, means technical visibility into the Program, maintained through audit, surveillance, assessment of trends and metrics, software independent verification and validation, the flight readiness review process, and review or independent assessment of out-of-family anomalies occurring in any phase of the program.

“Surveillance,” as used in this clause means continual monitoring and verification of the status of manufacturing, testing, and processing of Station hardware, software and operations preparations to ensure that requirements are being fulfilled. Items to be monitored and verified are selected—this is not an all inclusive activity.

“Audit,” as used in this clause, means the implementation of procedures and requirements of the NASA Engineering Quality Audit (NEQA) or other equivalent audit techniques used to perform periodic audit of all aspects of processes and procedures required to manufacture, assemble, test, and process hardware for flight. Audits may include an examination of all disciplines and tasks which are involved with or support ISS, hardware and software production and maintenance, safety and quality assurance, logistics, procurements and operations. These descriptions are illustrative only and shall not be construed as any limitation on the Government’s right to conduct an audit of the contractor and subcontractors to determine performance on this contract.

(b) The Government shall have the right to audit the contractor and subcontractors in accordance with applicable clauses within this contract. One purpose of these audits is to afford the Government insight into and understanding of contractor and selected subcontractor processes and procedures to determine whether the processes or procedures (1) adversely affect safety; (2) are not within contract performance standards; or (3) adversely affect future launch schedules.

(c) The Government may schedule fact-finding meetings with the contractor and subcontractors as necessary to discuss issues requiring Government insight. Scheduling and format of these meetings shall indicate whether exchange of information will be required, and the number and expertise of contractor/subcontractor personnel who shall attend the meetings. When requested by the Contracting Officer or designee, the contractor and subcontractors shall provide necessary support to the Government when it audits the contractor or subcontractor and for the Government-contractor/subcontractor meetings. The purpose of these meetings is to understand the findings of the Government audits. The parties understand and agree that no direction from the Government or constructive change to the contract shall result from any of these meetings.

(End of clause)

H.7 HANDLING OF SENSITIVE DATA

(a) It is anticipated that in the performance of this contract, the contractor may have access to and use of NASA's sensitive internal budget, accounting, or financial data. The contractor agrees to use, copy, or disclose such data, or any other data agreeably within these categories, only for contract purposes, and to make no other use or disclosure of such data without written permission of the Contracting Officer.

(b) 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 this data remain proprietary or confidential, the contractor shall protect this data from unauthorized use and disclosure and agrees not to use them to compete with those other companies.

(End of clause)

H.8 (LIMITED) RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION (CBI) (JSC 52.227-91) (MAY 2002)

(a) NASA may find it necessary to release information submitted by the contractor pursuant to the provisions of this contract, to individuals not employed by NASA. Business information that would ordinarily be entitled to confidential treatment may be included in the information released to these individuals. Accordingly, by signature on this contract, the contractor hereby consents to a limited release of its confidential business information (CBI).

(b) Possible circumstances where the Agency may release the contractor's CBI include the following:

(1) To other Agency contractors and subcontractors, and their employees tasked with assisting the Agency in handling and processing information and documents in the administration of Agency contracts, such as providing post award audit support and specialized technical support to NASA;

(2) To NASA contractors and subcontractors, and their employees engaged in information systems analysis, development, operation, and maintenance, including performing data processing and management functions for the Agency.

(c) NASA recognizes its obligation to protect the contractor from competitive harm that could result from the release of such information to a competitor. Except where otherwise provided by law, NASA will permit the limited release of CBI under subparagraphs (1) or (2) only pursuant to non-disclosure agreements signed by the assisting contractor or subcontractor, and their individual employees who may require access to the CBI to perform the assisting contract.

(d) NASA's responsibilities under the Freedom of Information Act are not affected by this clause.

(e) The contractor agrees to include this clause, including this paragraph (e), in all subcontracts at all levels awarded pursuant to this contract that require the furnishing of confidential business information by the subcontractor.

(End of clause)

H.9 MANAGEMENT AND PROTECTION OF DATA OF THIRD PARTIES

(a) It is anticipated that the contractor may have access to, be furnished with, or use, the following types of data (recorded information) in performance of this contract:

(1) Data of third parties bearing limited rights or restricted rights notices submitted either to NASA or directly to the contractor: or

(2) Other data of third parties, which NASA has agreed to handle under protective arrangements;

(b) In order to protect the interests of the government and the interests of other owners of such data, the contractor agrees with respect to data in category 1 above, and with respect to any data in category 2 when so identified by the Contracting Officer, to:

(1) Use and disclose such data only to the extent necessary to perform the work required under this contract, with particular emphasis on restricting the data to employees having a "need to know";

(2) Preclude disclosure of such data outside contractor's organization performing work under this contract without written consent of the Contracting Officer. The contractor's organization includes support contractors to the extent they are subject to the same requirements regarding protection of 3rd party data; and

(3) Return or dispose of such data as directed by the Contracting Officer or the furnishing third party owner when such data is no longer needed for contract performance.

(End of clause)

H.10 REPROCUREMENT DATA PACKAGE

The contractor shall provide a Reprourement Data Package in accordance with DRD A-PR-04.

(End of Clause)

H.11 KEY PERSONNEL AND FACILITIES (NASA 1852.235-71) (MARCH 1989)

- (a) The personnel and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the contractor shall (1) notify the Contracting Officer reasonably in advance, and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.
- (b) The contractor shall make no diversion without the Contracting Officer's written consent; provided that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.
- (c) The list of personnel and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

List here the personnel and/or facilities considered essential:

FACILITIES:

ARES Aerospace & Technology Services
1331 Gemini Street, Suite 120
Houston, Texas 77058

(End of clause)

H.12 GOVERNMENT-PROVIDED RUSSIAN LANGUAGE AND LOGISTICS SERVICES (RLLS)

The contractor is authorized use of the following RLLS in performance of this contract or any subcontract entered into under this contract:

Russian Translations
Russian Interpretations
Russian Language training
Russian Logistics services (both in the U.S. and in Russia), including a) Ground Services (e.g. airport pickup/drop-off, transportation between hotels and meeting locations); b) Meeting Services (e.g. coordination of schedules, agendas, and protocols); c) Hotel Reservations at the Renaissance Hotel - Olympic Penta in Russia; and d) Visa Coordination.

The Contracting Officer shall be promptly notified by the contractor upon identification of a need for RLLS. The Contracting Officer shall provide instructions as to the point of contact for submitting a request for RLLS. Failure of the Government to provide adequate or timely RLLS shall entitle the contractor to an equitable adjustment in all affected contract terms and conditions, exclusive of any adjustment to fee. This provision, including this flow-down requirement, shall be inserted in all subcontracts where it is anticipated that RLLS may be necessary for contract performance.

(End of Clause)

H.13 ADJUSTMENT FOR IDIQ TASK ORDERS

The purpose of this clause is to set forth the terms and conditions governing adjustments to the estimated cost and fee, if any, to account for variation in the quantity of specific activities required to accomplish the work ordered on IDIQ task orders.

The Government's objective is to have the work performed in the most efficient manner possible, consistent with the furnishing of high quality services. One means of achieving this objective is to minimize revisions and updates to task orders, and thus reduce or eliminate the administrative costs to both parties. The adjustment provisions set forth herein are intended to achieve that objective, while at the same time compensating the contractor fairly for providing the services ordered within a reasonable range of the activity level estimated for each task.

Adjustment Provisions

The activity level for each element of the work described in the IDIQ task orders are in some instances accompanied by specific quantities or a range of quantities. These data represent the Government's estimates of the level of services required for the task order period, and are only intended to reflect the amount of activity anticipated for the elements of work contained within the task order. The specified quantities do not constitute a limitation on the contractor's obligation to perform work in the areas to which they relate.

Activity performed under a task order, which falls within plus or minus 20 percent of the range specified, or, if no range is specified, within plus or minus 20 percent of the specific quantity, will not be subject to an adjustment (unless an adjustment is necessitated by some other provision of this contract). The fact that the contractor has performed activities that exceed the specified quantities shall not relieve the contractor of its obligation to continue to accomplish the tasks required by the Government.

(3) An equitable adjustment (either upward or downward) will be made in the cost and fee provided for in the task order if both of the following conditions are met at the end of the performance period of the task order:

- a. one or more of the specified quantities or range of quantities has either been exceeded or has not been met by a factor of 20 percent; and
- b. the net cost increase or decrease of all quantities combined is greater than \$250K.

(4) The adjustment provisions of this clause shall not be construed as a limitation of the Government's rights under the Termination clause of this contract. In addition, this clause is fully subject to the Limitation of Funds clause of this contract and shall not be construed as authorization to perform work beyond what can be accomplished in accordance with the Limitation of Funds.

The contractor is responsible for: tracking the performance of the work in each task order and keeping current, complete, and accurate records for the level of activity expended for each element of work performed within each task order; making such records available to the Contracting Officer as may be requested from time to time; and submitting an adjustment proposal if the contractor believes the conditions of paragraph (c) above are met, or if requested by the Contracting Officer. If initiated by the contractor, the contractor's proposal shall be submitted within 90 days of the last day of the task order performance period. If requested by the Contracting Officer, the proposal shall be submitted within 90 days of the request.

(End of Clause)

[END OF SECTION]

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I. 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	DEC 2001	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, RESCISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	JAN 1997	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	JUN 2003	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-2	AUG 1996	SECURITY REQUIREMENTS
52.204-4	AUG 2000	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER
52.209-6	JUL 1995	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT

CLAUSE NUMBER	DATE	TITLE
52.211-15	SEP 1990	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS
52.215-2	JUN 1999	AUDIT AND RECORDS - NEGOTIATION
52.215-8	OCT 1997	ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT
52.215-11	OCT 1997	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA - MODIFICATIONS
52.215-13	OCT 1997	SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS
52.215-14	OCT 1997	INTEGRITY OF UNIT PRICES
52.215-15	DEC 1998	PENSION ADJUSTMENTS AND ASSET REVERSIONS
52.215-17	OCT 1997	WAIVER OF FACILITIES CAPITAL COST OF MONEY
52.215-18	OCT 1997	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 AND ALTERNATES II (OCT 1997) & III (OCT 1997) [INSERT ALT III: 3.5" DISK OR CD-ROM]
52.216-7	DEC 2002	ALLOWABLE COST AND PAYMENT
52.216-19	OCT 1995	ORDER LIMITATIONS [INSERT: "\$25,000; \$25,000,000; \$25,000,000; 5; and 5"] (Applicable only to IDIQ task orders)
52.216-22	OCT 1995	INDEFINITE QUANTITY
52.219-6	JUN 2003	NOTICE OF SMALL BUSINESS SET-ASIDE
52.219-8	OCT 2000	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-14	DEC 1996	LIMITATIONS ON SUBCONTRACTING
52.222-1	FEB 1997	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES

CLAUSE NUMBER	DATE	TITLE
52.222-3	JUN 2003	CONVICT LABOR
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	APR 2002	EQUAL OPPORTUNITY AND ALTERNATE I (FEB 1999)
52.222-29	JUN 2003	NOTIFICATION OF VISA DENIAL
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	MAY 1989	SERVICE CONTRACT ACT
52.223-5	APR 1998	POLLUTION PREVENTION & RIGHT-TO-KNOW INFORMATION
52.223-6	MAY 2001	DRUG FREE WORKPLACE
52.223-10	AUG 2000	WASTE REDUCTION PROGRAM
52.223-14	JUN 2003	TOXIC CHEMICAL RELEASE REPORTING
52.225-13	JUN 2003	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES
52.227-1	JUL 1995	AUTHORIZATION AND CONSENT AND ALTERNATE I (APR 1984)
52.227-2	AUG 1996	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.227-11	JUN 1997	PATENT RIGHTS - RETENTION BY THE CONTRACTOR (SHORT FORM) AS MODIFIED BY NFS 1852.227-11
52.227-14	JUN 1987	RIGHTS IN DATA-GENERAL (JUN 1987) AS MODIFIED BY NFS 1852.227-14 (JUL 1995)
52.227-16	JUN 1987	ADDITIONAL DATA REQUIREMENTS

CLAUSE NUMBER	DATE	TITLE
52.228-7	OCT 1988	INSURANCE—LIABILITY TO THIRD PERSONS
52.232-9	APR 1984	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-17	JUN 1996	INTEREST
52.232-18	APR 1984	AVAILABILITY OF FUNDS
52.232-22	APR 1984	LIMITATION OF FUNDS
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	FEB 2002	PROMPT PAYMENT AND ALTERNATE I (FEB 2002)
52.233-1	JUL 2002	DISPUTES AND ALTERNATE I (DEC 1991)
52.233-3	AUG 1996	PROTEST AFTER AWARD AND (ALTERNATE I) (JUN 1985)
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 AND ALTERNATE II
52.243-6	APR 1984	CHANGE ORDER ACCOUNTING
52.244-2	AUG 1998	SUBCONTRACTS – ALTERNATE I (JUL 1998)
52.244-5	DEC 1996	COMPETITION IN SUBCONTRACTING
52.244-6	APR 2003	SUBCONTRACTS FOR COMMERCIAL ITEMS
52.245-5	JUN 2003	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) W/DEVIATION AS PROVIDED BY NASA PIC 99-15, DTD 9/10/99 AND ALTERNATE I (JUL 1985)

CLAUSE NUMBER	DATE	TITLE
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 CARRIER
52.247-64	APR 2003	PREFERENCE FOR PRIVATELY OWNED U.S. - FLAG COMMERCIAL VESSELS
52.247-67	JUN 1997	SUBMISSION OF COMMERCIAL TRANSPORTATION BILL TO THE GENERAL SERVICES ADMINISTRATION FOR AUDITS
52.248-1	FEB 2000	VALUE ENGINEERING
52.249-6	SEP 1996	TERMINATION (COST-REIMBURSEMENT)
52.249-14	APR 1984	EXCUSABLE DELAYS
52.251-1	APR 1984	GOVERNMENT SUPPLY SOURCES
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

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

CLAUSE NUMBER	DATE	TITLE
1852.203-70	JUN 2001	DISPLAY OF INSPECTOR GENERAL HOTLINE POSTERS
1852.209-72	DEC 1988	COMPOSITION OF THE CONTRACTOR
1852.216-89	JUL 1997	ASSIGNMENT AND RELEASE FORMS
1852.219-74	SEP 1990	USE OF RURAL AREA SMALL BUSINESSES
1852.219-76	JUL 1997	NASA 8 PERCENT GOAL
1852.223-74	MAR 1996	DRUG-AND-ALCOHOL -FREE WORKPLACE
1852.228-75	OCT 1998	MINIMUM INSURANCE COVERAGE
1852.235-70	FEB 2003	CENTER FOR AEROSPACE INFORMATION
1852.237-70	DEC 1988	EMERGENCY EVACUATION PROCEDURES
1852.242-76	MAR 1999	MODIFIED COST PERFORMANCE REPORT

CLAUSE NUMBER	DATE	TITLE
1852.242-78	APR 2001	EMERGENCY MEDICAL SERVICES AND EVACUATION
1852.243-70	OCT 2001	ENGINEERING CHANGE PROPOSALS
1852.243-71	MAR 1997	SHARED SAVINGS

I.2 APPROVAL OF CONTRACT (FAR 52.204-1) (DEC 1989)

This contract is subject to the written approval of the Procurement Officer for the NASA Johnson Space Center and shall not be binding until so approved.

(End of clause)

I.3 CLAUSES INCORPORATED BY REFERENCE (FAR 52.252-2) (FEB 1998)

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

http://www.arnet.gov/far/

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

(End of clause)

I.4 AUTHORIZED DEVIATIONS IN CLAUSES (FAR 52.252-6) (APR 1984)

The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

The use in this solicitation or contract of any NASA FAR Supplement Regulation (48 CFR 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

I.5 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES (NFS 1852.204-76) (JUL 2002)

(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 (NPG) 2810.1, Security of Information Technology; and
- (3) Chapter 3 of NPG 1620.1, NASA Security Procedures and Guidelines.

(c) Within the 30 days after contract award, as specified in DRD A-IT-01, 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 NPG 2810.1, Section 4.5; NPG 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 NPG 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.6 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 *18,000 for the base period of the contract 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 multi-shift operations or by employing additional personnel.

* Insert either "zero" or the dollar amount agreed to during negotiations. The inserted figure does not apply to the exceptions in paragraph (a)(1) through (a)(4) of the clause.

An additional amount of \$7,000 will be added to paragraph (a) above for each option year, as shown in Section F, Clause F.8, Option to Extend the Completion Date, should these option years be contractually authorized.

(End of clause)

**I.7 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.

Employee Class	Monetary Wage-Fringe Benefits
Engineering Technician V	GS-9 \$20.19
Engineering Technician III	GS-5 \$13.32
Engineering Technician II	GS-4 \$11.91
Computer Programmer IV	GS-11 \$24.42
Computer Programmer II	GS-7 \$16.50
Computer Programmer I	GS-5 \$13.32
Computer Systems Analyst III	GS-12 \$29.27
Computer Systems Analyst II	GS-11 \$24.42
Computer Systems Analyst I	GS-9 \$20.19
Secretary I	GS-4 \$11.91
General Clerk I	GS-1 \$8.65
Document Preparation Clerk	GS-3 \$10.61

(End of clause)

I.8 OMBUDSMAN (NFS 1852.215-84) (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,

Susan H. Garman, Associate Director (Management)
Mail Code AC
Phone: 281-483-0490
FAX: 281-483-2200

Concerns, issues, disagreements, and recommendations, which cannot be resolved at the installation may be referred to the NASA ombudsman, Robert Scott Thompson, the Director of the Contract Management Division, at 202-358-0422, facsimile 202-358-3083, e-mail sthompson1@hq.nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(End of clause)

I.9 INFORMATION INCIDENTAL TO CONTRACT ADMINISTRATION

(a) With the exception of financial information, the Government shall have unlimited rights to use and distribute to third parties any administrative or management information developed by the contractor or a subcontractor at any tier in whole or in part for the performance of the contract or first produced in the performance of the contract, whether or not said information is specified as a contract deliverable, if created in whole or in part at Government expense. The Contracting Officer may, at any time during the contract performance or within a period 3 years

after acceptance of all items to be delivered under this contract, order any administrative or management information developed by the contractor or a subcontractor at any tier in whole or in part for the performance of the contract or first produced in the performance of the contract.

(b) The Contracting Officer may release the contractor from the requirements of this clause for specifically identified information at any time during the 3-year period set forth in paragraph A of this clause.

(End of clause)

I.10 TECHNICAL INFORMATION RELEASES AND PUBLICATIONS

As authorized by paragraph (d)(1) of the Rights in Data-General Clause (FAR 52.227-14) of this contract, the following exception shall apply:

During the performance of this contract, if data relating to this contract is planned for use in oral or written presentations, professional meetings, seminars, or in articles to be published in professional, scientific, and technical journals and similar media, the contractor shall assure that an advance information copy of the presentation or article is sent to the Space Station Program (SSPO) to have the benefit of advance information concerning accomplishments of interest, and will provide the SSPO an opportunity to make suggestions to the contractor concerning revisions if it is considered that such comments might be useful to the contractor to help assure the technical accuracy of the information to be presented or published. The information copy will be forwarded to the technical monitor of the contract at least four weeks in advance of the date the author intends to give the presentation or submit the article for publication.

The advance information copy may be submitted in the format or medium, which will be utilized in its ultimate release.

(End of clause)

I.11 DATA RIGHTS NOTICE

(a) Any proposal submitted during the course of contract performance must expressly identify any computer software or technical data that is to be provided with less than unlimited data rights. The contractor shall notify the Contracting Officer in writing prior to incorporating any item, component, subcomponent, process, or software, wherein the related technical data or computer software qualifies as limited rights data or restricted computer software in accordance with Alternate II and III of FAR 52.227-14 and NFS 1852.227-86. This notification does not apply to commercial off-the-shelf (shrink-wrapped) computer software, and corresponding documentation, that has a standard commercial license unless the software is to be incorporated as a subcomponent in a developmental effort.

(b) Technical data and computer software delivered shall not be marked with restrictive legends unless the Contracting Officer has given prior written consent.

(c) All license agreements shall be compliant with Federal laws, regulations and the terms and conditions of this contract and shall be transferable to the government upon completion of the contract without additional cost to the Government. One copy of the final negotiated license agreement shall be forwarded to the Contracting Officer within 30 days of agreement to ensure compliance.

(End of clause)

I.12 ACCESS TO CONTRACTOR DATA

(a) "Data" for purposes of this clause, means recorded information, regardless of the form or media on which it may be recorded. The term includes technical data; computer software; and information incidental to contract administration, such as financial, administrative, cost or pricing, or management information. Types of data contained in the definition also include contractor internal audits of any discipline, system, or task, which directly or indirectly supports the performance of this contract as well as data from any audit of subcontractor(s) performing this contract. These examples are illustrative and are not to be construed as a limitation on the definition of data.

(b) The Contracting Officer or designee shall, through closeout, have access to and the right to examine any of the data produced or specifically used in the performance of this contract. The purpose of this access provision is to permit the Government to monitor the contractor's performance under this contract and to permit sampling of contractor data to verify requirements compliance and continuous improvement without unduly increasing the number of data deliverables to this contract.

(c) The contractor shall make available at all reasonable times for Government inspection all existing Government data provided to the contractor and any data first produced or used in the performance of this contract for examination through closeout. Moreover, information provided by the contractor on this system shall contain all necessary technical and business application data to determine the degree to which contract requirements are met.

(d) Except for software systems being provided as part of this contract, the contractor shall maintain all data on a commercially available system for information management that is easily accessible by NASA. For the purposes of this clause, "commercially available system" is defined as a system comprised of a Commercial Off-the-Shelf (COTS) database management system with its associated reporting/query tools, and a COTS text and graphics viewer software package. The contractor must obtain the approval of the Contracting Officer prior to using any noncommercial system for information management of data generated under this contract. As part of this request, the contractor must justify why no commercial system to manage information is adequate for this contract. If use of a noncommercial system is approved, then the

contractor shall demonstrate the system to the Government and provide thorough training to Government personnel to ensure they are able to access (i.e., read and copy) all data maintained on the system.

(e) The contractor shall provide the Government unimpeded access to all areas determined by Government representatives as necessary for surveillance, audit and independent evaluation purposes. In those instances that access is restricted due to hazards or other personnel access limitations, the contractor shall accommodate Government personnel such that access is provided and operational safety is not compromised.

(f) Notwithstanding the *Additional Data Requirements* clause, the Government shall have the right to reproduce any data found during the examination that it wishes to retain. The Government will reimburse reproduction costs only when it uses contractor equipment for the reproduction. The Government shall retain no greater rights in the reproduced data than it would have under the *Rights in Data--General* clause.

(g) The contractor shall describe the areas of its internal systems where NASA access will be permitted, define access and interface requirements, and provide NASA the required training to be able to access and use these systems.

(h) The contractor shall flow this clause to all cost type subcontracts.

(End of clause)

I.13 LIMITED RIGHTS DATA NOTICE

(a) Notwithstanding any other terms and conditions of this contract, the Government shall have the right to disclose technical data marked as limited rights data outside of the Government, without obtaining permission from the contractor, under the following circumstances:

(1) Use (except for manufacture) by support service contractors.

(2) Evaluation by non-government evaluators.

(3) Use (except for manufacture) by other contractors participating in the Government's program of which the specific contract is a part, for information and use in connection with the work performed under each contract.

(4) Emergency repair or overhaul work.

(5) Release to a foreign government, or instrumentality thereof, as the interests of the United States Government may require, for information or evaluation, or emergency repair or overhaul work by such government.

(b) Prior to disclosure, except in emergency circumstances as identified in paragraphs 4 and 5 above, the Government shall require the recipient to sign an agreement, provided by and acceptable to the contractor, to protect the data from unauthorized use and disclosure. The contractor shall provide a copy of the acceptable nondisclosure agreement to the Contracting Officer no later than 30 days after contract award.

(End of clause)

I.14 DATA RIGHTS TO BOOZ ALLEN TRAFFIC MODEL (BATMAN) ANALYSIS TOOL

- a. The contractor hereby agrees that the company developed BATMAN tool that combines the functions of the Station Reboost Analysis Program (STRAP) and Traffic Resource Analysis Model (TRAM) tools (previously developed under a NASA contract), into one integrated tool will be delivered to the Government with unlimited rights as defined in 52.227-14, the *Rights in Data – General (June 1987)* clause of this contract, as modified by 1852.227-14.
- b. Delivery shall include associated documentation and any updates or modifications to the BATMAN tool that may be made during performance of this contract, whether such updates or modifications occur before or after delivery of the basic tool.
- c. The Contracting Officer will notify the contractor of the delivery date.
- d. Delivery of the basic BATMAN tool and any update or modification thereto shall not give rise to any equitable adjustment in the contract cost or fee

(End of clause)

I.15 PIC 99-15, DATED 9/10/99, DEVIATION TO FAR 52.245, GOVERNMENT PROPERTY

(a) through (f) (No Change.) (g) Limited Risk of Loss. (1) through (4) (No Change.) (5) **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 contract 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 -- ... (6) through (9) (No change.) (h) through (l) (No change.)

(End of clause)

[END OF SECTION]

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

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Appendix A	Key Terms
Appendix B	Acronym List
Appendix C	Applicable and Reference Documents List
Appendix D	Government Furnished Data
Appendix E	Government Furnished IT Systems
Appendix F	List of Installation Accountable Property and Services
Appendix G	SOW – PWBS Map
Appendix H	ISS Specifications / ICDs / IRDs Documents List
Appendix I	PIRNs / DCNs Document List
J-2	Award Fee Evaluation Plan
J-3	Data Requirements Listing (DRL) and Data Requirements Descriptions (DRD's)
J-4	DOL Wage Determination
J-5	Safety and Health Plan
J-6	IT Security Plan

Attachment J-1
Statement of Work
For
International Space Station
Program Integration and Control Contract

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1.0 MANAGEMENT INTEGRATION AND CONTROL

The Program Integration and Control (PI&C) contractor shall provide all necessary program, business management, engineering, technical, administrative skills to accomplish the objectives and outcomes described within this contract. The contractor shall perform the services and deliver the products described in this Statement of Work (SOW), contract terms and conditions, applicable documents, Data Requirements Descriptions (DRDs), and other plans and sections contained within this contract. These products and services will be in direct support of the International Space Station Program (ISSP) to manage and integrate the implementing organizations (NASA Center institutions, other contractors, and International Partners/Participants) and ISSP customers. This includes the continued development, maintenance, and implementation of top-level research and development (R&D) requirements, which flow to the implementing organizations to enable the continued operation and utilization of the ISS R&D facility.

1.1 PROGRAM MANAGEMENT

1.1.1 Program Management and Administration

(a) The contractor shall accomplish program management and administration, including risk management, in order to develop and deliver the required ISSP products and services as defined for this contract.

(b) The contractor shall develop and maintain program management systems, as outlined below, for the planning, organization, control, and reporting of all activities required by this contract.

These products and services will include the development and operation of systems necessary for providing assessments and analysis for the overall R&D, integration, and status (e.g., cost, technical, and schedules for the ISSP) and for providing inputs to the ISSP for overall strategic planning, policy and risk management of the ISSP and its R&D of experiments and projects to facilitate the ISSP in accomplishing its mission.

These systems will assure accomplishment of all outcomes and deliverable products required by this contract.

1.1.1.1 Planning and Reviews

1.1.1.1.1 PI&C Plans

(a) The contractor shall develop, maintain, and implement a PI&C Management Plan in accordance with DRD A-PM-01.

(b) The contractor shall provide a PI&C Closeout Plan in accordance with DRD A-PR-02

1.1.1.1.2 Performance Management Reviews (PMRs)

- (a) The contractor shall support monthly and quarterly Performance Management Reviews (PMRs) with NASA.
- (b) The contractor shall provide, in the PMRs, insight into the contractors', subcontractors', and vendors' overall technical, schedule and cost performance and status to the ISSP.
- (c) The contractor shall present at the PMRs metrics that effectively indicate the level of success in the execution of contract requirements and the status of the contractor's achievement against the performance standards contained within this statement of work or elsewhere in this contract.
- (d) The contractor shall depict in PMR presentations a correlation of the metrics to the requirements, and measurements of contractor management responsiveness to the performance indicated by the metrics.
- (e) The contractor shall depict in PMR presentations performance measurement, accomplishments, issues and corrective actions, company financial status, including rates and any other data necessary to status the ISSP.
- (f) The contractor shall provide Integrated Management Review Products (IMRP) in accordance with DRD A-PM-02 for the work performed on this contract, and present the data in the PMR.

1.1.1.1.3 Management Information System (MIS) Data Requirements

ISSP MIS is a web-based data repository designed to keep ISSP management and personnel aware of the most current ISSP technical, financial, workforce, schedules, and operational information, including issues and risks. MIS links ISSP core business issues and goals with the technical aspects of the ISSP. To accomplish this, ISSP managers will identify contractor provided financial planning, costs, workforce data, schedules, metrics, technical performance, and other contractor provided information to be linked to the MIS. The contractor provided information will be a subset of data that is required by the PI&C contract in existing DRDs. NASA will identify the DRD data to be linked to the MIS. The contractor shall implement mechanisms for linking this data to the MIS; identify and implement changes to the DRDs with contractor defined formats; provide compatibility to the MIS; and maintain the DRDs electronically in such a manner as to support electronic linkage to the MIS.

1.1.1.1.4 PI&C Certification of Flight Readiness

The contractor shall develop, update and implement a PI&C Certification of Flight Readiness (CoFR) Plan per DRD A-PM-03 in accordance with SSP 50108, Certification of Flight Readiness Process Document for ISS. The contractor shall develop and implement an auditable approach to verify and ensure that flight preparation responsibilities and requirements are met and all issues dispositioned.

1.1.2 Internal/External Program Review Support

(a) The contractor shall develop briefing materials and analyses for ISSP presentations and meetings with various internal and external review groups. These groups include the Aerospace Safety Advisory Panel (ASAP), Space Station Utilization Advisory Subcommittee (SSUAS), Stafford/Anfimov committee, Inspector General/General Accounting Office (IG/GAO), Space Flight Advisory Committee (SFAC), ISS Management and Cost Evaluation/NASA Advisory Council (IMCE/NAC), Independent Implementation Review (IIR), and Cost Assessments Teams.

(b) The contractor shall prepare and present various topics, such as ISSP technical, cost, and schedule status, specific safety or risk issues, and responses to external inquiries.

1.2 BUSINESS MANAGEMENT

1.2.1 RESERVED

1.2.2 RESERVED

1.2.3 Resource Management

As part of the program management for this contract, including risk management, the contractor shall perform the following tasks in support of resources management:

1.2.3.1 Financial Management

(a) The contractor shall develop, implement, maintain, and update a contract financial system which tracks resources by fund source, contract Work Breakdown Structure (WBS) and elements of cost including, but not limited to, labor, overhead, other direct cost, (e.g. travel and subcontracts) and indirect cost.

(b) The contractor's financial planning system shall support the Government budget process (e.g. Program Operating Plan (POP) budget calls), and to support special requests for budget impacts. NASA will, in accordance with the budget or special request guidelines and reporting format, specify the format and content of the contractor's inputs and supporting rationale.

(c) The contractor shall provide financial reporting in accordance with DRD A-PC-01.

1.2.3.2 Performance Management

1.2.3.2.1 The contractor shall develop, implement and maintain a Performance Measurement System (PMS) that provides management visibility into all aspects of contractor, interdivisional, subcontractor and vendor activities and integrates with other required management systems and reporting requirements.

1.2.3.2.2 The contractor shall provide Cost Performance Reports (CPRs) in accordance with DRDs A-PC-02 and A-PC-05.

1.2.3.2.3 The contractor shall report performance measurement on subcontracts that, based on risk, schedule criticality, or dollar value, have the potential to impact the successful fulfillment of this contract.

1.2.3.2.4 The contractor shall provide a summary of the PMS report in the monthly PMR. The contractor shall provide technical issues, accomplishments, analysis of cost and schedule performance, and corrective actions in problem areas within this report.

1.2.3.3 Organizational Management

The contractor shall develop and provide Organizational/Workforce Reports in accordance with DRD A-PC-03.

1.2.3.4 PI&C Contract Work Breakdown Structure (WBS)

The contractor shall develop and provide a contract PI&C Work Breakdown Structure (WBS) and Dictionary in accordance with DRD A-PC-04. The WBS and Dictionary shall indicate the mapping of the contractor WBS to the contract SOW WBS and SSP 50659, ISS WBS at the lowest levels of the ISSP WBS.

1.2.4 ISSP Budget Support / Assessments (LOE)

1.2.4.1 ISSP Budget Database Support

The contractor shall utilize the Space Program Integrated Contract Environment (SPICE) and the Integrated Financial Management (IFM) databases to accomplish the following:

(a) The contractor shall maintain the ISSP budget database to include tracking of all approved changes

(b) The contractor shall answer queries from CO, NASA business managers and resource analysts and provide reports.

1.2.4.2 ISSP Reserves/Changes Management Database Support

The contractor shall use the SPICE, the IFM, and the Integrated Risk Management Application (IRMA) database to accomplish the following:

(a) The contractor shall maintain the data in the ISSP Reserves/Changes Management database to include tracking of all changes,

(b) The contractor shall answer queries from NASA business managers and Resource analysts and provide reports.

1.2.4.3 Assessments

The contractor shall support the ISSP Assessments and Cost Estimating Office (ACEO) in identifying, evaluating, analyzing, tracking, and reporting planning and assessment issues and risks along with providing recommendations to the ISSP managers. The contractor shall coordinate content and formats of all assessments and analyses with the ISSP prior to delivery of all final products.

(a) The contractor shall support the ACEO in integrating data from the ISSP's earned value and cost performance reports, including risks, to assess ISSP performance. These assessments will be used by the ACEO for the development of overall ISSP analyses and status.

(b) The contractor shall support the ACEO in identifying, evaluating, and reporting risk issues in a monthly early warning report to the ISS Program Manager. This report provides detailed status of the ISSP's performance against the ISSP plan and impact of cost, schedule, and technical variances against the plan; and shall recommend actions to abate potential ISSP impacts.

(c) Prior to the ISSP quarterly PMRs, the contractor shall support the ACEO in identifying, evaluating, and reporting a preview assessment of the ISSP status and technical health to the ACEO based on the assessment of the most current earned value, technical, cost, and schedule reports.

(d) Upon completion of the quarterly PMRs, the contractor shall support the ACEO in providing an updated evaluation of the ISSP's status and technical health, based on the results of the data provided and presented as part of the quarterly PMR.

(e) The contractor shall support the ACEO in performing Ad-hoc analyses and assessments including, but not limited to, parametric cost estimates, schedule, cost, requirements, and workforce correlations and analyses, life cycle cost (LCC) estimates, and trade studies.

1.2.5 Program Scheduling

The contractor shall perform the following tasks to accomplish overall ISSP schedule management and integration for the entire ISSP for the continued development and operation of the ISS.

1.2.5.1 Schedule Management

(a) The contractor shall develop and provide schedules and schedule analysis for the ISSP.

(b) The contractor shall prepare and report program schedule metrics, in accordance with DRD A-PC-06.

(c) The contractor shall provide month end reporting and schedule analysis in accordance with DRD A-PC-06.

1.2.5.1.1 Integrated Program Schedule Management

The contractor shall integrate resource-loaded and critical path and external interface linked schedules from all ISSP contractors and performing organizations, in accordance with DRD A-PC-06, into a single master ISSP schedule.

(a) The contractor shall provide schedule development and analysis for all flights and program level activities.

(b) The contractor shall provide schedules updates and status reports every other week, for the entire effort of the ISSP.

(c) The contractor shall provide monthly metrics analysis, and metrics, for the entire effort of the ISSP.

(d) The contractor shall provide monthly critical path schedules, for the entire effort of the ISSP.

(e) The contractor shall maintain, and update monthly, the integrated ISSP schedules.

(f) The contractor shall maintain and update monthly the Program Management Information on the ISSP Web site for the Integrated Program Schedule and the Key Program Performance Indicators (KPPIs) for schedules in the ISSP Management Information System (MIS).

1.2.5.1.2 The contractor shall provide deliverables to ISSP to meet the requirements as defined in DRD A-PC-06 for issue identification, schedule status analyses, and special agenda topics. The contractor shall provide these deliverables to the Integrated Program Schedule Panel (IPSP) in support of the ISSP.

1.2.5.1.3 Program Level Schedule Data Management

The contractor shall lead the ISSP schedule data acquisition effort from all ISSP participants on an every other week basis. This shall include development and preparation of reports regarding participant data input status and products for assessments, providing updates, reporting of trends, and identification of items to report out to the ISSP management.

1.2.5.2 Scheduling System Support

(a) The contractor shall operate a scheduling system identified in Appendix D, Table 1 in support of the ISSP.

(b) The contractor shall review other ISSP contractors' schedules to ensure compliance with DRD A-PC-06. The contractor shall work through the Integrated Program Schedules Panel (IPSP) to identify and resolve schedule process and data issues.

1.2.5.3 Team Schedule Support

The contractor shall generate and maintain top level and lower level schedules and analyses in accordance with DRD A-PC-06 for ISSP International Partner (IP) Elements and Systems Engineering Analysis and Integration teams. The contractor shall ensure these schedules meet DRD A-PC-06 paragraph 8g, as a minimum.

(a) The contractor shall provide updates and status reports for all tasks three days per week. The contractor shall provide weekly status for all tasks for their respective teams.

(b) The contractor shall provide monthly updates, analysis and reports for all tasks.

(c) The contractor shall create hardware delivery matrices, delivery schedules and delivery burn-down charts.

(d) The contractor shall provide status/analysis for international hardware and software deliveries and receipts of ISSP commitments.

1.2.5.4 Common Schedules Database (CSD) Support

(a) The contractor shall maintain the existing ISSP CSD for the entire ISSP.

(b) The contractor shall obtain updates to schedule data status in the database.

(c) The contractor shall evaluate the data to identify and resolve delinquencies, discrepancies, and issues.

(d) Upon NASA review and approval and when authorized by the Contracting Officer, the contractor shall develop and implement a plan for transitioning the CSD to an alternative database. The plan shall include the technical approach for transitioning the CSD and an integrated assessment of impacts that may be incurred across the ISSP.

1.2.5.5 ISSP Planning Calendar

The contractor shall maintain the ISSP Planning Calendar.

(a) The contractor shall participate in meetings to prepare updates. The contractor shall make copies and deliver them to the customer in support of program office organizational staff meetings and the Integrated Program Schedule Panel.

(b) The contractor shall maintain the ISSP Planning Calendar on the ISSP Web site and provide updates twice weekly.

(c) The contractor shall provide maintenance of the Certification of Flight Readiness (CoFR) Meeting Matrix by participating in meetings and providing updates and electronic status to Program participants of the CoFR matrix for baselines and working versions.

1.2.5.6 Schedule Risk Assessment

(a) The contractor shall perform independent assessments of hardware development and software schedules to identify ISSP schedule risks.

(b) The contractor shall provide schedule risk mitigation plans.

1.2.5.7 Special Schedule Trade Studies

The contractor shall perform Special Schedule Trade Studies in support of the ISSP.

1.2.5.8 Integrated Schedule Risk Analysis

The contractor shall perform schedule risk assessment, which can be integrated into the overall program schedule Risk assessment, in order to address overall schedule risk status.

1.3 CONFIGURATION MANAGEMENT (CM) / DATA INTEGRATION (DI)

1.3.1 Configuration Management

The contractor shall develop, implement, and administer configuration management operations across the ISSP as specified in this contract and in accordance with SSP 41170, Configuration Management (CM) Requirements, SSP 50010, Documentation, Standards & Guidelines and SSP 50123-01, Configuration Management Handbook. Additionally, the contractor shall be responsible for contract specific CM functions as described in each of the functional CM areas described below.

1.3.1.1 Management and Administration

The contractor shall provide for continued establishment and maintenance of the ISSP CM policies, procedures and requirements, including maintaining an infrastructure for the continued development and base lining of hardware, software, and other products under the ISSP control. The contractor shall provide book coordination functions for SSP 41170, SSP 50010, and SSP 50123-01, which contain the ISSP CM requirements, policies, standards, and procedures.

1.3.1.1.1 The contractor shall develop and implement a CM Plan in accordance with DRD A-CM-01.

1.3.1.1.2 The contractor shall participate in Technical Interchange Meetings (TIMs) and ISSP Milestone Reviews by providing inputs regarding CM.

1.3.1.2 Configuration Status Accounting (CSA) and Verification

The contractor shall maintain Configuration Status Accounting requirements in accordance with SSP 41170 and assure the requirements and processes are implemented across the ISSP. The PI&C contractor shall perform the following CSA functions across the ISSP:

1.3.1.2.1 Participate in ISS hardware and software Functional Configuration Audits (FCA) and Physical Configuration Audits (PCA) by acting as the co-chair of the CM panel as defined in D684-10097-01, "Guidelines and Procedures for the conduct of Functional Configuration Audit (FCA) / Physical Configuration Audit (PCA)".

1.3.1.2.2 Participate in ISSP acceptance reviews and readiness reviews to ensure CM issues are addressed and dispositioned.

1.3.1.2.3 Conduct CM audits of other ISSP contracts to ensure compliance with CM requirements and processes pursuant to SSP 41170, SSP 50010, SSP 50123-01 and the CM Plan.

1.3.1.2.4 Audit and validate the data residing in the program status accounting systems (e.g., CSAS, SSAV, and COSMOS) to ensure accuracy and completeness.

1.3.1.3 Configuration Control

The PI&C contractor shall perform the following Configuration Control activities across the ISSP:

1.3.1.3.1 Ensure execution of the Change Process in accordance with SSP 50123-01 and individual ISSP contractor Configuration Management plans.

1.3.1.3.2 Maintain all CM blank forms/templates required for change processing and maintain a quality control function to provide uniform change paper across the program.

1.3.1.3.3 Provide CM Secretariats for all ISSP Control Boards and Panels. CM Secretariat functions are to be performed in accordance with ISSP PPD 552, Space Station Control Board/Panel Operations Policy and SSP 50123-01.

1.3.1.3.4 Provide administrative support such as, but not limited to, meeting logistics, administration, agendas, action item management, minutes, and archival of all presentation material and decisional paper for all ISSP Configuration Control Boards and Panels, Acceptance Reviews, IP Assessment Reviews, and Certification of Flight Readiness (CoFR) reviews.

1.3.1.3.5 Conduct a program Joint Team Review (JTR), as described in SSP 50123-01, to screen all new change requests.

1.3.1.3.6 The contractor shall develop a Change Engineer (CE) Handbook in accordance with DRD A-CM-02.

The PI&C contractor shall perform the following Configuration Control activities for changes specific to the PI&C contract:

1.3.1.3.7 Process changes specific to the PI&C contract in accordance with SSP 50123-01. Review and evaluate ISSP changes originating from outside the PI&C contract to determine if those changes have potential impacts to the PI&C contract.

1.3.1.3.7.1 Maintain and process Program Directives (Management Directives, Joint Program Directives, and Partner Program Directives) in accordance with procedures established in SSP 50123-01.

1.3.1.3.8 Input, maintain, and validate the Configuration Status Management Operations System (COSMOS) database to assign Change Request (CR) numbers, track/status changes, and provide accurate information, reports, and monthly metrics.

1.3.1.4 Data Management (DM)

Programmatically, the contractor shall maintain and implement an AS9100 compliant data management system in accordance with SSP 50010 and SSP 41170, and assure the requirements and processes are implemented across the program. The contractor shall:

1.3.1.4.1 Update and maintain the SSP 50573, Program Documentation Tree.

1.3.1.4.2 Update and maintain the ISSP technical documentation baseline in PALS (or equivalent) and COSMOS.

1.3.1.4.3 Maintain the ISSP Master List of work instructions, processes, and procedures in accordance with AS9100, Quality Systems - Aerospace - Model for Quality Assurance in Design, Development, Production, Installation, and Servicing.

1.3.1.4.4 Provide Data Requirement (DR) receipt, tracking, monitoring, reporting, validation, evaluation, distribution, status, and storage of ISSP contracts deliverables and IP/P data deliverables incoming to the ISSP as identified in the following Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS) documents: SSP 50124, NASA/CSA BDEALS; SSP 50126, NASA/NASDA BDEALS; SSP 50127, NASA/ESA BDEALS; SSP 50137, NASA/RSA BDEALS; SSP 50407, NASA/ESA BDEALS for Cupola 1; SSP 50611, NASA/ESA BDEALS for ATV; SSP 50614, NASA/HTV BDEALS for HTV; and SSP 50617, NASA/NASDA BDEALS for CAM.

1.3.1.4.5 Manage and operate the International Partner library (IOMS or equivalent). Contents of the library shall include, but are not limited to, the following: translated Russian documents; Bilateral Data Exchange Agreements and Lists (BDEALS) data; NAS15-10110 Contract deliverables; Government Furnished Data (GFD) deliverables; IP protocols; IP safety data packages; hazard reports; drawings; film; videos; photos; faxes; and letters. The contractor shall be able to access and provide requested materials/information within two business days.

The PI&C contractor shall perform the following Data Management activities in accordance with SSP 41170 and SSP 50010 specific to the PI&C contract:

1.3.1.4.6 Provide an Engineering Release Unit (ERU) in accordance with SSP 50123-01 for release of ISSP baseline documentation.

1.3.1.4.7 Operate a Configuration Management Receipt Desk (CMRD) in accordance with SSP 50123-01.

1.3.1.4.8 Provide Document Quality Assurance (DQA) in accordance with SSP 50010 for all ISSP controlled documentation identified under this contract.

1.3.1.5 Software Configuration Management Requirements

The contractor shall maintain the software configuration management requirements and assure the configuration identification, control, status accounting, and verification of software products and processes as specified in SSP 41170 are implemented across the ISSP.

1.3.2 Program Data Integration

1.3.2.1 Program Technical Data Access

(a) The contractor shall integrate and maintain the Orbital Replacement Unit (ORU) data and Flight Support Equipment (FSE) data (provided by Logistics & Maintenance and the hardware providers) in the Orbital Replacement Unit Data Directory (ORUDD) or equivalent. The ORUDD provides a user-friendly single access point for retrieving technical data regarding ORUs & FSEs. (Reference Orbital Replacement Unit Data Directory (ORUDD) Release 1.0.4 Requirements Document and ORUDD Release 1.0.4 Release Contents Document).

(b) The contractor shall develop an approach and plan in accordance with DRD A-DI-01 to expand the functionality of the ORUDD to provide a Program-wide single point access interface for the ISSP which will allow ISSP data users access to sources of existing technical ISSP data available in ISSP authorized repositories.

1.3.2.1.1 Centralized Program Data Requirements

The contractor shall develop and maintain Blank Books that centralize ISSP data requirements from each of the functional areas defined in the SSP 50200 series of documents (Volumes 1 – Volume 10). These Blank Books will provide specific data requirements, including data formats, attribute definitions, generic delivery templates and data flow processes. (Reference, as examples, SSP 50622-02, Mission Integration Data Set Blank Book and SSP 50622-03, Operations Data Set Blank Book. The contractor shall develop the Blank Books in accordance with SSP 41170 and SSP 50010-01. The contractor shall extract technical content for inclusion

into the initial draft Blank Books from the appropriate SPIP Volumes (1-10) Appendix AA (SSP 50200 through 50200-10).

1.3.2.1.2 Book Coordination

(a) The contractor shall provide book coordination functions for Blank Books, to include the preparation, distribution and processing of Document Change Notices (DCNs).

(b) The contractor shall provide book coordination functions for the following Bilateral Data Exchange Agreements, List, and Schedules (BDEALS) documents, to include the preparation, distribution, and processing of Notification of Document Changes (NDCs): SSP 50124, SSP 50126, SSP 50127, SSP 50137, SSP 50407, SSP 50611, SSP 50614, and SSP 50617.

(c) The contractor shall provide book coordination functions for SSP 50622-02 and SSP 50622-03 to include the preparation, distribution, and processing of Document Change Notices (DCNs).

1.3.2.1.3 The contractor shall respond to requests for resolving data workflow process issues that cross ISSP contractual interfaces and are impacts to work performance. Responding to and resolving request for issues with data work flow processes shall include:

- (a) Identification and documentation of the issue or problem
- (b) Investigation, analysis and documentation of the data workflow processes involved and the associated interfaces
- (c) Development of a resolution plan and schedule
- (d) Facilitation of the implementation of the proposed resolution
- (e) A three-month follow-up to verify resolution is working and provide rework as identified
- (f) Provision of closeout documentation addressing sub-paragraphs (a) thru (e).

1.3.2.1.4 Support to ISSP Data Users

(a) The contractor shall respond to and resolve inquiries regarding ISSP data.

(b) The contractor shall locate data, identify, and resolve data discrepancies and document data processes associated with ensuring accessibility to available technical ISSP data for all Program data users.

1.3.2.1.5 Review of Change Request for Data

The contractor shall assess and concur on ISSP change requests (CRs) that contain requests for data in order to ensure no duplication and that delivery of the data is specified to a Program authorized repository.

1.4 PROGRAM INFORMATION TECHNOLOGY (IT)

The ISSP contract strategy decentralizes the implementation of IT except where program integration and control is necessary for appropriate program management and communication.

The contractor shall provide the IT infrastructure for use by ISSP participants to support the mission of the ISSP. The other contracts within the ISSP contract strategy will provide the IT necessary to perform the requirements as stated in their respective contracts; since their contract intent is to not specifically contract for generalized IT products and services. The other contractors may choose to utilize the ISSP IT infrastructure provided by the PI&C contract when common products and services provide for increase of supportability, promote commonality, or efficiencies. The contractor shall provide the IT necessary to meet the requirements, as defined in this contract, in accordance with SSP 50013, ISS Information Systems Plan.

1.4.1 IT Management and Administration

Any of the existing ISSP IT tools defined in Appendix D, Table 1 are available as GFD and can be utilized by the contractor in fulfilling the contract requirements.

(a) The contractor shall employ a methodology which demonstrates consistency with the Software Engineering Institute (SEI) Level 3 Capability Maturity Model (CMM), or other comparable industry standard, to sustain any modifications to GFD tools. CMMI certification is not required.

(b) The contractor shall develop and maintain unique ISSP software tools and applications to support the continued development and operation of the ISSP, as defined in this contract.

1.4.1.1 The contractor shall report all IT delivered or direct costed to this contract by developing and implementing the PI&C Information Technology (IT) Capital Investment Plan (CIP) and associated reports in accordance with SSP 50222, ISS Program Capital Investment Process (CIP).

1.4.1.2 The contractor shall develop and implement an IT Security Plan in accordance with NFS 1852.204-76. Upon approval, the IT Security Plan shall be incorporated into the contract as Attachment J-6.

1.4.1.3 The contractor shall develop and implement the IT Management Plan in accordance with DRD A-IT-01 for reportable IT. The IT Management Plan shall, at a minimum, address the following functions: system management and operations, including project

management, configuration management, technology infusion, procurement, work authorization, and Metrics.

1.4.1.4 If the contractor implements Public Key Infrastructure system, the contractor system shall be interoperable with the NASA Public Key Infrastructure system.

1.4.2 IT Systems Management and Operations

(a) The contractor shall provide the ISSP customer community with full life cycle system support for ISSP IT systems, applications (e.g., web, mainframe, workstation, client/server, utility), platform systems, services, equipment, etc., as defined in Appendix E and Appendix F, Table 1, Table 2, and Table 3. The life cycle includes planning, requirements definition, design, programming, prototyping, testing, documentation, deployment, training, sustaining engineering and operations.

(b) The contractor shall provide a life cycle methodology consistent with Software Engineering Institute (SEI) Level 3 Capability Maturity Model (CMM), or other comparable industry standard. CMMI certification is not required.

(c) The contractor shall streamline the life cycle methodology to accommodate rapid development of new tools or updates to supported tools.

(d) The contractor shall address IT security in each phase of the life cycle.

(e) The contractor shall implement IT system performance standards in accordance with the requirements set forth in Appendix E.

(f) The contractor shall provide "book coordination" for SSP 50013 and SSP 50222.

(g) The contractor shall function as the property custodian for the government property assigned to this contract, identified in Appendix F, Table 3.

1.4.2.1 IT Life Cycle Management

The contractor shall manage designated production systems, ongoing and new projects, and functions and activities required to provide products and services to the ISSP customer community. The contractor shall adhere to policies and standards, and support information exchange and decision making forums. In support of this effort, the contractor shall provide the following activities.

1.4.2.1.1 The contractor shall assist the Government by reviewing Government-provided policies, architectures, standards, and procedures affecting this contract and recommending appropriate modifications and implementation strategies.

1.4.2.1.2 The contractor shall support key recurring Government-sponsored meetings, such as the ISD Configuration Board, the Chief Information Office's Network Access Control Board, Chief Information Officer's IT Steering Council and the ISS IT Working Group.

1.4.2.1.3 The contractor shall develop and implement IT project plans in accordance with DRD A-IT-02 for the following activities:

- implementation of new hardware and software capabilities,
- conducting studies, market surveys, and system tests, and
- developing and supporting proposed system hardware relocation plans as required.

1.4.2.1.4 The contractor shall develop and implement an IT Performance Management and Capacity Plan in support of performance planning, analysis (e.g., log review, trend analysis, and system utilization), and design activities for new or modified systems capabilities; or for providing system and component-level capacity planning and monitoring to ensure adequate capacity and performance margins. The plan shall be prepared on a quarterly basis and include the following where applicable:

(a) By system, a summary of systems performance, including charts depicting observations for the current and previous 3 quarters, and a trend line reflecting anticipated performance for the coming 4 quarters. Performance will be quantified in terms of large and small transactions, as well as end-to-end transaction performance as measured from the end-user workstation to the host or data system.

(b) By system, a summary of resource utilization, including CPU, Disk, Memory, related Equipment (e.g., backup tape systems, off-line/near-line storage systems, physical storage space), and network bandwidth where applicable, with charts depicting observations for the current and previous 3 quarters and a trend line reflecting anticipated improvements or degradation during the coming 4 quarters.

(c) A discussion of the analysis and findings for any systems that have experienced significant performance anomalies or an increase or decrease in resource utilization relative to the previous month's baseline.

(d) Recommendations for improving any outstanding performance issues or capacity shortfalls.

(e) Recommendations for systems reconfiguration or consolidation that reduce operating costs or improve resource availability.

1.4.2.1.5 The contractor shall procure and deliver commercial off-the-shelf (COTS) software, hardware, and associated maintenance agreements as approved by the Government. The contractor shall provide all consumables used in operating the systems associated with this contract

1.4.2.1.6 The contractor shall develop, implement, and maintain IT Standard Operating Procedures in order to sustain products and services defined in this SOW. These procedures

shall provide guidance for interfacing with other organizations and specific tasks required in the process of meeting customer requirements, and shall instruct technicians, production personnel, and other users in the proper setup and operations of systems. These procedures are not intended to document the details of how the tasks or interfaces are to be accomplished. These procedures shall:

- (a) Describe each system in terms of the requirements it fulfills, the equipment comprising the system, and any interconnection to other systems
- (b) Reference system engineering drawing numbers
- (c) Reference manufacturers' operations manuals
- (d) Give specific details on setup configurations related to the intended equipment functions
- (e) Give step-by-step system check instructions that, when performed, verify the system is functioning as designed
- (f) Give step-by-step instructions on how to operate the system equipment to achieve every stated purpose of the system, including references to manufacturers' manuals when appropriate
- (g) List the required customer interfacing tasks
- (h) List other procedures applicable to performing a specific system operation
- (i) Cross reference any corresponding Standard Operating Procedures
- (j) Reference preventive maintenance procedures

1.4.2.1.7 The contractor shall develop, implement, and maintain an IT Configuration Management Plan as defined below in order to maintain hardware and software specifications and baseline control of IT systems.

1.4.2.1.7.1 Concept

- (a) The contractor shall establish, implement, and comply with a stringent process of configuration management for all systems defined under this contract.
- (b) The contractor shall not change, modify, or relocate Government equipment or systems without prior approval unless otherwise stated in the configuration management plan.
- (c) The contractor shall provide, revise, and maintain a complete set of engineering and exhibit drawings, hardware and software configurations, and specifications and associated change documentation for all IT systems defined in this contract.

(d) Where baseline configuration information does not exist, the contractor shall define the baseline.

(e) The contractor shall provide current configuration documentation for all systems under this contract within 6 months after contract phase-in.

1.4.2.1.7.2 Content

The IT Configuration Management Plan shall prescribe the process to be implemented for control of both engineering (design) configuration, and operational configuration. The IT Configuration Management Plan will include the following:

- Define how configuration control will be recorded and documented
- Identify the specific part of the organization responsible for maintaining the configuration control records
- Identify the documentation and data systems required to provide configuration control for both hardware and software
- Identify the specific equipment, systems, and operational interfaces which are subject to configuration control
- Describe the procedures to be used to coordinate, define, test, monitor, and control all technical and operational interfaces
- Identify individuals responsible for writing and for approving configuration control procedures, and
- Define how NASA will be involved with final decisions in the change process.

1.4.2.1.8 The contractor shall develop IT configuration reports that contain information and status on all equipment and software, which are maintained by and/or operated by the contractor. The information fields required for each category of equipment or software in the system shall include information on the category's description, location, user, manufacturer, external connections to other systems, maintenance support, and other fields normally contained in a IT configuration management system.

1.4.2.1.9 The contractor shall develop and implement an IT Technology Infusion Proposal Plan to propose new technology and service concepts for the Government's consideration. The proposal will give the government the ability to view the contractor(s) innovative ideas for solving the technical challenges outlined within this SOW and will address proposed skill mix and personnel.

1.4.2.1.9.1 Concept

(a) The contractor shall assess the state of technology and the Program's requirements and infrastructure, and propose new technology and service concepts for the Government's consideration. In this assessment the contractor shall solicit inputs from customers/users. These proposed concepts may be driven by one or more of the following reasons:

- New customer requirements
- Upgrades to other systems that affect the primary systems functional capabilities, e.g., upgrades to a web browser not compatible with primary systems
- New product releases
- Complying with safety requirements
- New agency or center policies
- Conforming to current standards and formats
- Reducing operating costs
- Limited system enhancements to produce higher quality products
- System components become obsolete or non-repairable

(b) The contractor shall obtain approval for proposed concepts and associated estimated proposal costs prior to initiating a full technology infusion proposal effort.

(c) If the proposal is approved by the government, then an approved IT Project Plan, to be developed in accordance with A-IT-02, shall accomplish the implementation.

1.4.2.1.9.2 Content

The proposals shall address at a minimum and as applicable:

- List price pages (catalog price)
- Description of proposed technology, including integration test results to date
- Contractor product identification number
- Model number
- GSA and commercial catalog unit number, if available
- Hardware and Software items to be replaced by the new technology product
- Changes/impacts to ISSP customers/users and other ISSP IT providers, and to NASA and Center(s) IT architectures and standards
- Changes to Agency or Center specific Strategic Plans
- Implementation plan and schedule
- System performance improvements as a benefit to the Government
- Known and anticipated impact on ISSP and non-ISSP contractors
- Proposed adjustment to transition charges
- Impacts on contractor performance
- Estimated return on investment.

1.4.2.1.10 IT Sustaining Engineering and Operation

The contractor shall provide sustaining engineering, including preventative maintenance, and operations for IT systems. At a minimum support will include the following activities.

1.4.2.1.10.1 The contractor shall provide sustaining engineering for multimedia, computer, and network systems defined in Appendix E and Appendix F, Table 1, Table 2, and Table 3.

Sustaining engineering for applications shall include developing limited new capabilities, bug fixes, and coordination and testing support in response to new operating system and program product. For hardware systems and stand-alone equipment, sustaining engineering includes preventive and remedial maintenance, ordering of replacement parts, sparing, end-of life (EOL), and system software and firmware updates and patches.

1.4.2.1.10.2 The contractor shall manage third party maintenance and license agreements.

1.4.2.1.10.3 The contractor shall ensure that all IT systems are functionally and operationally performing at the lowest possible operating cost and in accordance with NASA requirements, including safety and schedules; industry best practices; and applicable standards, such as ANSI (American National Standards Institute).

1.4.2.1.10.4 IT sustaining engineering shall minimize disruption to system availability during normal working hours. Most supported applications require no contingency staffing or procedures for outages during nonworking hours. The contractor shall coordinate and schedule changes that require production outages with the customer in advance of the outage. In the event the outage is an emergency, the contractor shall immediately notify the ISS CIO and shall provide continuous status of the progress and expected time of availability.

1.4.2.1.10.5 The contractor shall establish and conduct a preventive maintenance and operational readiness program as defined below to ensure that all identified systems are functioning within required specifications.

1.4.2.1.10.5.1 Remedial Maintenance

The contractor shall repair or replace failed equipment and restore it to operating condition. The repair and restoration may involve the temporary replacement of the equipment with a like item to allow continuation of the provided service. When failed equipment cannot be removed, the repairs will be accomplished in a way that minimizes disruption of other operational activities. When repair of a specific item of equipment is not cost effective (when repair costs exceed one third of replacement costs), the contractor shall replace the equipment. For equipment used to meet mission requirements, immediately after being notified that equipment is out of service the contractor shall initiate repair and notify the Contracting Officer.

1.4.2.1.10.5.2 Maintenance Agreements and License Management

The contractor shall create, maintain, and implement plans and schedules for maintenance agreement and license management. For Government-funded renewals, the contractor shall inform the CO a minimum of 90 days prior to expiration of agreements.

1.4.2.1.10.5.3 COTS Maintenance

The contractor shall ensure defects in COTS products are fixed and version upgrades to COTS software are obtained. The contractor shall coordinate with the Government and application vendors. The contractor shall assess and implement each new patch or update to be applied for.

all supported platforms within 30 days of vendor release of the updates or patches. The contractor shall request a waiver if they find that a release or patch is incompatible with the current institutional environment, would impact data integrity or system stability, or would otherwise cause undue disruption to the user community. The contractor shall evaluate and update critical security patches within 24 hours of the patches being released by the vendor.

1.4.2.1.10.6 The contractor shall operate and provide system administration for all systems identified in Appendix E. System administration processes and procedures shall adhere to NASA and JSC policies and procedures. The contractor shall ensure that system administration support is provided within schedule guidelines. Operation and system administration shall include:

- ID administration and folder setup for access,
- Data transmission among systems,
- Creation/deletion of network printer queues,
- System backups,
- Virus scans,
- Problem identification and resolution,
- Technology upgrades.

1.4.2.1.10.6.1 The Contract shall provide Return to Service for IT systems as identified in Appendix E.

1.4.2.1.10.6.2 The Systems Administration functions (excluding facility, network outages, IT incident investigations, and maintenance service not under control of the contractor) shall be performed to minimize disruption to system availability, with the exception of scheduled outages.

1.4.2.1.10.6.3 The contractor's system administrators shall acquire IT security training in accordance with the JPG 2810.1, JSC Information Technology Security Handbook.

1.4.2.1.10.7 IT Security Support

The contractor shall advise ISSP customers and users on IT security policies, provide technical representation to the Network Access Control Board (NACB) as required, implement approved firewall and networking solutions monitor production capabilities, and respond to requests for firewall and other IT security support by providing consultation and direct technical assistance to assist customers with the development of requirements for secure firewall and networking solutions.

1.4.2.1.10.7.1 The contractor shall maintain a knowledge base of security issues, problems, and resolutions.

1.4.2.1.10.7.2 The contractor shall perform periodic technical assessments, security testing of computer systems, and provide inputs to updates for JSC Computer Security Plans in support NASA computer security officials.

1.4.2.1.10.7.3 The contractor shall process security-related incidents, including identifying network attacks (denial of service, viruses, worms, etc.), identifying and analyzing cases of misuse of IT resources, securing computing resources as required, and provide around the clock response to computer security incidents and notification of appropriate personnel.

1.4.2.1.10.7.4 The contractor shall provide analysis of security incidents relating to incorrectly configured systems, and work with system owners to properly reconfigure these systems.

1.4.2.1.10.7.5 The contractor shall provide real time incident status reports as required as soon as an incident is discovered. The contractor shall provide an incident report within 24 hours of any security or system configuration-related incident investigation being concluded.

1.4.2.2 Work Authorization and User Support

1.4.2.2.1 The contractor shall gather, organize, and disseminate IT information to the customer community in formats appropriate to the media. Subject matter content will vary but will always focus on keeping the ISSP community informed in a timely and accurate manner, providing them ready knowledge of products and services available, the mechanisms for acquiring those services, and information intended to help the customer. Services also entail reviewing and coordinating responses to e-mail traffic received in centralized electronic mailboxes intended for customer communication.

1.4.2.2.2 User Requirements/Analysis

(a) The contractor shall perform data gathering, entry, and analysis of requests to ensure that the customer requirement for products and services is documented and handled.

(b) The contractor shall document and coordinate implementation of IT requirements requested for implementation by the institutional and international IT providers.

(c) The contractor shall serve as the primary point of contact for IT services required to support end users.

1.4.2.2.3 The contractor shall gather fiscal information, and coordinate and develop an ISSP IT Capital Investment Plan and associated reports in accordance with the ISS IT Capital Investment Process.

1.4.2.2.4 Loan Pool

(a) The contractor shall serve as the primary point of contact for loan pool services required to support end users.

(b) The contractor shall develop and maintain user guides/desktop instructions for services that require user self-installation.

(c) The contractor shall provide procedures for appropriate property management of the ISSP loan pool products for check-in/check-out and regular inventorying.

(d) The contractor shall report property losses on an as occurred basis (as soon as possible).

(e) The contractor shall develop, implement, and maintain a standard load consistent with the approved JSC laptop load and any related policies and practices for the loan pool laptops.

(f) The contractor shall augment standard load configuration in order to support specific user requirements. Activities typical include configuration for tunneling, data transfers, and loading requested software.

1.4.2.2.5 The contractor will receive work authorizations via the Customer Service System, loan pool requests, and external access requests in addition to the IT project plans. The contractor shall ensure that its internal work management and tracking systems interface seamlessly with the Customer Service System for the purpose of receiving work authorizations and providing order status and tracking information.

1.4.2.2.6 The contractor shall track, resolve, and report on problems associated with systems, products, and services. Problem resolution includes accepting transferred calls from the various JSC Help Desks or ISSP Help Desks for systems under this contract and reporting resolutions back to the appropriate Help Desk. The contractor shall develop and maintain on-line problem reports.

1.4.2.2.7 The contractor shall provide desktop support services for ISSP IT not supported by other institutional providers. Desktop support are those services which support the users desktop environment; such as, but not limited to, loading/configuring local and network software, drivers, printers, peripherals, and data migration.

1.4.2.2.8 The contractor shall provide assistance in space utilization, coordination / facilitation, and planning for ISSP physical space requirements at JSC. This includes assessing requests, coordinating with the requestor(s), making recommendation, facilitating request through the implementing organization, tracking requirements through closure, and reporting.

1.5 INTERNATIONAL INTEGRATION

1.5.1 RESERVED

1.5.2 RESERVED

1.5.3 IP Elements Integration Management (LOE)

The contractor will perform the tasks identified below to support of IP Element Integration Management. For the purposes of this contract, "IP Elements" are defined as: JEM, CAM/CR, Columbus, Cupola, HTV, ATV, MSS, SPDM, SPP, MTsM, UDM, SM, DC, Soyuz, and Progress. The US will assume ownership of the CAM/CR and Cupola after the IPs have completed development and turned over possession of the element to NASA. All other IP elements will remain owned and be sustained by their respective IPs.

The NASA IP Element Integration Manager (EIM) provides overall management and oversight of the tasks that are necessary to integrate the IP Element into the ISS. The primary goal of IP Element Integration is to confirm the IP Element meets its ISSP requirements (e.g., system- and segment-level specifications, IRDs, ICDs) and is ready for flight. The IP EIM also ensures that NASA meets applicable ISS requirements in support of the integration of the IP Element and complies with bilateral agreements.

The Mission Integration, Cargo Integration, and Vehicle sustaining engineering teams provide the technical expertise and resources required to execute the tasks associated with IP Element integration (e.g., subsystem-level technical review of IP Element designs) and support the Element Integration Manager in performing the tasks necessary to integrate the IP Element and deliver on-orbit to the ISS.

1.5.3.1 Systems Engineering and Integration of IP Elements

1.5.3.1.1 Engineering Integration and Communication

(a) The contractor shall work with the Program Data Integration team, which provides the book coordination function, to facilitate the technical development, coordination with IPs, management approval, and implementation of the following IP BDEALS documents: SSP 50124, NASA/CSA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS); SSP 50126, NASA/NASDA BDEALS; SSP 50127, NASA/ESA BDEALS; SSP 50137, NASA/RSA BDEALS; SSP 50407, NASA/ESA BDEALS for Cupola 1; SSP 50611, NASA/ESA BDEALS for ATV; SSP 50614, NASA/HTV BDEALS for HTV; and SSP 50617, NASA/NASDA BDEALS for CAM. The data submittals provided by the IPs via these BDEALS documents will be made available as GFD to the contractor as defined in Appendix D, Table 2.

(b) The contractor shall work with the Mission Integration team, which provides the book coordination function, to facilitate the technical development, coordination with IPs, management approval, and implementation of the following IP BHSEALS documents: SSP 50136, NASA/RSA Bilateral Hardware and Software Agreements, List and Schedules (BHSEALS); SSP 50219, NASA/ASI Bilateral Hardware and Software Exchange Agreements, Lists, & Schedules (BHSEALS); SSP 50220, NASA/CSA Bilateral Hardware and Software Exchange Agreements, Lists and Schedules (BHSEALS); SSP 50264, NASA/NASDA BHSEALS; SSP 50289, NASA/ESA Bilateral Hardware and Software Exchange Agreements, Lists, and Schedules (BHSEALS); SSP 50408, NASA/ESA Bilateral Hardware and Software

Exchange Agreements, Lists, and Schedules (BHSEALS) For Cupola; SSP 50615, NASA/NASDA BHSEALS for the H II Transfer Vehicle (HTV); SSP 50616, NASA/NASDA BHSEALS for the Centrifuge Element (Main Body).

(c) The contractor shall distribute Element technical, programmatic and operations data for review by ISSP teams identified in the IP Element Integration Team Lists.

(d) The contractor shall collect assessments and comments to the above distributed Element data to ensure application of engineering and programmatic expertise in all aspects of the integration process: evaluation and definition of bilateral documentation, interfaces, requirements changes, exchanges of data and hardware/software, development and testing, special information requests.

(e) The contractor shall facilitate ISSP teams communications with IPs and their contractors.

(f) The contractor shall maintain cognizance and technical knowledge of Element design, associated issues, and planning and schedule status.

(g) The contractor shall provide responses to communications and data requests from IP and ISSP teams in accordance with teams' schedules.

(h) The contractor shall coordinate shipment of items to and from the IPs with the ISSP shipping coordinator in the Mission Integration team.

1.5.3.1.2 Issue Resolution

The contractor shall coordinate issue resolution with the IP Element Integration teams as follows:

(a) Collect information for issue definition and document integration and compatibility issues and actions.

(b) Provide inputs to teams, and track issue resolution and action items closure for all phases of IP Element integration activities through on-orbit activation and checkout.

(c) Develop proposals, assess risks and recommend schedule for technical issues resolution.

(d) Chair technical forums, telecons and meetings required for issue resolution.

(e) Provide regular technical status inputs to Action Items database for open actions;

(f) Provide regular technical status inputs to Schedule management team;

(g) Provide regular technical status inputs to NASA EIM; and

(h) Provide regular technical status inputs to other teams, boards and panels in support of the EIM.

1.5.3.1.3 Change Engineering

The contractor shall initiate CRs to maintain and update the ISS design and requirements baseline for IP Elements. The contractor shall perform Change Engineering functions for IP-related CRs and other activities necessary to maintain and update the ISS design and requirements baseline for IP Elements.

1.5.3.1.4 IP Elements Acceptance and CoFR

The contractor shall support development, coordination and maintenance of the Program Integration office IP CoFR implementation plans. The contractor shall review and provide inputs to IP Element Acceptance Review Plans defined in DRD A-SA-06 for IP Elements for which NASA takes ownership and provide inputs to Assessment Review Plans for all other IP Elements. The contractor shall coordinate and implement the Acceptance Review Plans and Assessment Review Plans with IPs and within the ISSP.

1.5.3.2 IP Milestone Reviews

1.5.3.2.1 Milestone Review Planning and Coordination

The contractor shall plan and track the ISSP teams' participation in the IP design, qualification, certification, and pre-shipment reviews to ensure compliance with ISSP requirements and policies. The contractor shall develop ISSP Support Plans for IP Milestone Reviews in accordance with DRD A-II-01. The contractor shall obtain concurrences for scheduling and support of the Milestone reviews from ISSP disciplines, teams and organizations and present for NASA approval. The contractor shall track the implementation of the approved ISSP Support Plan.

1.5.3.2.2 IP Milestone Review Participation

The contractor shall participate in all stages of the Milestone Review, including:

- (a) Development of the Milestone Review Plan to be bilaterally concurred by NASA and the IP and post-review action closure.
- (b) Review of IP Design, Qualification and Certification Review data packages for compliance with ISSP requirements and policies defined in IP Elements Specifications, IRDs/ICDs and other applicable bilateral and multilateral documentation.
- (c) Identification and documentation of non-compliance issues.

1.5.3.3 ISS & Mission Integration

1.5.3.3.1 Participation in ISSP Reviews

The contractor shall participate in the ISSP Milestone and Launch Package reviews identified in SSP 50200-02 and SSP 50489, ISS Mission Integration Template, by providing inputs to reviews and planning documentation. The contractor shall coordinate implementation of NASA Element team functions in support of these reviews.

1.5.3.3.2 Launch Package and Increment Teams Support

The contractor shall provide consolidated Element team inputs to mission requirements, increment definition requirements, and manifest requirements for IP Element flights. The contractor shall review the IP Element applicable flight and increment documentation (e.g. IDRDs, manifest) and coordinate with the LPM and IM teams to ensure incorporation of these requirements. The contractor shall participate in LPM and IM teams negotiations of the requirements with the IP. For data that supports the IDRD PP development, the contractor shall provide inputs to the Mission Integration team via Requirements Request Forms as defined in SSP 50622-02. For data that supports the IP flight manifest development, the contractor shall provide inputs to the Mission Integration team via Manifest Requests as defined in SSP 50622-02.

1.5.3.3.3 Element Ground Processing Coordination

The contractor shall coordinate with KSC and IP regarding IP Element hardware processing in the SSPF, to provide programmatic coordination including review of integrated IP Element schedules, status of Hardware processing, status of action items, and development and coordination of meeting agendas. After handover of the IP Element hardware to Shuttle Integration, the contractor shall support the Launch Package Management teams to coordinate element related processing issues.

1.5.3.3.4 Element Flight Operations Support

The contractor shall coordinate with ISSP and IP Operations teams the planning and implementation of IP Elements flight operations, which includes participation in ISSP SIRs and review of the IP Element operations documentation, such as operational timelines, procedures and flight rules.

1.5.3.3.5 Mission Support

1.5.3.3.5.1 Increment Management Center (IMC) Support

The contractor shall staff the ISS Increment Management Center console during IP Elements assembly flights, flights involving CSA robotics missions, and first-time IP visiting vehicle flights (e.g. HTV & ATV) to provide a single point of contact for element team coordination and resolution of mission related issues on a real time basis. The contractor shall meet the process requirements identified in the ISS Management Center Operations Handbook (IMCOH.)

1.5.3.3.5.2 Mission Evaluation Room (MER) Support

The contractor shall staff an ISS Mission Evaluation Room (MER) console during IP assembly flights, flights involving CSA robotics missions, and first-time IP visiting vehicle flights (e.g. HTV & ATV) to provide a single point of contact for Element team coordination and resolution of mission related issues on a real time basis. The contractor shall also staff an ISS MER console on an as-needed basis after the initial IP assembly flights and first-time IP visiting vehicle flights to facilitate Element team coordination in resolving in-flight anomalies associated with the IP Element. The contractor shall meet the process requirements identified in OB-MER-006, ISS MER Handbook.

1.6 HUMAN SPACE FLIGHT COLLABORATION

The contractor shall accomplish all work necessary to accommodate commercial customers to the ISS. The work will be the same or similar scope already required elsewhere in this contract SOW but will be performed in support of a NASA Reimbursable Space Act Agreement.

2.0 SYSTEMS ENGINEERING, ANALYSIS, AND INTEGRATION

2.1 RESERVED

2.2 SYSTEMS ANALYSIS AND INTEGRATION

The contractor shall perform the tasks below in accomplishing ISS systems analysis and integration. The contractor shall use the coordinate systems defined in SSP 30219, ISS Reference Coordinate Systems Document, for analysis, products, or data that is produced for ISSP and requires the use of coordinate systems.

2.2.1 Program Requirements and Interfaces

2.2.1.1 ISS Specifications and ICDs Maintenance

(a) The contractor shall provide book coordination functions for ISS Specifications, Interface Control Documents (ICDs), and Interface Requirements Document (IRDs) identified in Appendix H, in accordance with DRDs A-SI-01, A-SI-02, and A-SI-03. The contractor shall provide book coordination functions for SSP 30459, ISS Interface Control Plan, SSP 50135, ISS Interface Control Plan – NASA/RSA, and SSP 41174, ISS Interface Control Working Group (ICWG) Operating Procedures.

(b) The contractor shall maintain the contents of the Master File for all Specifications and ICDs/Interface Requirements Documents (IRDs).

(c) The contractor shall maintain tracking logs of Specifications, CRs and ICD/IRD revisions and history.

(d) The contractor shall perform requirements traceability for SSP 41000, System Specification For The International Space Station; SSP 41160, ESA Segment Specification For Columbus; SSP 41162, Segment Specification For The United States On-Orbit Segment; SSP 41165, Segment Specification For The Japanese Experiment Module; SSP 50273, HTV Segment Specification; SSP 50312, CAM Segment Specification; SSP 50333, Cupola Segment Specification; and SSP 50439, ESA Segment Specification For The Automated Transfer Vehicle (ATV) in accordance with DRD A-SI-04 utilizing the Requirements Traceability Management (RTM) application identified in Appendix F, Table 1.

(e) The contractor shall identify and track non-incorporated CRs to all retired, or no longer actively maintained, ISS specifications and ICDs.

2.2.1.2 Coordination and Review of ISS Specifications, ICDs, and IRDs.

(a) The contractor shall provide technical review of Specifications, ICDs, and IRDs identified in Appendix H during ISSP Milestone Reviews to ensure the requirements reflect the current ISSP baseline.

(b) The contractor shall provide technical review and coordination of Preliminary Interface Notices (PIRNs) for the documents identified in Appendix I and Document Change Notices (DCNs) for SSP 41150, IRD SSMB To Columbus APM; SSP 41151, IRD SSMB To JEM; SSP 41151-Appendix D, IRD SSMB To JEM, Appendix D; and SSP 41152, IRD ISPR ICD in accordance with SSP 30459, SSP 50135, and SSP 41174.

2.2.1.3 ICWG

The contractor shall perform the following ICWG technical administrative functions in accordance with SSP 41174, SSP 30459, and SSP 50135.

2.2.1.3.1 The contractor shall maintain and update Hardware Interfaces Tracking System (HITS) database (or equivalent) identified in Appendix D, Table 1 to develop PIRNs status reports as follows:

- (a) The contractor shall track and provide "ICD metrics" reports to include issue resolution plans on a monthly basis.
- (b) The contractor shall track and provide "Element Manager Open PIRNs" reports on a weekly basis.
- (c) The contractor shall track and provide reports identifying "TBDs" on a monthly basis.
- (d) The contractor shall track and provide "Open Issues" reports on a monthly basis.

2.2.1.3.2 The contractor shall provide administrative support for Milestone Reviews to include: meeting logistics, administration, agenda preparation and distribution, action item tracking, meeting minutes preparation and archival of all presentation material related to ICWG products.

2.2.1.3.3 The contractor shall prepare, distribute, maintain and track Interface Memorandums to document official correspondence.

2.2.1.3.4 PIRN and DCN Development and Maintenance

The contractor shall process and maintain ICD PIRNs and IRD DCNs as follows:

- (a) The contractor shall prepare, distribute, process, maintain, and track Preliminary Interface Revision Notices (PIRNs) for the documents identified in Appendix I to update ICDs.
- (b) The contractor shall prepare, distribute, process, maintain, and track Document Change Notices (DCNs) for SSP 41150, SSP 41151, SSP 41151-Appendix D, and SSP 41152 to update IRDs.

2.2.2 System Performance Analysis and Integration

The contractor shall provide recommendations to the ISSP management on the strategic implications of the ISSP launch schedules, manifests, and ISS on-orbit operations, and assist in NASA's development of strategic requirements. To meet the full scope of this requirement, the contractor shall provide systems engineering and integration support for development of the ISSP strategic planning as described below, and shall report the results in accordance with DRD A-SI-05.

2.2.2.1 Mission Analysis and Integration

2.2.2.1.1 Attitude Requirements

(a) The contractor shall develop, coordinate and obtain ISSP approval of the flight attitude requirements for the ISS operations. These requirements balance the needs of power, thermal, propellant, guidance, navigation, and control (GN&C) momentum management capability, micro-gravity, natural and induced environmental factors, communications, visiting vehicle, and other factors. The GFD tools Channelized Energy Balance Tool and Integrated Energy Balance Tool are available to support this function.

(b) The contractor shall input and maintain approved attitude requirements in the Space Station Operations Data Base (SSODB) as the source data to support flight rules and operations constraints.

2.2.2.1.2 Altitude Strategy

The contractor shall develop and coordinate the ISS altitude strategy. The altitude strategy will include:

- analysis for inadvertent entry risk,
- projected on-orbit lifetime,
- ISS propellant availability,
- ISS propellant delivery requirements and capabilities,
- Micro-gravity environment,
- natural and induced environmental factors (including crew radiation exposure) as analyzed by NASA institutional resources and by the Vehicle sustaining engineering team
- launch vehicle performance.

Such analysis will also verify that ISS performs within hardware certifications, through consultation with the Vehicle sustaining engineering team and the Cargo Mission team.

The ISS Altitude Strategy is documented in SSP 50110, Multi-Increment Manifest Document and SSP 50112, Operations Summary Document and is implemented through the individual Increment Definition Requirements Document for each increment. If strategic conditions change

after the base lining of the OSD, the contractor shall update the OSD and provide the applicable ISS Altitude Strategy data to the Mission Integration team via Requirement Request Forms as defined in SSP 50622-02, Section 4. The GFD tools TRAM, STRAP and Total Propellant Summary (TPS) are available to support this function.

2.2.2.1.3 The contractor shall integrate the rendezvous, proximity, and other special operations requirements and constraints (e.g.: contamination issues from liquid or gas venting) related to attitudes and system configurations for joint operations between the ISS and all ISS Visiting Vehicles, including but not limited to the Russian Progress and Soyuz, US Space Shuttle, ESA's Automated Transfer Vehicle (ATV) and the NASDA's H-II Transfer Vehicle (HTV). "Integrate" is defined as the coordination (between visiting vehicle providers and the ISSP) of requirements for attitudes for docking, undocking, and special operations, array and radiator positioning, resultant power balances, visiting vehicle power demands from the ISS, operations restrictions for contamination & structural loads, and other similar issues.

2.2.2.1.4 The contractor shall maintain and update SSP 50112 and provide inputs to the specific Increment Definition and Requirements Document to establish strategic allocations of resources for operations planning. The contractor shall provide updates to the Mission Integration team for inclusion in the appropriate IDR/D via Requirements Request Forms as defined in SSP 50622-02, Section 4. Details of the contents of this task are outlined in subordinate paragraphs.

2.2.2.1.4.1 The contractor shall provide analysis of crew time usage throughout assembly phases and other significant ISS operations, on a stage-by-stage and increment-by-increment basis. These analyses bound the allocation of crew time to the ISS end-users.

2.2.2.1.4.2 The contractor shall provide predictions for the ISS solar beta angle, based on the ISS altitude strategy and atmospheric variations bounded by the MSFC 5% and 95% atmospheres.

2.2.2.1.4.3 The contractor shall develop, track, and maintain the strategic allocation of Vehicle technical resources, including establishment of program technical reserves of propellant, water, oxygen, and nitrogen.

2.2.2.1.4.3.1 Taking into account the strategic needs of the ISSP and the predicted flight sequence, the contractor shall coordinate projected water delivery and usage rates with ISSP suppliers and users of water, including the Vehicle sustaining engineering team and the ISS Payloads Integration team.

2.2.2.1.4.4 Internal Volume Configuration (IVC)

2.2.2.1.4.4.1 The contractor shall provide criteria for evaluating and prioritizing ISS internal volume demands in accordance with SSP 50261-01, Generic Ground rules, Requirements, and Constraints Part 1: Strategic and Tactical Planning (GGR&C Part 1). Such criteria are put into practice in cooperation with the Internal Volume Configuration Working Group (IVCWG), Mission Integration team, and International Partners / Participants and in accordance with

SSP 50005, ISS Flight Crew Integration Standards. Examples of such volume criteria include minimum IVA translation path clearance, worksite operational volumes, emergency module safing and crew health stabilization requirements, access to routine maintenance locations, and the clearance around air duct openings and utility outlets when selecting nominal on-orbit locations for ISS cargoes.

2.2.2.1.4.4.2 The contractor shall update and maintain the planned ISS IVA topology in SSP 50564, ISS Interior Volume Configuration Document, to include Vehicle, payloads, systems, racks and select GFE items. The contractor shall coordinate and provide modified topologies, as required, to allow for IVC studies due to changes to the ISS assembly sequence or changes to the ISS configuration.

2.2.2.1.4.4.3 The contractor shall develop and maintain a unified and validated 3D CAD model of the ISS interior, in accordance with DRD A-SI-07, to support graphic analysis of the ISS interior configuration at every stage documented in SSP 50564.

2.2.2.1.4.4.4 The contractor shall graphically analyze the acceptability of the ISS planned configurations based on the documented pass/fail criteria identified in SSP 50261-01. The contractor shall document the results, including any exception closures, and review with the IVCWG and the ISSP.

2.2.2.1.4.4.5 The contractor shall provide and maintain an IVC stage analysis verification plan via coordination of the ISS graphic analysis with the IP/P community and with the Mission Integration team and the IVCWG.

2.2.2.1.4.4.6 The contractor shall develop situation unique analyses, as required, to provide inputs to ISSP planning and issue resolution.

2.2.2.1.4.4.7 The contractor shall maintain the IVCWG website to record and communicate IVC activities to the NASA community.

2.2.2.1.4.4.8 The contractor shall participate in hardware design reviews to ensure identification and resolution of potential issues regarding design features that, if not resolved, would result in SSP 50261-01 IVC exceptions. This activity includes review of hardware design drawings, volume envelopes, and assessment of protrusions into the crew and/or other hardware operational volumes as defined in SSP 50261-01.

2.2.2.1.4.5 The contractor shall develop and provide launch vehicle ascent and descent strategic mass and volume allocations to the ISSP end-user community.

2.2.2.1.4.6 The contractor shall track and report the volume constraints for each flight and stage, accounting for the competing influences such as power generation demands, crew size, mission duration, etc. that shrink or expand such volume constraints on each particular flight or assembly stage.

2.2.2.1.4.7 The contractor shall perform the ISS strategic resupply/logistics (traffic model) analyses, which are the integrated feasibility assessments to ensure strategic resupply, payload, and return cargo requirements using the planned international fleet of vehicles.

2.2.2.1.5 Applications and Data Systems

The contractor shall maintain the applications identified below in response to differences or anomalies between the expected performance data and on-orbit performance data as provided by the Vehicle sustaining engineering team.

- Traffic Resource Analysis Model (TRAM)
- Station Reboost Analysis Program (STRAP)
- Total Propellant Summary (TPS)
- Integrated Energy Balance Tool
- Channelized Energy Balance Tool

2.2.2.2 Mission Requirements and Support

2.2.2.2.1 The contractor shall provide strategic mission requirements, concepts, constraints, and resource allocations to the ISS Mission Integration team and NASA Mission Operations Directorate (MOD) to support development of mission planning, flight rules, and training.

2.2.2.2.2 Review of Operations Products

(a) The contractor shall review (via ongoing technical interactions and reviews of change requests) the ISS operations plans and procedures to ensure that all ISSP strategic technical constraints are satisfied, such as equipment operating and non-operating thermal limits, time phased power generation and demands, fault tolerance and recovery capability, structural loads, control authority of the attitude control systems, and mechanical interferences.

(b) The contractor shall review crew procedures that are related to systems activation or rechannelization, or to environment interactions including (but not limited to) plasma, plumes, contamination, or meteoroid debris to ensure that all strategic technical constraints are satisfied.

(c) The contractor shall review flight rules to ensure that all strategic technical constraints are satisfied.

2.2.2.2.3 Stage Integration Reviews (SIRs)

(a) The contractor shall coordinate the planning for and conduct the ISS SIRs as defined in SSP 50200-01, coordinating technical input from the Cargo Mission team, the Mission Integration team, the Vehicle sustaining engineering team, and other technical stakeholders. Such reviews are to be conducted no later than 18 months prior to an ISS assembly flight. Such reviews include detailed review plans and objectives published in advance to all participants. Such reviews include a Multi-Segment Operations (MSO) discussion, review, agreements and/or

protocols between IP affected by the operations or plans during the assembly flight or stage operations covered during the SIR. The reviews shall include generation and closure of actions resulting from formal review of assembly and operations plan for each assembly flight and all pertinent ICDs.

(b) The contractor shall report to ISSP Management the issues and closure plans identified during SIRs.

2.2.2.2.4 The contractor shall provide technical support as needed to Mission Operations Directorate and to the ISSP through assessment of strategic ISSP (including International Partner and Participant) impacts during resolution of significant in-flight anomalies. Such support includes provision of technical assessments that individual specialists within the contractor's employ may be able to provide to the Mission Evaluation Room, working with the Vehicle Sustaining Engineering team on a temporary basis to resolve mission or life-critical issues.

2.2.2.3 System Analysis and Integration

The contractor shall provide overall system analysis and integration of the ISS and associated interfaces, as described below, including: the United States On-Orbit Segment (USOS), International Partners and Participants (IP/Ps), GFE and ISS ground systems. This includes the ISS external interfaces, such as the ISS/National Space Transportation System (NSTS), other visiting vehicles, and the ISS/Payloads interfaces (does not penetrate beyond the interface to the Space Shuttle for the payloads).

2.2.2.3.1 The contractor shall facilitate and coordinate the development of ISS, Shuttle, and EVA operational procedures that ensure each external component's or payload's thermal survivability from launch to its activation on the ISS.

2.2.2.3.2 The contractor shall provide recommendations to ISSP management for approval in the development and prioritization of tasks performed by NASA institutional resources for the following analyses, as warranted by changing conditions or assumptions:

- Shuttle/ISS induced loads
- Plume heating analyses

2.2.2.3.3 The contractor shall develop and provide strategic assessments of ISS Thermal System Performance (TSP) throughout assembly phases and other significant ISS operations.

2.2.2.3.4 The contractor shall develop and provide heat load allocations for the ISSP end-user community, based upon active heat rejection margin analysis.

2.2.2.3.5 The contractor shall develop and provide power allocations for the ISSP end-user community, based upon Integrated Energy Balance margin analysis.

2.2.3 Assembly and Configuration Definition/Analysis

The Assembly and Configuration Definition/ Analysis function provides the ISSP with long term flight and external configuration planning including the ISS assembly sequence, crew rotation plans, ISS external configuration, drawings, and Computer Aided Design (CAD) models for launch and on-orbit configurations.

2.2.3.1 Assembly Sequence Analysis and Definition

The NASA Assembly team function is responsible for the evaluation and integration of the total set of programmatic, schedule, technical, and cost factors impacting the Strategic Flight Program (SFP); document the resulting SFP requirements and constraints; and develop a flight plan in consideration of the aforementioned factors. The strategic flight planning activity includes all tasks associated with the definition of a viable assembly sequence.

The contractor will maintain a technical knowledge of the requirements, capabilities, and constraints and their interrelationships necessary to develop the Strategic Flight Program (SFP). The requirements and constraints include:

- Up-mass and down-mass requirements for propellant, crew support (food, water, air, etc.), research, and maintenance;
- Capabilities and scheduling constraints of visiting vehicles that berth robotically or dock to the ISS vehicle;
- Top-level manifesting requirements and constraints of pressurized and unpressurized cargo carriers;
- Crew rotation requirements and constraints;
- Cargo element assembly and manifest requirements and constraints;
- Flight and increment EVA content, quantity, and scheduling constraints;
- Other operational requirements and constraints such as robotics, viewing, clearances, etc.;
- On-orbit vehicle assembly flows and the associated on-orbit hardware configuration for flight, intermediate, and stage configurations.

The detailed tasks necessary to implement the function described above are defined below.

2.2.3.1.1 The contractor shall develop and maintain the Integrated Flight Schedule (IFS) showing the baseline (per SSP 54100, IDRD Flight Program, and SSP 50110) and planned (as documented in open SSP 54100 and SSP 50110 ISSP CRs) launch, dock, undock and landing dates for all tactical and strategic flights to the ISS vehicle. This product documents the increment definition, durations and the baseline directive numbers.

2.2.3.1.2 The contractor shall develop and maintain the ISSP Crew Rotation Plan assessments in accordance with SSP 50261, Generic Ground Rules, Requirements, and Constraints Part I: Strategic and Tactical Planning document. The Crew Rotation Plan assessments trade the documented crew rotation requirements against mission manifest and operational impacts.

2.2.3.1.3 The contractor shall develop and maintain and utilize the SCROALE (Schedule of Crew Rotation, On-orbit Assembly, Logistics, and EVA) or equivalent. The detailed SCROALE shall graphically show the day-by-day timeline of all flights to ISS vehicle, Shuttle mission and increment EVAs (calling out Russian Segment and US Segment assembly, maintenance and science EVAs), launch and landing days (flight duration), dock and undock days (docked mission duration), robotics, Increment definition, Crew Rotation, and ISS vehicle major reconfigurations, including ISS assembly and visiting vehicle relocations. This product will assess the viability of the flight sequence plan and is developed in parallel with the baseline flight plan for the tactical and strategic timeframe. The contractor shall maintain a SCROALE for the baseline ISSP plan and perform trade studies of assembly sequence options under consideration. The contractor shall deliver the detailed SCROALE electronically. The contractor shall develop and maintain a summary Flight Program Figure that is an overview of the detailed SCROALE. The Flight Program Figure shall be capable of incorporation into Microsoft Word and PowerPoint.

2.2.3.1.4 The contractor shall maintain and update the Reference Assembly Sequence Overview. This product is a combination of the tactical (as defined by SSP 54100) and strategic baseline assembly sequences (as defined by SSP 50110) that provides an integrated ISSP schedule. This product also shows the proposed updates to all flights, which are contained, in open ISSP Change Requests (CRs) under review.

2.2.3.1.5 Strategic Flight Program (SFP) Development

(a) The contractor shall collect requirements and constraints and develop a SFP implementing the requirements for ISSP approval. The contractor shall identify issues and requirement conflicts and develop options for ISSP resolution.

(b) SSP 50110 is the document that baselines the SFP. For Multi-Increment Manifest (MIM) development, the contractor shall collect inputs, develop the revised document, conduct document reviews, resolve technical issues and actions, prepare the ISSP Change Request (CR) and board presentations, and prepare the final document for approval. The MIM baselines the strategic assembly sequence, docking port utilization, crew rotation plan, flight schedule, top-level launch and return manifest, sub-element number, altitude, crew rotation, and launch vehicle.

(c) The contractor shall revise and maintain the Assembly Sequence Overview. This is the strategic assembly sequence that is sometimes developed prior to the MIM development or as part of an Interim Assembly Sequence update to the MIM.

2.2.3.1.6 The contractor shall coordinate and resolve issues and actions that impact the strategic assembly sequence manifest, configuration, and flight sequence that do not occur during the MIM development timeframe.

2.2.3.1.7 The contractor shall assess proposed tactical and strategic mission updates and identify issues and/or impacts to the SFP.

2.2.3.1.8 The contractor shall integrate the inputs and provide the ISSP approved Flight Overview Guidelines to the Mission Operations Directorate for development of Flight Overviews to support Stage Integration Reviews (SIRs), Multi-Segment Operations (MSO) Reviews, and SFP development.

2.2.3.1.9 The contractor shall provide the integration and coordination of strategic ISSP/SSP flight inputs to the Space Shuttle Program (SSP).

2.2.3.1.10 The contractor shall represent the Assembly and Configuration Team as a technical expert at boards and panels.

2.2.3.1.11 The contractor shall provide technical inputs and review assessments for other ISSP documents or reviews such as:

- SSP 50112;
- SSP 50261-01;
- Planning Period Increment Definition and Requirements Documents (PP IDRDs);
- SSP 50200-01 and SSP 50200-02;
- SSP 54100 FP;
- Flight Specific Data Files (PDRS/EVA and Rendezvous) for Flight Operations Review (FOR); and
- Post-Increment Evaluation Reports (PIERs).

2.2.3.2 External Configuration Analysis and Definition

The NASA External Configuration team function is responsible for managing the definition and documentation of the integrated strategic and tactical external vehicle configuration plans and assessing any changes to the baseline. This responsibility includes working with the Vehicle sustaining engineering team which develop, validate and maintain detailed 3D CAD Models for launch and on-orbit stage docking configurations, develop the ISS System Top-Level Assembly drawings for each stage of the ISS vehicle and prepare, maintain, and submit engineering drawings.

2.2.3.2.1 The contractor shall maintain a technical understanding of the on-orbit vehicle assembly flows and the associated on-orbit hardware configuration for flight, intermediate, and stage configurations. The contractor shall also maintain a technical understanding of the assembly and configuration constraints necessary to manage the strategic, tactical, and real-time external Vehicle configuration.

2.2.3.2.2 The contractor shall assess, integrate, and coordinate requirements associated to the ISS external vehicle's configuration, including evaluating change requests that impact the external configuration for flight, intermediate, and/or stage configurations.

2.2.3.2.3 The contractor shall maintain and update SSP 50504, ISS Configuration Document and Assembly Matrix. The contractor shall collect inputs, develop the revised

document, conduct document reviews, resolve technical issues and actions, prepare the ISSP Change Request (CR) and board presentations, and prepare the final document for approval.

The ISS Configuration document contains data describing how the ISS is assembled. The document also contains physical configuration data that is not captured elsewhere in the ISSP. The Multi-Increment Manifest provides the strategic assembly sequence and manifest. The IDR Flight Program contains the tactical assembly sequence.

2.2.3.2.4 The contractor shall maintain and update SSP 30219, which documents the ISS reference coordinate systems for major elements and robotically handled items. The contractor shall collect inputs, develop the revised document, conduct document reviews, resolve technical issues and actions, prepare the ISSP Change Request (CR) and board presentations, and prepare the final document for approval.

2.2.3.2.5 CAD Model Development Support

(a) The contractor shall participate in the CAD Model User Technical Interchange Meetings (TIMs) and the Measurement Technical Interchange Meetings (TIMs) hosted by the ISS Vehicle Segment Sustaining Contract. These TIMs determine which element and cargo element components in the 3D CAD models, in the launch and on-orbit configurations, are validated to drawings and determine the required as-built measurements. The contractor shall provide inputs necessary to get validated and as-built CAD models.

(b) The contractor shall ensure that the external physical configuration data needed by the ISSP/SSP users is provided by working with the Vehicle sustaining engineering team to gather physical configuration data from detailed CAD models.

2.2.3.2.6 The contractor shall develop and gain concurrence of external configuration protocols with the International Partners and any other affected teams.

2.2.3.2.7 The contractor shall develop and review the mission-specific ISS/SSP On-Orbit Interface Control Document (ICD), Section 3, Physical Configuration for each Shuttle flight. The ISSP/SSP ICD documents the ISS and Shuttle data from the Orbiter rendezvous through the Orbiter departure. The blank book format is contained in NSTS-21000-IDD-ISS, Section S.3. The contractor shall update the Section S.3 blank book to incorporate the mission specific configuration data and figures.

2.2.3.2.8 The contractor shall develop and distribute the Vehicle Configuration Joint Working Group (JTWG) mission-specific vehicle configuration data sources letters to the ISSP/SSP community. These letters are produced at the L-9/10 months, in support of the SSP Cargo Integration Review (CIR), and L-4 months.

2.2.3.2.9 The contractor shall track the location of external configuration items. The contractor shall track the current and planned locations, as well as the historical hardware movement of needed configuration items such as external Logistics & Maintenance ORUs (spares stowed on orbit), EVA equipment/hardware, visiting vehicles, attach point utilization,

standard and non-standard external stowage, utilization, and internal items that stowed externally.

2.2.3.2.10 The contractor shall maintain and utilize the External Configuration Analysis and Tracking Tool (ExCATT), or equivalent, and provide web-based reports accessible by the ISSP.

2.2.3.2.11 The contractor shall develop revisions of the On-orbit Assembly Modeling and Mass Properties Data Book (Blue Book) in accordance with DRD A-SI-06.

2.2.3.2.12 The contractor shall convert launch and return mass properties provided by the Vehicle sustaining engineering team to on-orbit mass properties for the development of the Blue Book.

2.2.3.2.13 The contractor shall review the Vehicle sustaining engineering team L-30 day delivery of pre-flight on-orbit ISSP mass properties prior to every ISS flight docking, undocking and redocking. The contractor shall coordinate and resolve issues due to mass properties differences between the L-30 day data delivery and the Blue Book.

2.2.3.2.14 The contractor shall perform ISS clearance and external stowage analysis using approved 3D CAD models.

2.2.3.2.15 The contractor shall perform clearance analysis for docking vehicles assessing the clearance of dynamic docking envelopes and verifying docking requirements.

2.2.3.2.16 The contractor shall develop and deliver simplified 3D CAD models to the RSC-E in .igs and .step formats. These models shall be delivered to other parties such as universities, NASA centers, other International Partners, and other commercial interests, as required. The files shall be delivered in the user's format using the contractor's 3D CAD tool capability.

2.2.3.2.17 The contractor shall perform 3D CAD model analysis to determine stowage of new or relocated external configuration items and determine any impact to follow-on assembly or flight activities.

2.2.3.2.18 The contractor shall provide electronic dimensioned and non-dimensioned hidden line or shaded drawings to support the development of ISSP documentation. These drawings shall be provided in .tif, .gif, and/or .pic formats.

2.2.3.2.19 The contractor shall collect and track mass properties of the cargo elements and ORUs for flights scheduled in the strategic timeframe.

2.2.3.2.20 The contractor shall provide launch vehicle ascent and descent weight assessments to support manifest assessments in the strategic timeframe.

3.0 SPACECRAFT

3.1 RESERVED

3.1.1 Vehicle Management and Administration

3.1.1.1 Engineering and Technical Services (LOE)

The contractor shall perform the following services to support the offices within the ISSP.

3.1.1.1.1 Technical Integration Support

3.1.1.1.1.1 Meeting Support

3.1.1.1.1.1.1 The contractor shall coordinate and schedule meetings and telecons for the ISSP Offices. The contractor shall coordinate meeting logistics, including:

- (a) scheduling conference rooms,
- (b) notifying attendees,
- (c) requesting interpretation and translation services,
- (d) requesting local transportation services for Russian Foreign Nationals, when necessary,
- (e) scheduling and set-up of equipment, and
- (f) preparation of meeting materials.

3.1.1.1.1.1.2 The contractor shall develop and distribute meeting agendas and minutes. The contractor shall submit the meeting minutes to the meeting chair for approval within 2 business days following the meeting.

3.1.1.1.1.1.3 The contractor shall maintain and track action items for each meeting and meeting series. The contractor shall capture any assigned actions items and the associated actionees and notify the actionees. The contractor shall document action closure and provide status and disposition of actions.

3.1.1.1.1.1.4 The contractor shall develop and maintain Points of Contact (POC) lists, distribution lists and team calendars of events. The contractor shall distribute event notifications, and other pertinent information.

3.1.1.1.1.2 CoFR Process Support

The contractor shall aid in the development of, and update, the specified Offices' Certification of Flight Readiness (CoFR) review plans and processes to reflect changes and process improvements. The contractor shall develop a mission-unique schedule of Office CoFR activities to support the ISS milestones. The contractor shall generate and maintain flight-specific checklists for implementation by Office technical personnel during the execution of the CoFR process.

The contractor shall support and implement the specified Offices' Certification of Flight Readiness (CoFR) review plans, reference SSP 50108, Certification of Flight Readiness Process Document for ISS. This shall include participation in all of the certification reviews (e.g., Station Cargo Certification Reviews (SCCR), Stage Operations Readiness Reviews (SORR), Acceptance Requirements Board (ARB) meetings, Launch Package Assessment (LPA) Reviews, and Flight Readiness Reviews).

The contractor shall serve as the Office CoFR custodian whose responsibilities include consolidating, organizing, and maintaining the Office's official CoFR records (i.e., presentations, endorsement packages, and all supporting back-up data). For the specified ISSP Offices, the contractor shall generate an integrated CoFR presentation with supporting subsystem and technical discipline data and compile endorsement packages.

3.1.1.1.1.3 Program Review Support

(a) The contractor shall track and report open paper/actions in support of configuration audits, acceptance reviews, and other major ISSP milestones. The contractor shall collect all open actions, open VCNs, and open issues for each assigned element/end-item and provide a summary report of open items and their status for each review to support the ISS Program Office engineering acceptance of the end item.

(b) The contractor shall coordinate review of data packages, coordinate action item development and acquisition from the ISSP teams, and coordinate and track action item dispositions and closures. The contractor shall provide open action status during reviews. The contractor shall track action item status and closure. The contractor shall prepare in-brief and out-brief presentations for ISSP management.

3.1.1.1.1.4 Coordinate Office CR Evaluations

The contractor shall serve as points of contact for Change Request (CR) processes and evaluations and manage the Office-specific CR review process including tracking of evaluations, comments and issues. The contractor shall facilitate processing of CRs originating from, or evaluated by, the Office. The contractor shall:

(a) identify appropriate Office evaluators and distribute the evaluation packages for internal review,

- (b) contact evaluators to obtain status of their review and inform them of overdue evaluations,
- (c) consolidate completed evaluations, comments, and issues and submit to the Office signatory for approval, and
- (d) forward approved evaluation packages to CM Receipt Desk

3.1.1.1.1.5 Office Metrics

The contractor shall gather specified data on a weekly basis to assist in the development of an integrated office metrics package for the specified Office for reporting to NASA management.

3.1.1.1.1.6 Office Web Content

The contractor shall develop and maintain web page content for specified ISSP teams and offices. The contractor shall provide web site administration, web site design, and post new information to the websites. The contractor shall develop and provide web pages in accordance with the requirements and guidelines defined in Section 1.4, Information Technology.

3.1.1.1.2 Engineering Services

3.1.1.1.2.1 Issue Resolution

The contractor shall represent assigned functional areas at the ISSP boards and panels and provide reviews, assessments, and recommendations in resolution of issues. The contractor shall coordinate the resolution of system integration issues with the necessary subsystem and technical discipline teams within the ISSP.

3.1.1.1.2.2 Engineering Evaluation and Integration

The contractor shall provide technical capabilities as requested to:

- (a) recommend approval and acceptance of integration, operations, and system performance plans, procedures, analyses, tests, and reports,
- (b) review documents, procedures, plans, and reports for discrepancies,
- (c) provide assessments of the products to ensure they are in accordance with the program baseline, and
- (d) perform impact assessments of ISS Change Requests against the program baseline.

3.1.1.1.2.3 Integrated Test and Verification (IT&V) Support

The contractor shall develop, implement, and oversee IT&V products and processes as defined in

D684-10020, ISS Program Master Integration and Verification Plan. The contractor shall support the development and maintenance, including the book coordination, of the following Bilateral Integration and Verification Plans (BIVPs): SSP 50033, NASA/CSA Bilateral Integration and Verification Plan (BIVP), SSP 50034, NASA/ESA Bilateral Integration and Verification Plan (BIVP), SSP 50035, NASA/NASDA Bilateral Integration and Verification Plan (BIVP), SSP 50101, NASA/RSA Bilateral Integration and Verification Plan (BIVP), SSP 50102, NASA-ASI Bilateral Integration and Verification Plan (BIVP), SSP 50281, Node 2 NASA/ASI Bilateral Integration and Verification Plan (BIVP), SSP 50334, ESA/RSA Bilateral Integration and Verification Plan (BIVP) For ATV , SSP 50406, NASA/ESA Bilateral Integration & Verification Plan (BIVP) For Cupola , SSP 50420, NASA/NASDA Bilateral Integration & Verification Plan (BIVP) For HTV, and SSP 50544, NASA/NASDA Bilateral Integration & Verification Plan (BIVP) For CAM. Support to T&V shall include, but is not limited to, the following:

- (a) Coordination of ISS Specification, Section 4 requirements updates with subsystem teams and requirement owners.
- (b) Development, review, and issue resolution for the IT&V related specifications, Bilateral Integration and Verification Plans, and BDEALS. Support the definition, review, and approval of IP/P test requirements, plans, and closure criteria.
- (c) Development and approval of the IP/P requirements and test of the BIVP joint tests, integrated systems tests, and element leak tests.
- (d) Participation in Test Readiness Reviews and assessment of test readiness.
- (e) Generation of rationale pertaining to IT&V risk abatement.
- (f) Development, review, and approval of Operations and Maintenance Requirements and Specifications (OMRS) and Assembly, Checkout, Operations, Maintenance and Configuration (ACOMC) requirements used to document test requirements at KSC.
- (g) Coordination with subsystems teams and IP/P to achieve agreement on OMRS and ACOMC requirements definitions, test execution, requirements variances, changes, waivers, deviations, exceptions, interpretation agreements, and BIVP test sheets.
- (h) Assessment of BDEALS data deliveries and incorporation of VCM/VCD data into RTM/PVIS.
- (i) Review of verification data provided by IP/Ps to show that Specification section 3 requirements have been met or that appropriate waivers, deviations, or exceptions have been approved.
- (j) Incorporation of IP/P verification data into Stage VCNs for closure of ISS Stage and System requirements.

3.1.1.1.2.4 Cable and Fluid Assessment

The contractor shall provide oversight of the cable and fluid assessment activities performed by the Vehicle sustaining engineering team. The contractor shall evaluate and audit test reports and procedures for compliance to ISS requirements and to the cable and fluid assessment detailed verification objectives (DVOs) and verification logic network (VLN). These DVOs/VLNs address the set of cable and fluid assessment activities including Design Audits, Physical (As-Built) Audits, Mate/Fit-checks, and On-Orbit Constraint Tests for extra-vehicular activity and intra-vehicular activity. The contractor shall assist NASA in coordinating test and audit activities with the IP/Participants. The contractor shall recommend approval of the Verification Closure Notice (VCN) in support of CoFR.

3.1.1.1.2.5 Project Management Support

The contractor shall support the development of hardware and software systems by providing project management support to ensure that ISSP needs are met; these needs include technical, cost, and schedule requirements. The contractor shall ensure that assigned projects are developed in accordance with ISSP processes. The contractor shall produce project documentation as requested. The contractor shall evaluate and track development issues and schedule issues from project inception through initial flight of the hardware/software system. The contractor shall work closure of technical and schedule issues with the hardware/software providers. The contractor shall coordinate processes and lead issue resolutions between the provider organizations, launch integration organizations, and the ISSP. The contractor shall identify threats to key milestone completions and corresponding ISSP impacts. The contractor shall prepare a weekly status report of technical issues and schedule compliance. The contractor shall assist with risk management, including the coordination of budget, schedule, metrics, risks associated with individual development projects, and the rollup and trend analysis associated with the set of all development projects.

3.1.1.1.2.6 Hardware Delivery Support

The contractor shall support NASA in the acceptance of hardware purchased through the Vehicle sustaining engineering team and hardware purchased under other contracts for the External Carriers Office. Tasks shall include providing concurrence for certification and DD250 prior to shipment of hardware to the flight preparation facility (typically KSC), monitoring and participating in schedule and manufacturing reviews related to the delivery schedule of hardware, and participating in design and requirement reviews to ensure that hardware needs to support ISS carriers are properly identified. The contractor shall maintain a database to track all hardware deliverables between the ISSP and its contractors that support ISS carriers. The contractor shall review ISSP CRs involving ISS carriers to ensure that equipment requirements are properly identified and meet ISSP requirements.

The contractor shall coordinate deliveries of Government Furnished Equipment, including hardware supplied by the JSC EVA Projects Office, and ensure that deliveries meet manufacturing, assembly, and test schedules. The contractor shall implement requests and justify needs for EVA hardware deliveries to support ISS carriers.

3.1.1.1.2.7 Book Coordination Support

The contractor shall provide Book Coordinator functions to support the NASA Book Managers in the development and maintenance of assigned documentation. This support includes:

- (a) coordinating inputs and tracking communications from the International Partners regarding the documents.
- (b) coordinating and conducting meetings to evaluate the changes, documenting and distributing the minutes and actions, and tracking action closures.
- (c) developing and making presentations to the appropriate control board/panel as required to obtain approvals for document release.

3.1.1.1.3 Special Studies

The contractor shall conduct special studies within the scope of the PI&C SOW as requested. The scope of the study, products, and schedule will be defined in a LOE task order.

4.0 RESERVED

5.0 RESERVED

3.1.1.1.2.7
Book Coordination Support
3.1.1.1.3
Special Studies
4.0
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RESERVED

6.0 SAFETY AND MISSION ASSURANCE (S&MA)

The Agency Safety Initiative establishes the NASA safety hierarchy, which is the order NASA will use to prioritize its safety efforts. The safety hierarchy is as follows:

- (a) **Safety for the public** - NASA absolutely must protect the public from harm.
- (b) **Safety for astronauts and pilots** - NASA has to protect them as they expose themselves to risk in high hazard flight regimes.
- (c) **Safety for NASA workforce** - NASA is responsible for providing a safe and healthful workplace.
- (d) **Safety for high-value equipment and property** - NASA is a steward of the public's trust.

By focusing on the safety of NASA's mission and operations, NASA will improve quality and decrease cost and schedule.

6.1 S&MA MANAGEMENT AND ADMINISTRATION

6.1.1 Mission Assurance and Risk Management (MA&RM) Plan

The contractor shall develop, maintain, and implement the Mission Assurance and Risk Management (MA&RM) Plan in accordance with DRD A-SA-01.

6.1.2 Quality Record Maintenance

The contractor shall maintain the ISSP S&MA quality records system in accordance with SSP 41173 and AS9100.

6.1.3 AS9100

The contractor shall establish and maintain a Quality Management System (QMS) that complies with AS9100. Third party certification/registration is not required. If the contractor is AS9100 registered and subsequently changes registrars, loses registration status, or is put on notice of losing registration status, the contractor shall notify the NASA Contracting Officer within three (3) days of receiving such notice from the registrar.

6.1.4 Audit/Surveillance

The contractor shall provide access to data, personnel, and facilities for government audit/surveillance of the contractor's plans, procedures, and processes when deemed necessary by the Government. The contractor shall provide written responses to audit/surveillance findings that are delivered to and accepted by the government.

6.1.5 Mishap Investigating and Reporting

(a) The contractor shall investigate and report mishaps, in accordance with NPG 8621.1, NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Record keeping, and NPG 8715.3, NASA Safety Manual. All investigation reports shall include a human factors assessment, root cause analysis and any remedial/corrective actions performed. These reports shall encompass mishaps occurring during the contracted period as follows:

- All mission failures and type A and B mishaps resulting in injury to contractor personnel or equipment damage occurring onsite at NASA facilities and offsite at contractor facilities.
- Type C mishaps resulting in equipment damage onsite at NASA facilities and offsite at contractor facilities.
- Type C mishaps resulting in injury to contractor personnel located onsite at NASA facilities.
- Incidents and close calls occurring onsite at NASA facilities.

(b) The contractor shall develop and implement a call tree with government contacts for the reporting of a mishap, near-miss incident, equipment problem or a system going out of specification. The contractor shall report incidents and problems within four hours of the occurrence. Type C injury mishaps occurring offsite at contractor facilities shall be reported in a monthly summary of such injuries.

(c) The contractor shall enter mishap reporting and provide summary data into the Incident Reporting Information System (IRIS) per NPG 8621.1.

6.1.6 Safety and Health

The contractor shall develop and implement a process to identify how personnel and property will be protected from injury or harm and ensure the safety of all working conditions throughout the performance of the contract. The process shall provide for hazardous operation surveillance, hazardous procedure review, and risk assessments associated with deviations from procedures or safety and health requirements. The contractor shall comply with NASA-Installation safety and health requirements and related processes when performing contractor work onsite at NASA installations. The contractor shall develop, implement and maintain a Safety and Health (S&H) Plan in accordance with DRD A-SA-02. Upon approval, the S&H Plan shall be incorporated into the contract as Attachment J-5. The contractor shall document the assessments in monthly safety and health metrics in accordance with DRD A-SA-03 and perform an annual self-evaluation in accordance with DRD A-SA-04.

6.1.7 Lessons Learned

The contractor shall develop, update and implement a process to capture, disseminate, and implement lessons learned, both positive and negative, in accordance with NPG 8621.1,

NPG 7120.5, and AG-CWI-001, JSC Lessons Learned Process. The contractor shall enter the lessons learned into the government provided Lessons Learned Information System (LLIS) per AG-CWI-001.

6.1.8 Document Maintenance

The contractor shall provide book coordination functions for the following ISSP S&MA documents: JPD 306; JPD; 315; JPD 328; SSP 30223, Problem Reporting and Corrective Action (PRACA) for Space Station Program; SSP 30234, Failure Modes and Effects Analysis and Critical Items List (FMEA/CIL) Requirements for Space Station; SSP 30309, Safety Analysis and Risk Assessment Requirements Document; SSP 30524, Problem Reporting and Corrective Action (PRACA) Data System (PDS) Requirements Definition Document (RDD) for ISSP; SSP 30599, Safety Review Process; SSP 30695, Acceptance Data Package Requirements Specification; SSP 41173, Space Station Quality Assurance Requirements; SSP 50021, Safety Requirements Document; SSP 50038, Computer-Based Control System Safety Requirements; SSP 50175, ISS Risk Management Plan; SSP 50231, Safety and Mission Assurance Certificate Of Flight Readiness Implementation Plan; SSP 50287, Hardware/Software Acceptance Process; and SSP 50437, Safety and Mission Assurance/Program Risk Mission Evaluation Room Console Operations Handbook for ISSP.

6.2 S&MA INTEGRATION

6.2.1 IP Integration

(a) The contractor shall provide book coordination functions for the documents listed below to assist NASA in the development and maintenance of IP bilateral agreements to ensure implementation of the overall S&MA Program for the IP elements, including visiting vehicles, cargo, and payloads: SSP 50062, NASA/CSA Bilateral S&MA Requirements, SSP 50145, NASA/NASDA Bilateral S&MA Requirements, SSP 50146, NASA/RSA Bilateral S&MA Process Requirements for ISS, SSP 50182, SSP 50191, NASA/ESA Bilateral S&PA Requirements, SSP 50346, NASA/ASI Nodes Bilateral S&PA Requirements.

(b) The contractor shall perform S&MA technical integration in accordance with the IP bilateral agreements of IP Elements, visiting vehicles, cargo, and payloads, including participation in Milestone Reviews and TIMs. Technical integration includes participating in the identification and resolution of technical issues affecting S&MA, receiving and distributing S&MA data between NASA and IPs, tracking of open issues and actions resulting from the Milestone Reviews and TIMs that impact the safety, reliability, and quality assurance aspects for each flight and supplying the data to the Mission Integration team.

(c) The contractor shall periodically status S&MA issues and open action items for the IP Elements, vehicles, cargo and payloads to ISSP boards and panels.

6.2.2 Change Request Integration

The contractor shall coordinate and facilitate S&MA review of ISSP Change Requests.

6.3 PROGRAM RISK

6.3.1 Risk Process Management

The contractor shall maintain the risk management process and the Integrated Risk Management Application (IRMA) in accordance with SSP 50175, ISS Risk Management Plan, JPD 306, and NPG 8000.4. This will include ensuring the integration of all data and data integrity of the Risk Management Database and associated linkage with the MIS for identification of risks.

6.3.2 Risk Management

The contractor shall identify S&MA risks and provide input to the risk process utilizing the Integrated Risk Management Application (IRMA) in accordance with SSP 50175 and JPD 306 as well as coordinate risks with NASA counterparts.

6.3.3 Corrective Action/Preventative Action

The contractor shall facilitate any ISSP S&MA corrective action/preventative action responses in accordance with JPD 328, including coordinating responses and entering updates into the JSC Quality Process Improvement Database. The process requires the identification and mitigation of adverse trends, potential events, or significant anomalies that may adversely affect multiple programs, projects, or divisions.

6.3.4 Risk Management Integration

The contractor shall coordinate risks in support of risk advisory boards in accordance with JPD 306 and SSP 50175.

6.3.5 Probabilistic Risk Assessment (PRA)

The contractor shall perform the PRA modeling and trade studies in accordance with NPG 8705, PRA Guidelines for NASA Programs and Projects. Modeling and trade studies may include the ISS and any visiting vehicle, including those that are in a conceptual design phase. The contractor shall use SAPHIRE PRA modeling/development application identified in Appendix F, Table 2.

6.3.5.1 Probabilistic Risk Assessment Process

The contractor shall develop a PRA process capable of tracking the safety of flight issues through program maturity in accordance with DRD A-SA-05.

6.3.5.2 Probabilistic Risk Assessment Analyses

The contractor shall perform trade and sensitivity analyses using the Probabilistic Risk Assessment and make recommendations as appropriate. Trade studies and analyses will include (i) background on problem, (ii) assumptions and constraints, (iii) scope of analysis, (iv) methodology, (v) detailed analysis and results, and (vi) conclusion.

6.3.5.3 Probabilistic Risk Identification Results

The contractor shall identify and disclose as appropriate any instance of a detected disconnect or flaw regarding the connectivity of the Government supplied hazard analysis, failure modes and effects analysis, or other engineering data which leads to the identification of an unidentified catastrophic hazard.

6.4 RESERVED

6.5 RESERVED

6.6 QUALITY ASSURANCE

6.6.1 Problem Reporting System

6.6.1.1 Problem Reporting System Maintenance

The contractor shall maintain the ISS Program Reporting and Corrective Actions process and database in accordance with SSP 30524 and SSP 30223. This activity includes coordination of the PRACA process and database improvements with problem resolution teams and facilitate issue resolution.

6.6.1.2 Problem Reporting System Participation

The contractor shall coordinate reporting and ensure dispositioning and reporting of applicable problems by the IP/P representatives in support of NASA in the implementation of bilateral agreements, and in accordance with the ISS Problem Reporting and Corrective Actions process and maintenance (SSP 30524 and SSP 30223).

6.6.2 Element Hardware / Software Acceptance

- (a) The contractor shall develop, maintain, and implement an IP Element Acceptance Review Plan as defined in DRD A-SA-06 and in accordance with bilateral agreements for the CAM/CR.
- (b) The contractor shall report on Acceptance Review audits of deliverable hardware and software to ensure compliance with bilateral agreements. The contractor shall track open RIDs and/or action items to satisfactory closures.

Appendix A - Key Terms

Assembly Complete (AC) Vehicle. The on-orbit Space Station configuration exclusive of the external interfaces defined in SSP 41000.

Book Coordinator. A function that provides for the development of new documents or updates to existing documents and has the following responsibilities:

- Integrating inputs from technical experts, coordinating updates between submitters and reviewers, documenting resolutions, and maintaining the technical consistency of the document.
- Be responsible for the technical content of the document.
- Coordinating inputs, tracking communications from the partners regarding the documents (including the development of NDCs for documents that affect Russia), and coordinating translations.
- Updating the document using CRs, interfacing with CM and performing DQA, in accordance with the ISSP CM approved process and schedule.
- Coordinating and conducting coordination meetings, production and distribution of minutes and actions, tracking closures.
- Developing and making presentations to the appropriate control board/panel as required to obtain approval.
- Ensure that an electronic and hard copy of the conformed document is delivered to ERU for baseline release.

Cargo Element. A flight element that has physical and/or functional interfaces to the launch vehicle.

Control Board. A management forum which establishes and control changes to the baseline and associated documentation and provides a forum for resolving related technical and schedule issues. The specific board scope, responsibilities, authority, and membership are defined in their charter.

Control Panel. A subordinate forum to a parent control board with delegated responsibility and control as defined in their charter.

Data Quality Assurance (DQA). An administrative function to ensure documentation and documentation updates are prepared in accordance with documentation standards contained in SSP 50010.

Element. An integrated, assembled set of hardware and/or software capable of supporting an operational role such as the U.S. Lab module. It is the primary subdivision of the ISS Vehicle for purpose of accommodation in a launch vehicle.

Engineering Release Unit (ERU). A position within a Configuration Management organization that accepts electronic and hard copy data for release to a library system.

Flight. The sequence of events that take place between lift-off and landing of a launch vehicle.

Flight Support Equipment (FSE). An item required to integrate ORU/Contingency Items into/onto the carrier used in the shuttle payload bay or any pressurized volume which is transported to orbit by a launch vehicle (e.g. adapter plates, shrouds).

Function. A separate and distinct action required to achieve a given objective, to be accomplished by the use of hardware, computer programs, personnel, facilities, procedures data, or a combination thereof; an operation that must be performed to fulfill its mission or reach its objectives.

Increment Definition Requirements Document (IDRD). Documentation of ISS Program requirements for the flights and increments within a planning period. These include the launch dates, traffic plans, top-level manifest, resource allocations, and specific flight/increment requirements and priorities.

Increment. The time frame is defined by each crew expedition. The duration of an increment is the time period from the launch of a designated flight crew to the landing of the return vehicle for that crew.

International Partners/Participants. Those non-U.S. space agencies that formally participate in the ISS. The International Partners are the Canadian Space Agency (CSA), European Space Agency (ESA), National Space Development Agency of Japan (NASDA), and Russian Aviation and Space Agency (Rosaviakosmos). Italian Space Agency (ASI) and Brazilian Space Agency (AEB) are International Participants.

Information Technology (IT). Any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information that is used by ISSP. IT includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources

ISSP Offices. The programmatic organizations that report to the ISS Program Manager. Some examples of the current offices are Mission Integration and Operations Office/OC, Vehicle Office/OB, Program Integration Office/OM, etc.

Joint Team Review. A change screening group that meets weekly to screen all new CRs to:

- ensure the assignment to the appropriate Board/Panel,
- establish change evaluation due dates,
- identify mandatory evaluators, and
- identify Change Engineers is none are noted.

The JTR also has authority reject unacceptable or inappropriate CRs.

Launch Package. Full complement of ISS hardware and software delivered or returned on a flight to the ISS.

Launch Package Manager. The Launch Package Manager (LPM) provides leadership and technical direction of teams responsible for the development, integration, readiness for flight, and on-orbit checkout of a Launch Package. Teams led are multidisciplinary, involving systems engineering, systems and element development, verification, operations, launch processing, logistics, international partner integration, and payload integration.

Master File. The contents of the Master File will contain all original signatures (e.g. IFMs, PIRNs, DCNs, CRs, minutes) that are associated with all ICD and Specification products approved by the ICWG members and program participants.

Mission Evaluation Room (MER). The MER provides on-console engineering support during real time operations.

Milestone Reviews. A generic term used in place of listing major programmatic reviews such as but not limited to design reviews, acceptance reviews, launch integration reviews, CoFR reviews, Pre-shipment reviews, etc. It may apply to some or all of these reviews based on the context in which it is used.

Mission Integration Plan (MIP). ISSP/SSP joint document that captures the inter-program requirements and constraints for Shuttle operations support to ISS increment operations including ascent and descent, flight requirements for ISS Cargo Elements (CEs), and joint operations while the Shuttle is attached to the ISS.

Management Information System (MIS). A computerized information-processing system designed to keep ISSP and other personnel apprised of the most current ISS technical, financial, workforce, schedule and operational information, including issues and risks. MIS links ISS core business issues and goals with the technical aspect of the Program.

Notice of Document Change (NDC). Process developed specifically for Russia to enable documentation updates to proceed with interim approval from the contractor while formal Rosaviakosmos approval is pending. Form used when processing document changes with RSC-E with details all from/to changes. This process is documented in SSP 50123, Configuration Document Handbook.

Nominal. The expected value or condition, as measured in terms of functional or performance characteristics, of a component, subsystem, or system operating normally in its intended environment.

Orbital Replacement Unit (ORU). Equipment that may be removed from the on-orbit ISS and replaced with a like unit for maintenance activities.

Orbital Support Equipment (OSE). An item required to support Flight hardware in the On-orbit ISS. OSE items are required to accommodate integrated assemblies used to deliver ORU/Contingency Items to/from on-orbit worksites and on-orbit storage locations (e.g. micro-meteoroid debris protection).

Payload. If not otherwise modified, "payload" in this document refers to an ISSP scientific or technology payload. Also referred to as utilization or experiment.

Part. A single piece not normally subject to disassembly without destruction or impairment of use (e.g., resistors, transistors, relays, gears, etc.).

Planning Period. Approximately one calendar year, adjusted by the timing of crew rotations.

Program authorized repository. A NASA owned database/repository that is accessible by all ISS Program participants.

Resources. Identifies a particular subset of ISS on-orbit capabilities used in support of system and utilization operations (e.g., power, heat rejections, communications, crew time, etc.)

Secretariat. A senior CM person supporting configuration control boards/panels as the CM representative. Responsibilities include controlling the flow/schedule of the meeting, ensuring all actions are properly captured, reviewing meeting minutes, ensuring any change paper requiring signature is signed if approved, and answering any CM specific issues or questions.

Segment. A grouping of elements that are functionally related and often physically interface (e.g., U.S. On-Orbit Segment or U.S. Ground Segment).

Stage. The on-orbit configuration of the ISS after each flight that adds capability to the ISS. This can also refer to a designated period between launch vehicles defined by the ISS Program for requirement documentation and planning purposes.

Strategic Flight Program. The Strategic Flight Program is a strategic integrated plan for the assembly sequence, EVA plan, integrated flight schedule of all vehicles docking to the ISS Vehicle, crew rotation plan, and the cargo element flight assignments in the strategic timeframe.

Strategic timeframe. Long term planning that generally transitions to the tactical timeframe approximately two years prior to the flight or real-time operations.

Subelement Number. The Subelement Number is used to track data in the VMDB for cargo elements, delivered on a carrier, visiting vehicles (other than the Orbiter), and any individual items that is deploy/retract, rotate/translate, or any major item that relocates from the original installed location and can have a significant impact to the ISS mass properties.

Subsystem. A functional grouping of components that combine to perform a major function (e.g., electrical power, attitude control, propulsion, etc.).

Sustaining Engineering. Sustaining Engineering (SE) is the design engineering expertise provided after the development of hardware/software items is completed and these items have been provisionally accepted

Systems Analysis the performance of integrated, multidisciplinary engineering and analysis to assure:

- the required performance or survival of subsystems before, during, and after installation on-orbit,
- the minimized consumption of expendable resources,
- the optimization of program goals for schedule and scientific requirements,
- the meeting of constraints and requirements of attached, approaching, and departing vehicles, and
- the continued performance of all of the above in the induced and natural environments, which pertain to the ISS under well defined, operating regimes and assumptions.

Systems Analysis is complementary to, does not duplicate, and requires syntheses of data from: subsystems engineering, specialty engineering, and sustaining engineering, which are maintained under the ISS Sustaining Engineering Contract and in some cases under separate Government contracts and internal capabilities, as specified.

Tactical timeframe. A period of time from approximately 2 years prior to the launch or real-time operations.

Technical Interchange Meeting. Meetings between two or more ISS Program technical teams to exchange information, develop processes, and work issues.

Validation. The process of formally approving the developed process, services, or products at the conclusion of operational test and evaluation. This approval indicates developed processes, services, or products satisfy their intended operational mission.

Vehicle. The Vehicle includes the whole, integrated, on-orbit station (including hardware and software) as it exists today and the future station configurations as it evolves to the Assembly Complete (AC) configuration. The vehicle configuration is defined by the particular point in time under assessment or discussion.

Verification. The activities which assure that each level of requirements (including test requirements) or specifications correctly echoes the intentions of the immediately superior level of requirements.

Appendix B – Acronym List

AC	Assembly Complete
ACEO	Assessments and Cost Estimating Office
ACOMC	Assembly Check Out, Operation, Maintenance and Configuration
ACT	Action Tracking System
AEB	Agencia Espacial Brasileira (Brazilian Space Agency)
ANSI	American National Standards Institute
AR	Acceptance Review
ARB	Acceptance Requirements Board
ASAP	Aerospace Safety Advisory Panel
ASI	Agenzia Spaziale Italiana (Italian Space Agency)
ATV	Automated Transfer Vehicle
BDEALS	Bilateral Data Exchange Agreements, Lists and Schedules
BHSEALS	Bilateral Hardware and Software Exchange Agreements, Lists and Schedules
BIVP	Bilateral Integration and Verification Plan
CA	Configuration Audit
CAD	Computer Aided Design
CD	Change Directive
CE	Change Engineer
CIO	Center Information Officer
CM	Configuration Management
CO	Contracting Officer
CoFR	Certification of Flight Readiness
COSMOS	Configuration Status Management Operations System
COTS	Commercial Off-the-Shelf
CMM	Capability Maturity Model
CMMI	Capability Maturity Model Institute
CMRD	Configuration Management Receipt Desk
CPR	Cost Performance Report
CPU	Computer Processing Unit
CR	Change Request
CSA	Configuration Status Accounting
CSA	Canadian Space Agency
CSD	Common Schedules Database
DCN	Document Change Notices
DI	Data Integration
DM	Data Management
DQA	Document Quality Assurance
DR	Data Requirement
DRD	Data Requirement Description
DRL	Data Requirements List

Appendix B – Acronym List

DVO	Detailed Verification Objective
EIM	Element Integration Manager
ERU	Engineering Release Unit
ESA	European Space Agency
EVA	Extra Vehicular Activity
ExCATT	External Configuration Analysis and Tracking Tool
FCA	Functional Configuration Audit
FOR	Flight Operations Review
FRR	Flight Readiness Review
FSE	Flight Support Equipment
GAO	General Accounting Office
GFE	Government Furnished Equipment
GN&C	Guidance, Navigation, and Control
GGR&C	Generic Ground Rules and Constraints
HITS	Hardware Interfaces Tracking System
HTV	H-II Transfer Vehicle
ICAP	Interface Control Action Plans
ICD	Interface Control Document
ICR	Interface Control Report
ICWG	Interface Control Working Group
IDRD	Increment Definition and Requirements Document
IFM	Integrated Financial Management
IFM	Interface Memorandums
IFS	Integrated Flight Schedule
IG	Inspector General
IIR	Independent Implementation Review
IM	Increment Management
IMC	Increment Management Center
IMCE	ISS Management and Cost Evaluation
IMCOH	ISS Management Center Operations Handbook
IOMS	Integrated Office Management System
IP	International Partner
IP/P	International Partner/Participant
IPSP	Integrated Program Schedule Panel
IRIS	Incident Reporting Information System
IRMA	Integrated Risk Management Application
IRD	Interface Requirements Documents
IRN	Interface Revision Notices
ISD	Information Systems Directorate

Appendix B - Acronym List

ISSP	International Space Station Program
IT	Information Technology
IT&V	Integration, Test, and Validation/Verification
IVA	Intra-Vehicular Activity
IVC	Internal Volume Configuration
IVCWG	Internal Volume Configuration Working Group
JTWG	Joint Technical Working Group
KSC	Kennedy Space Center
KPPI	Key Program Performance Indicators
LCC	Life Cycle Cost
LLIS	Lessons Learned Information System
LOE	Level of Effort
LP	Launch Package
LPA	Launch Package Assessment
LPM	Launch Package Manager
MA&RM	Mission Assurance and Risk Management
MER	Mission Evaluation Room
MOD	Mission Operations Directorate
MIM	Multi-Increment Manifest
MIS	Management Information System
MSO	Multi-Segment Operations
NAC	NASA Advisory Council
NACB	Network Access Control Board
NASDA	National Space Development Agency of Japan
NDC	Notice of Document Change
NSTS	National Space Transportation System
OMRS	Operations and Maintenance Requirements and Specifications
OPMT	Open Paper Management Tool
ORU	Orbital Replacement Unit
ORUDD	Orbital Replacement Unit Data Dictionary
OSD	Operations Summary Document
PCA	Physical Configuration Audit
PDRS	Payload Deployment Retrieval System
PI&C	Program Integration and Control
PIER	Post-Increment Evaluation Report
PIRN	Preliminary Interface Revision Notices
PMI&VP	Program Master Integration and Verification Plan

Appendix B – Acronym List

POC	Points of Contact
POP	Program Operating Plan
PMR	Performance Management Reviews
PMS	Performance Measurement System
PP	Planning Period
PRA	Probabilistic Risk Assessment
PRAB	Program Risk Advisory Board
PRACA	Problem Reporting and Corrective Action
PVIS	Program Verification Information System
QMS	Quality Management System
R&D	Research and Development
RID	Review Items Discrepancies
RTM	Requirements Traceability and Management
S&H	Safety and Health
S&MA	Safety and Mission Assurance
SCCR	Station Cargo Certification Reviews
SCROALE	Schedule of Crew Rotation, On-orbit Assembly, Logistics, and EVA
SE	Subelement Number
SEI	Software Engineering Institute
SFAC	Space Flight Advisory Committee
SFP	Strategic Flight Plan
SIR	Stage Integration Review
SORR	Stage Operations Readiness Review
SOW	Statement of Work
SPICE	Space Program Integrated Contract Environment
SPIP	Station Program Implementation Plan
SSAV	Space Station Accounting and Verification
SSCN	Space Station Change Notice
SSODB	Space Station Operations Data Base
SSP	Space Shuttle Program
SSPF	Space Station Processing Facility
STRAP	Station Reboost Analysis Program
SSUAS	Space Station Utilization Advisory Subcommittee
TBD	To Be Determined
TCM	Technical Coordination Meeting
TIM	Technical Interchange Meeting
TPS	Total Propellant Summary
TRAM	Traffic Resource Analysis Model
TSP	Thermal System Performance

Appendix B - Acronym List

USOS	United States On-Orbit Segment
VCD	Verification Compliance Document
VCM	Verification Compliance Matrix
VCN	Verification Closure Notice
VLN	Verification Logic Network
VMDB	Vehicle Master Data Base
WBS	Work Breakdown Structure

Appendix C - Applicable and Reference Document List

This appendix contains applicable documents for the contract effort. The contractor shall comply with these requirements in performing SOW requirements. The appendix is structured as follows:

Table C-1: Applicable Documents List

Table C-2: Reference Documents List

The documents identified within Table C-1 are cited within the body of this contract or within a document that is cited in this contract (second tier). Requirements written in these documents have full force and effect as if their text were written in this contract to the extent that the requirements relate to context of the work to be performed within the scope of this contract. The applicable version of each document is identified and maintained electronically in the PI&C Applicable Documents List Index report provided by COSMOS. The contract proposal baseline Applicable Documents List Index report is located in the PI&C technical library. When a document is classified as "reference", the document is provided for information about the ISSP execution and the Program Integration and Control's roll in the ISSP.

The general approach for interpreting whether a document impacts the contractor's performance is that if a document is "applicable", then the contractor has solid requirements that derive from that document. Applicable documents contain additional requirements and are considered binding to the extent specified. Applicable documents shall be cited in the text of the document in a manner that indicates applicability such as follows:

- in accordance with
- as stated in
- as specified in
- as defined in
- per
- in conformance with

When a document is classified as "reference", the document is provided for general context of the ISS Program execution and for influence on the performance of the Program Integration and Control contract in its role of support to the ISS Program. Sample documentation that may be used or produced by the contractor is included as reference documents to allow the contractor to gain insight into the Program Integration and Control functions and products. Reference documents shall not contain additional requirements and will not be considered binding. Citations of Reference documents shall clearly indicate that the material is for information or reference only such as follows:

- reference
- using (as a guide)
- for additional information

Table C-1: Applicable Documents List

Document Number	Title	Book Coordination Required
AG-CWI-001	JSC Lessons Learned Process	
AS9100	Quality Systems - Aerospace - Model for Quality Assurance in Design, Development, Production, Installation, and Servicing	
IMCOH	ISS Management Center Operations Handbook (IMCOH)	
ISSP-MD-114	Guidelines for Travel to Russia and from Russia to Support Meetings	
ISPPD	Integrated Schedule Process and Planning Document (ISPPD)	X
D684-10020	Program Master Integration and Verification Plan (PMI&VP)	
D684-10097-01	Guidelines and Procedures for the conduct of Functional Configuration Audit (FCA)/ Physical Configuration Audit (PCA)	
JPD 306	Establishment of the Program Risk Management Plan (PRMS)	X
JPD 315	Limited Life Item (LLI) Tracking and Control	X
JPD 328	ISS Corrective Action Plan/Preventative Action Process	X
PPD 552	Space Station Control Board/Panel Operations Policy	X
JPG 1700.1	JSC Safety and Health Handbook	
JPG 2810.1	JSC Information Technology Security Handbook	
OMB Circular A-130	Management of Federal Information Resources, Appendix III, Security of Federal Automated Information Resources	
OB-MER-006	ISS Mission Evaluation Room (MER) Handbook	
NPD 9501.1G	NASA Contractor Financial Management Reporting System	
NPD 9501.3A	Earned Value Management	
NPG 1620.1	NASA Security Procedures and Guidelines	
NPG 2810.1	Security of Information Technology	
NPG 7120.5	NASA Program and Project Management Processes and Requirements	
NPG 8000.4	Risk Management Procedures and Guidelines	
NPG 8621.1	NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Record keeping	
NPG 8705	PRA Guidelines for NASA Programs and Projects	
NPG 8715.3	NASA Safety Manual	
NSTS-21000-IDD-ISS	Shuttle Orbiter/International Space Station Interface Definition Document	
SSP 30219	ISS Reference Coordinate Systems Document	X
SSP 30223	Problem Reporting and Corrective Action (PRACA) for Space Station Program	X
SSP 30459	ISS Interface Control Plan	X

Table C-1: Applicable Documents List

SSP 30524	Problem Reporting and Corrective Action (PRACA) Data System (PDS) Requirements Definition Document (RDD) for ISSP	X
SSP 41000	System Specification For The International Space Station	X
SSP 41160	ESA Segment Specification For Columbus	X
SSP 41162	Segment Specification For The United States On-Orbit Segment	
SSP 41165	Segment Specification For The Japanese Experiment Module	X
SSP 41167	Mobile Servicing System Segment Specification	X
SSP 41170	Configuration Management Requirements	X
SSP 41171	Preparation Of Program-Unique Specification	
SSP 41173	Space Station Quality Assurance Requirements	X
SSP 41174	ISS Interface Control Working Group (ICWG) Operating Procedures	X
SSP 50005	ISS Flight Crew Integration Standards	
SSP 50010	Document Standards and Guidelines	X
SSP 50013	ISS Information Systems Plan	X
SSP 50033	NASA/CSA Bilateral Integration and Verification Plan (BIVP)	X
SSP 50034	NASA/ESA Bilateral Integration and Verification Plan (BIVP)	X
SSP 50035	NASA/NASDA Bilateral Integration and Verification Plan (BIVP)	X
SSP 50038	Computer-Based Control System Safety Requirements	X
SSP 50062	NASA/CSA Bilateral S&MA Requirements	X
SSP 50101	NASA/RSA Bilateral Integration and Verification Plan (BIVP)	X
SSP 50102	NASA-ASI Bilateral Integration and Verification Plan (BIVP)	X
SSP 50108	Certification of Flight Readiness Process Document for ISS	
SSP 50110	Multi-Increment Manifest Document	X
SSP 50112	Operations Summary Document	X
SSP 50123-01	Configuration Management Handbook	X
SSP 50124	NASA/CSA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)	X
SSP 50126	NASA/NASDA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)	X
SSP 50127	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS)	X
SSP 50135	ISS Interface Control Plan – NASA/RSA	X
SSP 50136	NASA/RSA Bilateral Hardware and Software Agreements, Lists and Schedules (BHSEALS)	
SSP 50137	NASA/RSA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)	X
SSP 50145	NASA/NASDA Bilateral S&MA Requirements	X

Table C-1: Applicable Documents List

SSP 50146	NASA/RSA Bilateral S&MA Process Requirements for ISS	X
SSP 50175	ISS Risk Management Plan	X
SSP 50191	NASA/ESA Bilateral S&PA Requirements	X
SSP 50200-01	Station Program Implementation Plan (SPIP) Volume 1: Station Program Management Plan	
SSP 50219	NASA/ASI Bilateral Hardware and Software Exchange Agreements, Lists, & Schedules (BHSEALS)	
SSP 50220	NASA/CSA Bilateral Hardware and Software Exchange Agreements, Lists and Schedules (BHSEALS)	
SSP 50222	ISS Program Capital Investment Process (CIP)	X
SSP 50231	Safety and Mission Assurance Certificate Of Flight Readiness Implementation Plan	X
SSP 50261-01	Generic Ground rules, Requirements, and Constraints Part 1: Strategic and Tactical Planning (GGR&C Part 1)	
SSP 50264	NASA/NASDA Bilateral Hardware and Software Exchange Agreements, Lists and Schedules (BHSEALS)	
SSP 50273	HTV Segment Specification	X
SSP 50281	Node 2 NASA/ASI Bilateral Integration and Verification Plan (BIVP)	X
SSP 50289	NASA/ESA Bilateral Hardware and Software Exchange Agreements, Lists, and Schedules (BHSEALS)	
SSP 50312	CAM Segment Specification	X
SSP 50333	Cupola Segment Specification	X
SSP 50334	ESA/RSA Bilateral Integration and Verification Plan (BIVP) For ATV	X
SSP 50346	NASA/ASI Nodes Bilateral S&PA Requirements	X
SSP 50406	NASA/ESA Bilateral Integration & Verification Plan (BIVP) For Cupola	X
SSP 50407	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for Cupola 1	X
SSP 50408	NASA/ESA Bilateral Hardware and Software Exchange Agreements, Lists, and Schedules (BHSEALS) For Cupola	X
SSP 50420	NASA/NASDA Bilateral Integration & Verification Plan (BIVP) For HTV	X
SSP 50437	Safety and Mission Assurance/Program Risk Mission Evaluation Room Console Operations Handbook for ISSP	X
SSP 50439	ESA Segment Specification For The Automated Transfer Vehicle (ATV)	X
SSP 50544	NASA/NASDA Bilateral Integration & Verification Plan (BIVP) For CAM	X
SSP 50564	ISS Interior Volume Configuration Document	X
SSP 50573	Program Documentation Tree	X

Table C-1: Applicable Documents List

SSP 50611	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for ATV	X
SSP 50614	NASA/HTV Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for HTV	X
SSP 50615	NASA/NASDA BHSEALS for the H II Transfer Vehicle (HTV)	
SSP 50616	NASA/NASDA BHSEALS for the Centrifuge Element (Main Body)	
SSP 50617	NASA/NASDA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for CAM	X
SSP 50622-02	Mission Integration Data Sets Blank Book (MIDSBB)	X
SSP 50659	ISS Work Breakdown Structure (WBS)	
SSP 54100 FP	IDRD Flight Program	

Table C-2: Reference Documents List

Document Number	Title	Book Coordination Required
45 SPW HBS-100/KHB 1700.7	Space Transportation System Payload Ground Safety Handbook	
A91-P318-JLD-A00014	SSPF Utilization Document	
Clinger-Cohn Act of 1996	The IT Management Reform Act	
D684-11216-01	FHRC ORU To FSE ICD	
D683-96059-02	Light Weight Adapter Plate Assembly IDD	
D683-96059-03	Medium Adapter Plate Assembly IDD	
D683-96059-04	Large Adapter Plate Assembly IDD	
D683-96061-03	BCDU ORU To FSE ICD	
D683-96061-04	UTA ORU To FSE ICD	
D683-96061-08	Pump Module ORU To FSE ICD	
D683-96061-09	Battery ORU To FSE ICD	
D683-96061-10	CMG ORU To FSE ICD	
D683-96061-11	Linear Drive Unit ORU To FSE ICD	
D683-96061-12	MT/TUS Reel ORU To FSE ICD	
D683-96061-14	SGANT ORU To FSE ICD	
D683-96063-03	BCDU FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-04	UTA FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-08	Pump Module FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-09	Battery FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-10	CMG FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-11	Linear Drive Unit FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-12	MT/TUS Reel FSE Installation Kit To Small APA Plate Assembly ICD	
D683-96063-14	SGANT FSE Installation Kit To Small APA Plate Assembly ICD	
D684-10058-01-01	On Orbit Integrated Thermal Analysis Report, Vol. 1 Book 1	
D684-10058-01-02	On Orbit Integrated Thermal Analysis Report, Vol. 1 Book 2	
D684-10058-02	Plume Impingement Heat Rate Report, Volume 2	
D684-10822-01	FRAM IDD	
D684-11074-01	ISS Product Support Group Inventory Management System Plan	
D684-11081	ESP2 PIDS	

Table C-2: Reference Documents List

D684-11118-01	UTA FSE Certification and Acceptance Requirements Document (CARD)	
D684-11119-01	Pump Module FSE Certification and Acceptance Requirements Document (CARD)	
D684-11122-01	BCDU FSE Certification and Acceptance Requirements Document (CARD)	
D684-11123-01	PCU FSE Certification and Acceptance Requirements Document (CARD)	
D684-11124-01	Battery FSE Certification and Acceptance Requirements Document (CARD)	
D684-11125-01	CMG FSE Certification and Acceptance Requirements Document (CARD)	
D684-11126-01	MT/TUS Reel FSE Certification and Acceptance Requirements Document (CARD)	
D684-11127-01	Linear Drive Unit FSE Certification and Acceptance Requirements Document (CARD)	
D684-11277-01	PVR FSE Certification and Acceptance Requirements Document (CARD)	
D684-11180-01	Anti-Rotation Device For E-UTAS Certification and Acceptance Requirements Document (CARD)	
D684-11181-01	FHRC FSE Certification and Acceptance Requirements Document (CARD)	
D684-11185-01	ESPAD Certification and Acceptance Requirements Document (CARD)	
D684-11232-01	E-UTAS Certification and Acceptance Requirements Document (CARD)	
D684-11318-01	Light Weight Adapter Plate Assembly Certification and Acceptance Requirements Document (CARD)	
D684-11319-01	Medium Adapter Plate Assembly Certification and Acceptance Requirements Document (CARD)	
D684-11322-01	Large Adapter Plate Assembly Certification and Acceptance Requirements Document (CARD)	
Executive Order 12845	Energy-efficient Microcomputers	
Executive Order 13011	Federal IT	
JESA 30000, Sec. 9	Product Assurance Requirements	
JPD 2800.1A	JSC IT Program	
JPD 2800.4	JSC IT Program Management	
JSC 17773	Preparing of Hazard Analyses for JSC Ground Operations	
JSC 26557	On-Orbit Assembly Modeling and Mass Properties Data Book (Blue Book) Volumes 1 & 2	X
K-CM-05.3.2-BL	Guide for Space Station Processing at KSC	
K-CM-06.1	Payload Master Definition List	

Table C-2: Reference Documents List

KDP-P-2835	ISS/Payload Processing Launch Site Support Plan Development	
KHB1700.7	Space Shuttle Payload Ground Safety Handbook	
KHB-1710.2	Kennedy Space Center Safety Practices Handbook	
KHB-8800.6	KSC Environmental Control Handbook	
KHB-8800.7	Waste Management Handbook	
K-PSM-11.04-BL-REVB-ATTACHED	Attached LSSP Boilerplate	
K-PSM-11.235-BL-ADD101-ICC	Integrated Cargo Carrier (ICC) LSSP	
K-PSM-11.235-BL-ADD106-ICC	Integrated Cargo Carrier (ICC) LSSP	
K-PSM-11.235-BL-ICC	Integrated Cargo Carrier (ICC) LSSP	
KSC-PRD-PSP Volume 3-Annex-SAQ	Launch and Landing Program Requirements Document/Program Support Plan Volume III: Payloads. Annex SAQ: Multi-Purpose Logistics Module (MPLM)	
MIL-STD-882	General Requirements for System Safety Program for Systems and Associated Subsystems and Equipment	
ISS MPLM IDD 006	MPLM Interface Definition Document	
ISS OC letter OC-01-001, Jan 2, 2001	Increment definition and Requirements Plan (IDRP)	
NSTS 07700 Vol. III	Flight Definition and Requirements Directive	
NSTS 07700 Vol. XIV	Space Shuttle System Payload Accommodations	
NSTS 13830	Payload Safety Review and Data Submittal Requirements for Payloads Using the Space Shuttle and ISS	
NSTS 1700.7B	Safety Policy and Requirements for Payloads Using the Space Transportation System	
NSTS 1700.7BAD	Safety Policy and Requirements for Payloads Using the International Space Station (ISS Addendum)	
NSTS 17462 - XX	STS XX Flight Requirements Document	
NSTS-12820-VOL B	ISS Generic Operational Flight Rules Volume B (PCN-2)	
NSTS 21000-SIP-MIP (ISS)	(ISS) Shuttle/Launch Package Standard Integration Plan for International Space Station Missions	
NSTS 21458	Standard Integration Agreement for all Space Shuttle Program and International Space Station Program Missions	
NSTS 22254	Methodology for Conduct of Space Shuttle Program Hazard Analyses	
NSTS 37329	Structural Integration Analysis Responsibility Definition for Space Shuttle Vehicle and Cargo Element Developers	
NSTS 5300.4 1D-2	Safety, Reliability, Maintainability, and Quality Provisions for the Space Shuttle Program	
OMB Circular A-11	Preparation, Submission, and Execution of the Budget	

Table C-2: Reference Documents List

OMB Circular A130 Appendix III	Management of Federal Information Resources, Appendix III provides guidance on "Security of Federal Automated Information Systems"	
ISAC-314	ORUDD Release 1.0.4 Release Requirements Document	
OSHA Reg 29 CFR 1910.119, Appendix A	Process safety management of highly hazardous chemicals	
OSHA Reg 29 CFR 1910.120	Hazardous waste operations and emergency response	
OSHA Reg 29 CFR 1910.1200	Hazard Communications	
OSHA TED 8.4, Appendix H	Voluntary Protection Program (VPP): Policies and Procedures Manual	
Public Law 100-235	Computer Security Act of 1987	
Public Law 104-13	Paperwork Reduction Act of 1995	
RTM Users Manuals	Requirements Traceability Management Users Manuals	
S-Pub. 101-9	Government Printing and Binding Regulations, Joint Committee on Printing, Congress of the United States	
SODB	Shuttle Operations Data Book	
SSODB	Power Architecture Document	
SSP 30234	Failure Modes and Effects Analysis and Critical Items List (FMEA/CIL) Requirements for Space Station	X
SSP 30309	Safety Analysis and Risk Assessment Requirements Document	X
SSP 30550	Space Station Robotic Systems Integration Standards Volume 1: Robotic Accommodation Requirements	
SSP 30575	Space Station Interior and Exterior Operational Location Coding System	
SSP 30599	Safety Review Process	X
SSP 30695	Acceptance Data Package Requirements Specification	X
SSP 41143-PART 1	Space Station Program Node Element 2 To U.S. Laboratory Element Interface Control Document Part 1	
SSP 41143-PART 2	Space Station Program Node Element 2 To U.S. Laboratory Element Interface Control Document Part 2	
SSP 41150	IRD SSMB To Columbus APM	
SSP 41151	IRD SSMB To JEM	
SSP 41151 Appendix D	IRD SSMB To JEM, Appendix D	
SSP 41152	IRD ISPR ICD	
SSP 42003-PART 1	Space Station Manned Base To Mobile Servicing System Interface Control Document Part 1	
SSP 42003-PART 2	Space Station Manned Base To Mobile Servicing System Interface Control Document Part 2	
SSP 42004 PART 1	Mobile Servicing System (MSS) To User (Generic) Interface Control Document Part 1	

Table C-2: Reference Documents List

SSP 42004 PART 2	Mobile Servicing System (MSS) To User (Generic) Interface Control Document Part 2	
SSP 42011 PART 1	Integrated Truss Segment S0 To United States Laboratory Interface Control Document Part 1	
SSP 42097-PART 1	Pressurized Mating Adapter 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) Interface Control Document, Part 1	
SSP 42097-PART 1, Appendix E	Pressurized Mating Adapter 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) Interface Control Document, Part 1 Appendix E	
SSP 42097-PART 2, Appendix E	Pressurized Mating Adapter 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) Interface Control Document, Part 2	
SSP 42120-PART 1	Androgynous Peripheral Assembly System To Pressurized Mating Adapter Interface Control Document Part 1	
SSP 42120-PART 1-App A	Androgynous Peripheral Assembly System To Pressurized Mating Adapter Interface Control Document Part 1 - App A	
SSP 42120-PART 2 Core	Androgynous Peripheral Assembly System To Pressurized Mating Adapter Interface Control Document, Part 2, Core (APAS To PMA-2 & 3)	
SSP 42120-PART 2-App A	Androgynous Peripheral Assembly System To Pressurized Mating Adapter Interface Control Document, Part 2, Appendix A (APAS To PMA-1)	
SSP 42121-PART 1	U.S. On-Orbit Segment Pressurized Mating Adapter 1 To Russian Segment FGB Interface Control Document Part 1	
SSP 42121-PART 2	U.S. On-Orbit Segment Pressurized Mating Adapter 1 To Russian Segment FGB Interface Control Document Part 2	
SSP 42124-PART 1	Integrated Truss Segment S0 To Node 2 Interface Control Document Part 1	
SSP 42124-PART 2	Integrated Truss Segment S0 To Node 2 Interface Control Document Part 2	
SSP 42125	Integrated Truss Segment P1 To Integrated Truss Segment P3 Interface Control Document Part 1	
SSP 42126	Integrated Truss Segment S0 To Integrated Truss Segment P1 ICD Part 1	
SSP 42127	Integrated Truss Segment S0 To Integrated Truss Segment S1 ICD Part 1	
SSP 42132	Mobile Transporter To Integrated Truss Segments S0, S1, S3, P1, P3, Interface	
SSP 44030	Integrated Truss Segment Z1 To Node 1 Interface Control Document Part 1	
SSP 44033	Integrated Truss Segment Z1 To Integrated Truss Segment S0 ICD Part 1	

Table C-2: Reference Documents List

SSP 50011-01	ISSA Concept of Operation and Utilization (Principles) Volume 1	
SSP 50011-01-ANX-1	Concept of Operation and Utilization, Annex 1: Crew Return Vehicle Baseline Operation Plan	
SSP 50011-02	ISSA COU (Mission Scenarios and Mission Profiles) Vol. 2	
SSP 50011-03	Concept of Operations and Utilization, Volume 3 Process	
SSP 50021	Safety Requirements Document	X
SSP 50094	NASA/RSA Joint Specifications/Standards Document For The Russian Segment	
SSP 50117	Increment Definition and Requirements Document Standard Blank Book	
SSP 50128	Specification Of Technical Requirements For The FGB, Functional Cargo Block	
SSP 50129	Interface Requirements Document International Space Station (ISS) To Automated Transfer Vehicle (ATV)	
SSP 50177 Part 1	Government Furnished Data (GFD) Description Document Part 1 - US Sources	
SSP 50177 Part 2	Government Furnished Data (GFD) Description Document Part 2 International Partners Data	
SSP 50198	SS Requirements For Advanced Technology	
SSP 50200-01 Annexes	Station Program Implementation Plan (SPIP), Volume 1, Station Program Management Plan; Annexes A, B, C, D, E, F, G, I, L, M, R, Z)	
SSP 50200-02	SPIP, Volume 2, Program Planning and Manifesting	
SSP 50200-03	SPIP, Volume 3, Cargo Analytical Integration	
SSP 50200-03-ANX1	Station Program Implementation Plan Volume 3, Cargo Integration, Annex 1: NASA Cargo Integration Data Requirements	
SSP 50200-04	SPIP, Volume 4, Payload-Engineering Integration	
SSP 50200-10	SPIP, Volume 10, Sustaining Engineering	
SSP 50223	International Space Station Export Control Program	
SSP 50227, PART 1	Russian Segment (SSP, SM, and FGB) To PDGF/SSRMS Interface Control Document Part 1	
SSP 50227, PART 2	Russian Segment (SSP, SM, and FGB) To PDGF/SSRMS Interface Control Document Part 2	
SSP 50235	Interface Definition Document (IDD) For ISS Visiting Vehicles	
SSP 50251, PART 1	ARIS To Pressurized Element Interface Control Document Part 1	
SSP 50251, PART 2	ARIS To Pressurized Element Interface Control Document Part 2	

Table C-2: Reference Documents List

SSP 50261-02	Generic Ground rules, Requirements, and Constraints Part 2: Execution Planning (GGR&C Part 2)	
SSP 50266	ISS Flight Certification Of Flight Readiness Implementation Plan	
SSP 50272	Interface Requirements Document International Space Station To H-II Transfer Vehicle	
SSP 50280	Node 2 Bilateral Hardware and Software Exchange Agreements Lists and Schedules (BHSEALS) For Node 2	
SSP 50287	Hardware/Software Acceptance Process	
SSP 50295	NASA To NASA GFE List	
SSP 50301	NASA/ASI BDEALS - Node 2	
SSP 50318	Italian Node 3 Segment Specification	
SSP 50335	ATV Demonstration and Nominal Operations Flight Plan	
SSP 50415	Mobile Remote Servicer (MRS) Base System (MBS) Common Attach System (MCAS) Specification	
SSP 50416	Mobile Transporter (MT) Capture Latch (MTCL) Specification	
SSP 50429	Centrifuge Rotor (CR) Specification	
SSP 50430	Life Science Glovebox (LSG) Specification	
SSP 50451	Electrical Flight Grapple Fixture To Strela Cargo Crane Adapter Interface Control Document	
SSP 50461	Interim Resistive Exercise Device (IRED) To Node 1 Interface Control Agreement (ICA) Hardmounted and Isolated IRED Assemblies	
SSP 50468	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume, Flight 2a.1, STS-96	
SSP 50489	ISS Mission Integration Template	
SSP 50492	General International Space Station On-Orbit Requirements For Nonpressurized Support Equipment	
SSP 50504	ISS Configuration Document	X
SSP 50520	International Space Station Logistics & Maintenance Operational Support Plan	
SSP 50541	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume Flight 5a.1 - STS-102	
SSP 50542	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume Flight 6a - STS-100	
SSP 50543	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume Flight 7a - STS-104	
SSP 50545	NASA/NASDA Joint Implementation Plan Of The JEM Launch Offset Implementing Agreement	
SSP 50562	ISS Program Off-Nominal Situation Plan (IPOP)	
SSP 50576	NASA/RSA Bilateral Agreement - Shipping/Receiving Process For ISS Flight Hardware	

Table C-2: Reference Documents List

SSP 50620	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume Flight 7a.1	
SSP 50621	On-Orbit Stowage Capabilities and Requirements (OSCAR): Pressurized Volume	
SSP 50621-05P	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume, Flight 5 Progress Annex	
SSP 50621-06P	On-Orbit Stowage Capabilities and Requirements: Pressurized Volume, Flights 4 Russian (Docking Compartment 1), 3 Soyuz, Utilization Flight 1, and 6 Progress Annex	
SSP 50622-03	Operation Data Set Blank Book (ODSBB)	X
SSP 50646	On-Orbit Quality Assurance Handbook	
SSP 52055	Express Pallet Project Requirements Definition Document	
SSP 54104-ANX3	Increment Definition and Requirements Document For Planning Period 4, Annex 3: Flight 11a and Increment 6 Stage Imagery Requirements	
SSP 54104-ANX4	Increment Definition and Requirements Document For Planning Period 4, Annex 4: Medical Operations and Environmental Monitoring	
SSP 54104-ANX5/05	Increment Definition and Requirements Document For Planning Period 4, Annex 5: Increment 5 Payload Tactical Plan	
SSP 54104-ANX5/06	Increment Definition and Requirements Document For Planning Period 4, Annex 5: Increment 6 Payload Tactical Plan	
SSP 54104-UF2	Increment Definition and Requirements Document For Planning Period 4, Annex 1: Station Manifest, Flight UF2, STS-111	
SSP 54105	Increment Definition and Requirements Document For Planning Period 5	
SSP 54105-ANX2	Increment Definition and Requirements Document For Planning Period 5, Annex 2: On-Orbit Maintenance Plan	
SSP 54105-ULF1	Increment Definition and Requirements Document For Planning Period 5, Annex 1: Station Manifest, Flight ULF1, STS-114	
SSP 54300	Post Increment Evaluation Report Increment 0	
SSP 57100	Payload Integration Agreement For The Human Research Facility	
SSP 57100-A2	Addendum To Payload Integration Agreement To The Human Research Facility For Increment 2	
SSP 57100-A3	Addendum To Payload Integration Agreement For The Human Research Facility For Increment 3	
SSP 57100-A4	Addendum To Payload Integration Agreement For The Human Research Facility For Increment 4	
SSP 57100-A5	Addendum To Payload Integration Agreement For The Human Research Facility For Increment 5	

Table C-2: Reference Documents List

SSP 57100-A6	Payload Integration Agreement Increment 6 Addendum For The Human Research Facility	
SSP 57100-A7	Payload Integration Agreement Increment 7 Addendum For The Human Research Facility	
SSP 57200	Human Research Facility - Rack One Hardware Interface Control Document	
SSP 57211	Microgravity Sciences Glovebox (MSG) Interface Control Document	
SSP 57228	Human Research Facility (HRF) Radiation Experiments Hardware Interface Control Document	
SSP 57252	Human Research Facility - Rack Two Hardware Interface Control Document	
SSP 57300	Human Research Facility Software Interface Control Document	
SSP 57300-6A	Human Research Facility Software Interface Control Document (6a)	
SSP 57300-7A1	Human Research Facility Software Interface Control Document (7a.1)	
SSP 57300-8A	Human Research Facility Software Interface Control Document (8a)	
SSP 57300-UF1	Human Research Facility Software Interface Control Document (UF-1)	
SSP 57300-UF2, Table A	Human Research Facility Software Interface Control Document (UF-2)	
SSP 57400	Human Research Facility Unique Payload Verification Plan For Rack 1	
SSP 57400-ADAS	Human Research Facility Unique Payload Verification Plan For Ambulatory Data Acquisition System (ADAS)	
SSP 57400-FGI-FCU	Human Research Facility Unique Payload Verification Plan For The Foot Ground Interface (FGI) Flight Calibration Unit (FCU)	
SSP 57400-FOOT	Human Research Facility Unique Payload Verification Plan For E318 Foot Reaction Forces During Space Flight	
SSP 57400-JES	Human Research Facility Unique Payload Verification Plan For Joint Excursion Sensor (JES)	
SSP 57400-PUFF	Human Research Facility Unique Payload Verification Plan For Puff (Pulmonary Function In Flight) Experiment Configuration Of HRF Rack 1	
SSP 57400-RENAL	Human Research Facility Unique Payload Verification Plan For Renal Stone (EO57)	
SSP 57400-TF-FGI	Human Research Facility Unique Payload Verification Plan For The Total Force Foot Ground Interface (TF-FGI)	

Table C-2: Reference Documents List

SSP 57400-UCH	Human Research Facility Unique Payload Verification Plan For Urine Collection Hardware (UCH)	
SSP 57428-BBND	Human Research Facility Unique Payload Verification Plan For Bonner Ball Nuclear Detector (BBND)	
SSP 57428-DOSMAP	Human Research Facility Unique Payload Verification Plan For Dosimetric Mapping (DOSMAP) Instrument	
SSP 57428-PWR	Human Research Facility Unique Payload Verification Plan For Power Converter	
SSP 57428-TORSO	Human Research Facility Unique Payload Verification Plan For Phantom Torso (E039)	
SSP 57429	Human Research Facility Unique Payload Verification Plan For H Reflex	
TDH Chapters 505, 506, 507	Texas Department of Health, Health and Safety Code	

Government Furnished Data
Table 1-Government Furnished Applications

Current Contractor *	Application Name	Acronym	Size of Effort	Complexity	DBMS	Development Language or COTS Dependencies	OS	# of Userids
	ExCATT	ExCATT	Small	Small	Access	N/A	Windows	N/A
	SCROALE	SCROALE	Small	Small	Access, Visio	N/A	Windows	N/A
	Traffic Resource Analysis Model	TRAM	Small	Small	Access	N/A	Windows	N/A
	Station Reboost Analysis Program	STRAP	Small	Small	N/A	C++	Windows	N/A
	Total Propellant Summary	TPS	Small	Small	N/A	Excel	Windows	N/A
	Integrated Energy Balance Tool	IEBT	Small	Small	N/A	Excel	Windows	N/A
	Channelized Energy Balance Tool	CEBT	Small	Small	N/A	Excel	Windows	N/A
	Hardware Interfaces Tracking System	HITS	Small	Small	Access	N/A	Windows	N/A
Lockheed	MODel GENERator	MODGEN	Small	Small	N/A	C++, Fortran	Unix	N/A
Blackhawk	ISSP Scheduling System		Small	Small	Oracle	AMS Realtime	Windows	25
ISAC	Integrated Office Management System	IOMS	Small	Medium	Oracle	Cold Fusion, Oracle PL/SQL, JavaScript	Solaris 8	12
ISAC	GFE/GFD Tracking System	GTS	Small	Small	Oracle	Oracle forms 6i, Oracles reports 6i, Oracle PL/SQL	Solaris 8	20
ISAC	Bulletin Board Tool Suite	BB Tools	Small	Medium	Oracle	Cold Fusion, Perl, JavaScript	Solaris 8	380
ISAC	Common Applications Utilities (Multiple applications)	CAU	Medium	High	Oracle (ASDB and UTS)	Java, Cold Fusion, JavaScript, Oracle PL/SQL	Solaris 8	UTS-13 ASDB - 30
ISAC	Review and Audit Database	RADB	Small	Small	Access	Cold Fusion	Windows	17

* For RFP use only

Government Furnished Data
Table 2 – Government Furnished International Partner (IP) Data

The data submittals provided by the IPs via the following BDEALS documents listed in the table below will be made available as GFD to the contractor in support of execution of the Program Integration & Control contract. The specific content, format and schedule of the data submittals are contained in the Data Item Descriptions (DID) in the IP BDEALS documents.

Document No.	Document Title
SSP 50124	NASA/CSA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)
SSP 50126	NASA/NASDA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)
SSP 50127	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS)
SSP 50137	NASA/RSA Bilateral Data Exchange Agreements, Lists and Schedules (BDEALS)
SSP 50407	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for Cupola 1
SSP 50611	NASA/ESA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for ATV
SSP 50614	NASA/HTV Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for HTV
SSP 50617	NASA/NASDA Bilateral Data Exchange Agreements, Lists, and Schedules (BDEALS) for CAM

GOVERNMENT FURNISHED IT SYSTEMS

Systems are in bold type with system elements listed below	Bldg. Location	Room	Performance Standards Principle Period Of Performance (PPP)	Performance Standards Minimum Availability (%)	Performance Standards Hardware Maximum Time to Repair (i.e. 4 hours)	Operations Required, Shifts/Wk	S/W Release Support (Y/N)	User Support (Y/N)	ID/Account Mgmt (Y/N)
JSC-ISS									
JSC-ISS-07 (File sharing)	B4S	5403A	24X7	99.0%	4 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-07 Disk Array	B4S	5403A	24X7	99.0%	4 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-APP02 (App/Web)	B4S	5403A	24X7	99.0%	4 hrs	8am to 5pm	Y	Y	Y
Compaq DLT Tape unit	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y		
JSC-ISS-06 (Print/App)	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-04 (File sharing)	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-04 Disk array	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-02 (File sharing)	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-02 Disk array	B4S	5403A	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-APP01(Web)	B46	300	24X7	99.0%	4 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-OCE (Print)	B4S	3805	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-CPF(App)	B4S	3805	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
JSC-ISS-OT (App)	B4S	3805	24X7	99.0%	8 hrs	8am to 5pm	Y	Y	Y
ISS Production Facility (IPF)									
jsc-issprd01	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	Y
jsc-isscm01	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	Y
iss-cff-p01	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	N
columbus1	B46	300	24x7	99.0%	8Hr, M-F	8AM-5PM	Y	Y	Y
columbus2	B46	300	24x7	99.0%	8Hr, M-F	8AM-5PM	Y	Y	Y
quest1	B46	300	24x7	99.0%	8Hr, M-F	8AM-5PM	Y	Y	N
quest2	B46	300	24x7	99.0%	8Hr, M-F	8AM-5PM	Y	Y	N
isrtm01	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
issnisp1	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	Y
iss-ftp-p01	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
liberty1	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
liberty2	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y

GOVERNMENT FURNISHED IT SYSTEMS

Systems are in bold type with system elements listed below	Bldg. Location	Room	Performance Standards Principle Period Of Performance (PPP)	Performance Standards Minimum Availability (%)	Performance Standards Hardware Maximum Time to Repair (i.e. 4 hours)	Operations Required, Shifts/Wk	S/W Release Support (Y/N)	User Support (Y/N)	ID/Account Mgmt (Y/N)
zarya1	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
zarya2	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
iss-trg-p01	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
iss-pob-p01	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	Y
issprtp1	B46	300	24x7	99.0%	4Hr, M-F	8AM-5PM	Y	Y	Y
sc1-aws	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	N
iss-dir-p01	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
iss-dir-p02	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
iss-dir-p03	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	Y
emc-nas (network attached storage)	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	N
iss-cab01 (network attached storage)	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	N
emc-san (storage array network)	B46	300	24x7	99.0%	4Hr, 24x7	8AM-5PM	Y	Y	N
Support to Institutional Systems									
EDMS	N/A	N/A	N/A	N/A	N/A	8am-5pm	Y	Y	Y

ATTACHMENT J-1

Appendix F - List of Installation-Accountable Property and Services

The Government will provide the production and development environments including networks, hardware, system software, COTS tools, databases and application software, and documentation available at contract award and depicted in the attached tables.

In addition, NASA's estimate of office space available (including computer workstations and other services listed in Section G, List of Installation-Accountable Property and Services, for on-site Program Integration and Control contract personnel is up to 149 personnel in Building 4S.

List of Installation-Accountable Property and Services
Table 1 - COTS Software

Current Contractor *	Category	COTS Product	Version	Platform	Maintenance Type	Maintenance Expiration Date
NASA	Scheduling Software	AMS Realtime	current	full	full	01-Jul-03
ITSSC	Web Development/Deployment Tools	Cold Fusion Server	4.0	Windows NT	Time & Mtls	NONE
ITSSC	Web Development/Deployment Tools	IIS	current	Windows NT	Time & Mtls	NONE
ITSSC	DBMS Development Tools	Oracle RDBMS	8.0	Windows NT	Time & Mtls	NONE
ITSSC	DBMS Development Tools	Seagate Crystal Reports	7.0	Windows NT	Time & Mtls	NONE
ITSSC	Microsoft Developer Network Applications	MS Project 2000	latest	Windows NT/2K	NONE	NONE
ITSSC	System Tools	Veritas Backup Exec	8.0	Windows NT	full	01-Jun-03
ITSSC	System Tools	Storage Central		Windows NT	NONE	NONE
ITSSC	System Tools	Oce Office Exec		Windows 2000	FULL (ODIN)	OPEN
ITSSC	Application Software	Imagenation		Windows NT	NONE	NONE
ITSSC	Application Software	Office Tracker Server	5.0	Windows NT	NONE	01-Nov-02
ITSSC	Application Software	Office Tracker	5.0	Windows 2000	NONE	01-Nov-02
ITSSC	Application Software	OfficeExec Client	current	Windows 2000	FULL (ODIN)	OPEN
ITSSC	Desktop Tools	Ghost Corporate Edition		Windows 2000	NONE	NONE
ITSSC	Desktop Tools	Zone Alarm Pro	current	Windows 2000	NONE	NONE
ITSSC	Desktop Tools	MS Office 2000 Standard	current	Windows 2000	NONE	NONE
ITSSC	Desktop Tools	WS-FTP LE	current	Windows 2000	NONE	NONE
ITSSC	Desktop Tools	Speedy CD Creator	current	Windows 2000	NONE	NONE
ITSSC	Desktop Tools	InterVideo DVD player	current	Windows 2000	NONE	NONE
ITSSC	Desktop Tools	ATI TV Wonder MMC	current	Windows 2000	NONE	NONE
ITSSC	PDA Tools	Palm OS	current	PALM	NONE	NONE
ITSSC	PDA Tools	Windows CE	current	Windows 2000	NONE	NONE
ITSSC	PDA Tools	Palm Desktop	3.0.1	Windows 2000	NONE	NONE
ITSSC	PDA Tools	Hotsync Manager	3.0.2	Windows 2000	NONE	NONE
ITSSC	PDA Tools	Microsoft Pocket PC	current	Pocket PC	NONE	NONE
ISAC/ITSSC	Web Development/Deployment Tools	NT IIS	5.0	Windows NT/W2K	NONE	NONE
ISAC/ITSSC	Microsoft Developer Network Applications	MS Access	latest	Windows NT/2000	NONE	NONE
ISAC/ITSSC	Microsoft Developer Network Applications	Front Page	latest	Windows NT/2000	NONE	NONE
ISAC/ITSSC	Microsoft Developer Network Applications	Windows 2000	latest	Windows 2K	NONE	NONE
ISAC/ITSSC	Microsoft Developer Network Applications	Windows 98	latest	Windows 98	NONE	NONE

List of Installation-Accountable Property and Services
Table 1 - COTS Software

Current Contractor *	Category	COTS Product	Version	Platform	Maintenance Type	Maintenance Expiration Date
ISAC/ITSSC	Microsoft Developer Network Applications	Windows NT	Latest	NT	HP Contract / none	Pending
ISAC	Web Development/Deployment Tools	J Initiator	1.1.5.21.1			Freeware
ISAC	Web Development/Deployment Tools	Java Development Toolkit	1.1.6-007			Comes with O.S
ISAC	Web Development/Deployment Tools	Visual Café For JAVA	3.0			
ISAC	Web Development/Deployment Tools	Coldfusion Studio	4.0.1			Pending
ISAC	Web Development/Deployment Tools	J Builder	Latest			
ISAC	Web Development/Deployment Tools	JAVA Runtime Environment	1.1.6-007			
ISAC	Web Development/Deployment Tools	Apache Web Server	1.3.26			Freeware
ISAC	Web Development/Deployment Tools	Count	2.2			Freeware
ISAC	Web Development/Deployment Tools	HTDig	3.1.5			Freeware
ISAC	Web Development/Deployment Tools	Coldfusion Server	4.5		full	06/2003
ISAC	Web Development/Deployment Tools	Oracle Application Server	4.0.8.1		full	05/29/03
ISAC	Web Development/Deployment Tools	Weblogic	4.0.2		None	
ISAC	DBMS Development Tools	Fox Pro	2.6			
ISAC	DBMS Development Tools	Spell Checker for Fox Pro	2.6			
ISAC	DBMS Development Tools	Query Maker for Fox Pro	2.6			
ISAC	DBMS Development Tools	Microsoft Access	7.0			
ISAC	DBMS Development Tools	Oracle Client Software	8.1.7.0		full	05/29/03
ISAC	DBMS Development Tools	Oracle Designer	6.0		full	05/29/03
ISAC	DBMS Development Tools	Oracle Forms	6.0.8.17.1		full	05/29/03
ISAC	DBMS Development Tools	Oracle Reports	6.0.8.17.0		full	05/29/03
ISAC	DBMS Development Tools	Oracle RDBMS	8.1.7.0		full	05/29/03
ISAC	Operational/Development Support Tools	Visio Enterprise	Latest			
ISAC	Operational/Development Support Tools	Canvas	Latest			
ISAC	Operational/Development Support Tools	Adobe Acrobat	3.0			Freeware
ISAC	Operational/Development Support Tools	Ghostview	3.5.8			Freeware
ISAC	Operational/Development Support Tools	Ghostscript	7.04			Freeware
ISAC	Operational/Development Support Tools	GNU Zip, Unzip	1.2.4			Freeware
ISAC	Operational/Development Support Tools	HP Jet Admin	D.05.15			Freeware
ISAC	Operational/Development Support Tools	Adobe Acroread	3.0			Freeware
ISAC	Operational/Development Support Tools	Xemacs	19.14			Freeware
ISAC	Operational/Development Support Tools	Xpixmap	3.49			Freeware
ISAC	Operational/Development Support Tools	Jpeg	6b			Freeware
ISAC	Operational/Development Support Tools	Acme Crypto	1.0			Freeware
ISAC	Operational/Development Support Tools	Diff Utilities	2.1			Freeware

List of Installation-Accountable Property and Services

Table 1 - COTS Software

Current Contractor *	Category	COTS Product	Version	Platform	Maintenance Type	Maintenance Expiration Date
ISAC	Operational/Development Support Tools	Expect	5.3			Freeware
ISAC	Operational/Development Support Tools	rtftohtml	2.7.5		None	
ISAC	Microsoft Developer Network Applications	Office 2000 Premium	latest			
ISAC	Microsoft Developer Network Applications	PhotoDraw	latest			
ISAC	Microsoft Developer Network Applications	Publisher	latest			
ISAC	Microsoft Developer Network Applications	MS Project 98	latest			
ISAC	Microsoft Developer Network Applications	Visual J++	latest			
ISAC	Programming Tools	Visual Basic Professional	2.5		None	
ISAC	Programming Tools	GNU C++	2.8.1			Freeware
ISAC	Programming Tools	Perl	5.004_004			Freeware
ISAC	Programming Tools	GNU Debugger	4.16			Freeware
ISAC	Programming Tools	GNU Make	3.74			Freeware
ISAC	Programming Tools	RCS	5.7			Freeware
ISAC	Programming Tools	GNU Gcov	1.5			Freeware
ISAC	Programming Tools	oratel	2.5			Freeware
ISAC	Programming Tools	tcl	8.0.p2			Freeware
ISAC	Programming Tools	tclx	8.0.2			Freeware
ISAC	Programming Tools	tk	8.0.p2			Freeware
ISAC	Programming Tools	Xaw3d	1.5			Freeware
ISAC	System Tools	Solaris	2.8		full	03/31/03
ISAC	System Tools	HP-UX	11.2			Pending
ISAC	System Tools	Patchdiag	1.0.2			
ISAC	System Tools	StorTools	3.0			
ISAC	System Tools	Sun Cluster	3.0		full	03/31/03
ISAC	System Tools	Veritas Volume Manager	3.0.4			
ISAC	System Tools	Proctool	2.6.1			
ISAC	System Tools	Top	3.5			Freeware
ISAC	System Tools	Oracle Enterprise Manager	2.0.4		full	05/29/03
ISAC	System Tools	Sun Cluster	2.3		NASA wide lic.	
ISAC	System Tools	Forethought	5.2.0.5			pending
ISAC	System Tools	Vertias Netbackup	3.4			

List of Installation-Accountable Property and Services
Table 1 - COTS Software

Current Contractor *	Category	COTS Product	Version	Platform	Maintenance Type	Maintenance Expiration Date
ISAC	System Tools	SarCheck	5.00.01		full	Mar-03
ISAC	Security Tools	ASET	11.7.0			
ISAC	Security Tools	FTP Wrappers	7.6			
ISAC	Security Tools	Tripwire	1.2			
ISAC	Application Software	DPS Compare	5.0.3			pending
ISAC	Application Software	Interleaf	7.0.1		full	pending
ISAC	Application Software	Leads	2a			
ISAC	Application Software	RTM	2.3.4		none	
ISAC	Application Software	Square One	3.3.5		full	pending
ISAC	Application Software	RDD-100	4.1.1		None	
ISAC	Application Software	SDRC I-deas	6.0			
ISAC	Application Software	Matlab	5.0		full	6/1/03
ISAC	Application Software	Raynoise	2.0		full	pending
ISAC	Application Software	LECCOTECH SQL Expert Pro	3.3.0		full	03/31/2003
ISAC	Application Software	LECCOTECH SQL Expert Dev	3.3.0		full	03/31/2003

* For RFP use only

List of Installation-Accountable Property and Services
Table 2 - ISS Prescribed Applications

Current Contractor *	Application Name	Acronym	Size of Effort (SLOCs)	Complexity	DBMS	Development Language or COTS Dependencies	OS	# of Userids
N/A	SAPHIRE	SAPHIRE	Small (N/A-COTS)	Small	N/A	N/A	Windows	N/A
Boeing	Common Schedules Database	CSD	Small (165 K)	Large	Artemis	N/A	MVS	100
JE-MUNIZ	COSMOS	COSMOS	Large (1021 K)	Medium	Oracle	Cold Fusion/Crystal Reports	Windows (NT 4.0)	400
ISAC	Problem Reporting and Corrective Action	PRACA	Small (170 K)	Medium	Oracle	Oracle Forms 6i, Oracle Reports 6I, Oracle PL/SQL	Solaris 8	675
Futron	Integrated Risk Management Application	IRMA	Small (100 K)	Medium	SQL Server	JavaScript	Windows	250
ISAC	Action Tracking Application	ATA	Small (83 K)	Small	Oracle	Oracle Forms 6i, Oracle Reports 6i, Oracle PL/SQL	Solaris 8	90
ISAC	Correspondence Tracking System	CTS	Small (35 K)	Small	Oracle	Oracle Forms 6i, Oracle Reports 6i, Oracle PL/SQL	Solaris 8	30
ISAC	Lesson Learned Data Base	LLDB	Small (95 K)	Medium	Oracle	Cold Fusion, Perl, Oracle PL/SQL	Solaris 8	300
ISAC	ORU Data Dictionary	ORUDD	Small (11 K)	Small	Oracle	Java, JavaScript, Oracle PL/SQL	Solaris 8	2
ISAC	Support Applications for NASA MIS	SANMIS	Small (53 K)	Medium	Oracle	Cold Fusion, JavaScript	Solaris 8	150
Boeing	Design – Knowledge Capture	DKC	Medium (300 K)	Small	Oracle	HTML; Real Player	Windows Server	50
Various	ISS Web Pages		Medium (N/A)	Medium	N/A	HTML, Cold Fusion, Front Page, Perl, Dream Weaver	Windows	N/A

* For RFP use only

Appendix G - Statement of Work to Program Work Breakdown Structure Map

Program Integration and Control		ISS WBS (SSP 50659, Rev A)	
SOW	Title	PWBS	Title
1.0	Management Integration and Control	1.0	Management Integration and Control
1.1	Program Management	1.1	Program Management
1.1.1	Program Management and Administration	1.1.1	Program Management and Administrative Staff
1.1.1.1	Planning and Reviews		
1.1.2	Internal/External Program Review Support	1.1.2	Internal/External Program Review Support
1.2	Business Management	1.2	Business Management
1.2.1	Reserved	1.2.1	Management and Administration
1.2.2	Reserved	1.2.2	Procurement
1.2.3	Resources Management	1.2.3	Resources Management
1.2.3.1	Financial Management		
1.2.3.2	Performance Management		
1.2.3.3	Organizational Management		
1.2.3.4	PI&C Contract Work Breakdown Structure		
1.2.4	ISSP Budget Support / Assessments (LOE)	1.2.4	Assessments
1.2.5	Program Scheduling	1.2.5	Program Scheduling
1.2.5.1	Schedule Management		
1.2.5.2	Scheduling System Support		
1.2.5.3	Team Schedule Support		
1.2.5.4	Common Schedules Database Support		
1.2.5.5	ISSP Planning Calendar		
1.2.5.6	Schedule Risk Assessment		
1.2.5.7	Special Schedule Trade Study		
1.2.5.8	Integrated Schedule Risk Analysis		
		1.2.6	Program Mission Support
		1.2.7	Business Other (AF, MR, Adj.)
		1.2.8	Defense Contract Agency Support
1.3	Configuration Management / Data Integration	1.3	Configuration Management / Data Integration
1.3.1	Configuration Management	1.3.1	Configuration Management
1.3.1.1	Management and Administration	1.3.1.1	Management and Administration
1.3.1.2	Configuration Status Accounting and Verification	1.3.1.2	Configuration Status Accounting and Verification
1.3.1.3	Configuration Control	1.3.1.3	Configuration Control/Change Management
1.3.1.4	Data Management	1.3.1.4	Data Management
1.3.1.5	Software CM Requirements	1.3.1.5	Software Configuration Management
1.3.2	Program Data Integration	1.3.2	Program Data Integration/Vehicle Data Integration (VDI)
1.4	Program Information Technology (IT)	1.4	Program Information Technology (IT)
1.4.1	IT Management and Administration	1.4.1	Management and Administration

Program Integration and Control		ISS WBS (SSP 50659, Rev A)	
SOW	Title	PWBS	Title
1.4.2	IT Systems Management and Operations	1.4.2	Systems Management and Operations
1.4.2.1	IT Life Cycle Management		
1.4.2.2	Work Authorization and User Support		
		1.4.3	IT Infrastructure
		1.4.3.1	Agency IT Services
		1.4.3.1.1	Outsource Desktop Inits
		1.4.3.1.2	NACC Support Services
		1.4.3.1.3	NISN Services
		1.4.3.2	JSC IT Services
1.5	International Integration	1.5	International Integration
1.5.1	Reserved	1.5.1	Management and Administration
1.5.2	Reserved	1.5.2	International Programmatic Integration
		1.5.2.1	International Policies/ Agreements/ MOUs/ Barters & Offsets
		1.5.2.2	NASA Liaisons to IP's
		1.5.2.2.1	NASA Liaisons to ESA, CSA, ASI, IMPE, NASDA
		1.5.2.2.2	NASA Mgmt Team Russ
		1.5.2.3	Russian Goods & Services
		1.5.2.4	Russian Enabling
		1.5.2.4.1	Russian Language and Logistics
		1.5.2.4.2	RSA Cosmonaut Representative to NASA
		1.5.2.4.3	NASA Astronaut Rep to Russia (Gagarin Cosmonaut Training Center)
		1.5.2.5	Export Control
1.5.3	IP Elements Integration Management (LOE)	1.5.3	International Elements Integration
1.5.3.1	Systems Engineering and Integration of IP Elements		
1.5.3.2	IP Milestone Reviews		
1.5.3.3	ISS and Mission Integration		
		1.5.4	International Operations
1.6	Human Space Flight Collaboration	1.6	Human Space Flight Collaboration
		1.6.1	Management and Administration
		1.6.2	Capability Upgrades
		1.6.3	Space Commerce
		1.6.4	Space Flight Participants
		1.6.5	Outreach and Education
		1.7	Strategic Initiative
		1.7.1	Program Process Re-engineering
		1.7.2	Knowledge-Based Tools

Program Integration and Control		ISS WBS (SSP 50659, Rev A)	
SOW	Title	PWBS	Title
		1.7.3	Pre-planned Product Improvement (P3I) Planning
		1.7.4	Special Studies/Tasks
2.0	Systems Engineering, Analysis, and Integration	2	ISS Systems Engineering, Analysis, and Integration
2.1	Reserved	2.1	Mgmt and Admin
2.2	Systems Analysis and Integration	2.2	Systems Analysis and Integration
2.2.1	Program Requirements and Interfaces	2.2.1	Requirements and Interfaces
2.2.2	System Performance Analysis and Integration	2.2.2	System Performance Analysis and Integration
2.2.2.1	Mission Analysis and Integration		
2.2.2.2	Mission Requirements and Support		
2.2.2.3	System Analysis and Integration		
2.2.3	Assembly and Configuration Definition/Analysis	2.2.3	Assembly and Configuration Definition/Analysis
2.2.3.1	Assembly Sequence Analysis and Definition		
2.2.3.2	External Configuration Analysis and Definition		
		2.2.4	Drawing Integration
		2.2.5	Shuttle/Station Integration
3.0	Spacecraft	3.0	Spacecraft
3.1	Reserved	3.1	ISS Spacecraft Management
3.1.1	Vehicle Management and Administration	3.1.1	Vehicle Management and Administration
3.1.1.1	Engineering and Technical Services (LOE)		
4.0	Reserved	4.0	Operations
5.0	Reserved	5.0	ISS Research Program
6.0	Safety and Mission Assurance (S&MA)	6.0	Safety and Mission Assurance (S&MA)
6.1	S&MA Management and Administration	6.1	Management and Administration
6.1.1	Mission Assurance and Risk Management Plan		
6.1.2	Quality Record Maintenance		
6.1.3	AS9100		
6.1.4	Audit/Surveillance		
6.1.5	Mishap Investigating and Reporting		
6.1.6	Safety and Health		
6.1.7	Lessons Learned		
6.1.8	Document Maintenance		
6.2	S&MA Integration	6.2	S&MA Integration
6.2.1	IP Integration		
6.2.2	Change Request Integration		
6.3	Program Risk	6.3	Risk Management
6.3.1	Risk Process Management		
6.3.2	Risk Management		

Contract
NNJ04AA01C

PROGRAM INTEGRATION AND CONTROL

Attachment J-1
Appendix G

Program Integration and Control		ISS WBS (SSP 50659, Rev A)	
SOW	Title	PWBS	Title
6.3.3	Corrective Action/Preventative Action		
6.3.4	Risk Management Integration		
6.3.5	Probabilistic Risk Assessment (PRA)		
6.3.5.1	Probabilistic Risk Assessment Process		
6.3.5.2	Probabilistic Risk Assessment Analyses		
6.3.5.3	Probabilistic Risk Identification Results		
6.4	Reserved	6.4	Safety
6.5	Reserved	6.5	Reliability and Maintainability (R&M)
6.6	Quality Assurance	6.6	Quality Assurance
6.6.1	Problem Reporting System		
6.6.1.1	Problem Reporting System Maintenance		
6.6.1.2	Problem Reporting System Participation		
6.6.2	Element Hardware / Software Acceptance		
		6.7	S&MA Operations

Appendix H – ISS Specifications / ICDs / IRDs Documents List

Document Number	Title
SSP 41000	System Specification For The International Space Station
SSP 41002	ISPR To NASA/ESA/NASDA Modules ICD (ISPR ICD)
SSP 41142, Part 1	Node Elements To Cupola Element ICD, Part 1
SSP 41142, Part 2	Node Elements To Cupola Element ICD, Part 2
SSP 41147, Part 1	Node 2 To CAM ICD, Part 1
SSP 41147, Part 2	Node 2 To CAM ICD, Part 2
SSP 41150	IRD SSMB To Columbus APM
SSP 41151	IRD SSMB To JEM
SSP 41151, Appendix D	IRD SSMB To JEM, Appendix D
SSP 41152	IRD ISPR ICD
SSP 41160	ESA Segment Specification For Columbus
SSP 41165	Segment Specification For The Japanese Experiment Module
SSP 41167	Mobile Servicing System Segment Specification
SSP 42000	SSMB To JEM ICD
SSP 42000, Appendix D	SSMB To JEM ICD - Appendix D
SSP 42001	SSMB To Columbus APM ICD
SSP 42007, Part 1	USOS Segment To Italian MPLM ICD Part 1
SSP 42007, Part 2	USOS Segment To Italian MPLM ICD Part 2
SSP 50273	HTV Segment Specification
SSP 50312	CAM Segment Specification
SSP 50333	Cupola Segment Specification
SSP 50438, Part 1	ISS To HTV ICD, Part 1
SSP 50438, Part 2	ISS To HTV ICD, Part 2
SSP 50439	ESA Segment Specification For The Automated Transfer Vehicle (ATV)

Appendix I – PIRNs / DCNs Document List

Document Number	Title
SSP 30256:001	EVA Standard ICD
SSP 41002	ISPR To NASA/ESA/NASDA Modules ICD (ISPR ICD)
SSP 41004, Part 1	CBM To Pressurized Elements ICD, Part 1
SSP 41004, Part 2	CBM To Pressurized Elements ICD, Part 2
SSP 41015, Part 1	Common Hatch And Mechanisms To Pressurized Elements ICD, Part 1
SSP 41015, Part 2	Common Hatch And Mechanisms To Pressurized Elements ICD, Part 2
SSP 41017, Part 1	Rack To Mini Pressurized Logistics Module ICD, Part 1
SSP 41017, Part 2	Rack To Mini Pressurized Logistics Module ICD, Part 2
SSP 41142, Part 1	Node Elements To Cupola Element ICD, Part 1
SSP 41142, Part 2	Node Elements To Cupola Element ICD, Part 2
SSP 41143, Appendix C, Part 1	Node 2 To Node 1 ICD, Part 1
SSP 41143, Appendix C, Part 2	Node 2 To Node 1 ICD, Part 2
SSP 41143, Part 1	Node Element 2 To U.S. Laboratory Element ICD, Part 1
SSP 41143, Part 2	Node Element 2 To U.S. Laboratory Element ICD, Part 2
SSP 41147, Part 1	Node 2 To CAM ICD, Part 1
SSP 41147, Part 2	Node 2 To CAM ICD, Part 2
SSP 41148, Part 1	Active CBM To Passive CBM ICD, Part 1
SSP 41148, Part 2	Active CBM To Passive CBM ICD, Part 2
SSP 41155, Part 1	Refrigerator/Freezer Rack To Mini Pressurized Logistics Module ICD, Part 1
SSP 41155, Part 2	Refrigerator/Freezer Rack To Mini Pressurized Logistics Module ICD, Part 2
SSP 42000	SSMB To JEM ICD
SSP 42000, Appendix D	SSMB To JEM ICD - Appendix D
SSP 42001	SSMB To Columbus APM ICD
SSP 42003, Part 1	SSMB To MSS ICD, Part 1
SSP 42003, Part 2	SSMB To MSS ICD, Part 2
SSP 42004, Part 1	MSS To User (Generic) ICD, Part 1
SSP 42004, Part 2	MSS To User (Generic) ICD, Part 2
SSP 42007, Part 1	USOS Segment To Italian MPLM ICD, Part 1
SSP 42007, Part 2	USOS Segment To Italian MPLM ICD, Part 2
SSP 42097, Part 1	PMA 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) ICD, Part 1
SSP 42097, Part 1, Appendix E	PMA 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) ICD, Part 1, Appendix E
SSP 42097, Part 2	PMA 2 & 3 To U.S. Pressurized elements core (Node 2 to pma2) ICD, Part 2
SSP 42097, Part 2, Appendix E	PMA 2 & 3 To U.S. Pressurized Elements Core (Node 2 To PMA2) ICD, Part 2, Appendix E
SSP 42124, Part 1	ITS S0 To Node 2 ICD, Part 1
SSP 42124, Part 2	ITS S0 To Node 2 ICD, Part 2
SSP 50104	Portable Breathing Appendix ARATUS Standard ICD
SSP 50227, Part 1	Russian Segment (SSP, SM, And FGB) To PDGF/SSRMS ICD, Part 1
SSP 50227, Part 2	Russian Segment (SSP, SM, And FGB) To PDGF/SSRMS ICD, Part 2
SSP 50251, Part 1	ARIS To Pressurized Element ICD, Part 1
SSP 50251, Part 2	ARIS To Pressurized Element ICD, Part 2
SSP 50438, Part 1	ISS To HTV ICD, Part 1
SSP 50438, Part 2	ISS To HTV ICD, Part 2

ATTACHMENT J-2

AWARD FEE EVALUATION PLAN

I. INTRODUCTION

In accordance with the provisions of the Federal Acquisition Regulation (FAR), and the NASA and JSC policies, an Award Fee Evaluation Plan is established for evaluation of contractor performance and determination of Award Fees to be earned and payable under this contract. The Award Fee evaluation process is composed of Objective and Subjective assessments by the Government.

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 IV; Award Fee Schedule. The evaluations 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 Statement of Work and authorized Task Orders, in accordance with the factors, weightings, procedures, and other provisions set forth below.

Award Fee Provisions

Award Fee provisions have been established to motivate the contractor to strive for excellence in managerial, technical, schedule, and cost performance. For each period, the contractor can earn Award Fee from a minimum of zero dollars to the maximum available Award Fee shown in Appendix IV. Changes to these Award Fee provisions will be via a bilateral modification, except for evaluation criteria and weightings that are established unilaterally by the Government. The contractor will be informed of any changes to the evaluation criteria or the weightings prior to the affected Award Fee period.

Each Award Fee evaluation rating is considered to be discrete and final. Unearned Award Fee in a given period is lost and cannot be reassessed or moved into subsequent fee evaluation periods for consideration. An overall performance evaluation and Award Fee determination of zero may be made for any evaluation period when there is a major breach of safety or security as defined in NFS 1852.223-75, Major Breach of Safety or Security.

The Government shall pay fee to the contractor in accordance with the Section G clause entitled, "AWARD FEE FOR SERVICE CONTRACTS."

IDIQ Provisions: Evaluations will be based upon the contractor's safety, technical, and management performance measured against mutually agreed to objective performance criteria specified in the published plan for each performance period.

Evaluations will also be based upon subjective assessments of the contractor's performance against Associate Contractor Agreement effectiveness, customer satisfaction, and specific Areas of Emphasis (AOE) published for each performance period.

Cost performance for the IDIQ portion will be evaluated based on the contractor's ability to control, adjust, and accurately project contract costs (based on estimated costs of authorized task orders) for each Award Fee evaluation period.

LOE Provisions: Evaluations will be based upon assessments of the contractor's performance related to the LOE work for technical, management, and cost control including Associate Contractor Agreement effectiveness and customer satisfaction.

Cost performance for the LOE portion will be evaluated against an overall Wrap Rate (based on all costs of the task order divided by the number of estimated hours) and against the actual hours worked during the Award Fee evaluation period.

General Provisions: In order to earn any Award Fee, the contractor must receive a total numerical rating higher than 60. Appendix 1, Numerical Ranges and Adjective Definitions, provides the performance level definition adjective ratings and corresponding numerical scores that will be used in evaluating performance. The numerical grade ranges corresponding to the adjective ratings and their conversion to percent of available Award Fee earned is set forth in Appendix III.

The following rules apply for Cost Control for both the IDIQ and LOE areas:

- If the contractor's average score for all other evaluation factors is 81 or greater (very good or excellent) and a cost underrun is achieved, the contractor can receive up to the maximum score for cost control, depending on the size of the underrun.
- If the average numerical score for all other factors is 80 or less but at least 61 (good or satisfactory) and an underrun is achieved, a contractor will only be rewarded for the cost underrun as if the contractor had met the estimated contract costs.
- If the average score for the non-cost factors is less than 61, the contractor will receive a score of zero for cost control.

II. ORGANIZATIONAL STRUCTURE

Performance Evaluation Board Integration Team (PEB-IT)

The PEB-IT will be composed of selected NASA technical and administrative personnel and headed by the Contracting Officer's Technical Representative (COTR). The COTR will be the focal point for the accumulation and development of Award Fee evaluation reports, reviews, and presentations, as well as discussions with contractor management on Award Fee matters. The PEB-IT will evaluate the contractor's performance as related to the factors listed in paragraph III below.

This team will furnish the contractor interim performance evaluations every three months (after 6 months for the first evaluation period). It shall be the purpose of these communications to discuss any specific areas where the contractor has excelled and areas where future improvement is necessary.

The PEB-IT will prepare a 6-month evaluation report for review by the PEB for each evaluation period. This report will include a recommendation to the PEB as to the adjective rating and numerical score to be assigned for the contractor's performance for the period evaluated.

Performance Evaluation Board (PEB)

The PEB will be appointed by the Fee Determination Official (FDO). A PEB, comprised of selected technical and administrative personnel of NASA, will assess 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 approve the PEB-IT report and prepare a summary of the evaluations for review by the FDO. This summary will include a recommendation to the FDO as to the adjective rating and numerical score to be assigned for the contractor's performance in the preceding evaluation period.

Fee Determination Official (FDO)

The FDO, a senior NASA official, after considering available pertinent information and recommendations, will make a performance determination for each period in accordance with the provisions of this Award Fee Plan and the Section G clause entitled, AWARD FEE FOR SERVICE CONTRACTS."

III. EVALUATION PROCEDURES

Award Fee Periods

Each Award Fee period shall be 6 months in length, except for the first Award Fee period, which shall be 9 months. The contractor's performance will be assessed at the mid-point of each

evaluation period (at the end of the 6th month for the first evaluation period). Contractor performance levels may be communicated by the COTR or the Contracting Officer at other times during the evaluation period.

No later than 30 days prior to the start of each Award Fee evaluation period, the contractor may submit to the Contracting Officer recommended objective performance metrics, weightings, and Areas of Emphasis (AOEs) for consideration by the Government to be used for the ensuing evaluation period.

Objective performance metrics and AOEs will be established for each evaluation period by the Government and communicated to the contractor at least 15 calendar days prior to the start of each evaluation period. The Government may unilaterally change the weightings of the criteria from period to period. However, cost control will not fall below 25 percent.

Contractor Self Evaluation and Submissions

The contractor shall furnish a Self-Evaluation for each evaluation period. The Self-Evaluation must be received by the Contracting Officer not later than 30 days prior to the end of the period. The contractor may present to the PEB an oral summary of its Self-Evaluation.

The contractor will be furnished a copy of the PEB's findings, conclusions, and fee recommendation. The contractor will be afforded the opportunity to submit for consideration of the FDO: (a) proposed evaluations or conclusions, or (b) exceptions to the evaluations, conclusions, or fee recommendations of the PEB, and (c) supporting reasons for such exceptions or proposed evaluations or conclusions. The contractor's submissions must be made in writing and must be submitted through the Contracting Officer to the FDO within 5 working days from the date of the contractor's receipt of the PEB findings and fee recommendations.

In the event the FDO has not received a submission from the contractor, the performance determination will not be considered final until expiration of the 5-working day period prescribed above for contractor submissions unless the contractor has affirmatively indicated, in writing, that no contractor submission will be made.

The contractor shall submit to the Contracting Officer a Corrective Action Plan (CAP) for any weaknesses or failing Objective performance as are identified by the Government as part of the evaluation. The CAP shall be submitted within 30 working days after the final performance determination for each evaluation period. Corrective Actions will be closed by concurrence from the Contracting Officer and the COTR.

IV. EVALUATION CRITERIA AND WEIGHTINGS

IDIQ EVALUATION CRITERIA	
	Weightings
I. OBJECTIVE CRITERIA	50%
a. Safety	
b. Technical	
c. Management	
II. SUBJECTIVE CRITERIA	25%
a. ACA Effectiveness	
b. Customer Satisfaction	
c. Areas of Emphasis	
III. COST CONTROL	25%
TOTAL	100%
LOE EVALUATION CRITERIA	
I. TECHNICAL PERFORMANCE	50%
a. Quality of Work	
b. Efficiency of Work	
II. MANAGEMENT	25%
III. COST CONTROL	25%
TOTAL	100%

APPENDICES:

Appendix I, Numerical Ranges and Adjective Definitions, sets forth the adjective ratings, definitions, and associated numerical ranges to be used to define the various levels of performance under the contract.

Appendix II, Objective Performance Metrics Areas: Metrics for each area to be developed for each evaluation period.

Appendix III, Score Conversion Chart

Appendix IV, Award Fee Schedule

Appendix I

Numerical Ranges and Adjective Definitions

ADJECTIVE RATING	RANGE OF WEIGHTINGS	DESCRIPTION
Excellent	100 - 91	Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance.
Very Good	90 - 81	Very effective performance, fully responsive to contract; contract requirements accomplished in a timely, efficient and economical manner for the most part; only minor deficiencies.
Good	80 - 71	Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance.
Satisfactory	70 - 61	Meets or slightly exceeds minimum acceptable standards; adequate results; reportable deficiencies with identifiable, but not substantial, effects on overall performance.
Poor/Unsatisfactory	60 - 0	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 affect overall performance.

Appendix II

Objective Performance Metrics Areas

Total PI&C Contract
Program Management
Business Management
Configuration Management & Data Integration
Program Information Technology (IT)
Systems Analysis and Integration
Safety and Mission Assurance (S&MA)

Objective Performance Metrics will be established prior to each Award Fee Evaluation Period. The Metrics will be useful measurements of performance based on Outputs or Outcomes utilizing measurement factors for each as described below:

Output Factors: The tabulation, calculation, or recording of activity or effort that can be expressed in a quantitative or qualitative manner. These factors may be more effective for routine efforts, such as for meeting deliverables or schedules. The factors are to provide a logical connection between the reported measures and the objectives of this contract, which include the ISS Program's Mission, Goals and Objectives. (Example: Process and close 100 requests for IT support.)

Outcome Factors: An assessment of the results of an activity compared to its intended purpose. These factors are most effective for non-routine efforts. Outcome-based factors are to provide the best indicator of overall success to a particular area of performance. (Example: Ensure that 99.5% Cost Reporting Deliverables are delivered on time.)

Appendix III
SCORE CONVERSION CHART

AWARD FEE SCORE	ADJECTIVE RATING	PERCENTAGE OF AVAILABLE FEE
100	EXCELLENT	100%
99		99.0
98		98.0
97		97.0
96		96.0
95		95.0
94		94.0
93		93.0
92		92.0
91		91.0
90	VERY GOOD	90.0
89		89.0
88		88.0
87		87.0
86		86.0
85		85.0
84		84.0
83		83.0
82		82.0
81		81.0
80	GOOD	80.0
79		79.0
78		78.0
77		77.0
76		76.0
75		75.0
74		74.0
73		73.0
72		72.0
71		71.0
70	SATISFACTORY	70.0
69		69.0
68		68.0
67		67.0
66		66.0
65		65.0
64		64.0
63		63.0
62		62.0
61		61.0
60 and below		0.0

APPENDIX IV

AWARD FEE SCHEDULE

EVALUATION PERIOD	EST. LOE HOURS	LOE AF AVAIL	AWARD FEE SCORE	AWARD FEE EARNED	IDIQ AF AVAIL	AWARD FEE SCORE	AWARD FEE EARNED
BASIC PERIOD							
1. 01/01/04 - 09/30/04	64,600	\$239,885		\$	\$		\$
2. 10/01/04 - 03/31/05	38,450	\$146,755					
3. 04/01/05 - 09/30/05	38,450	\$146,755					
4. 10/01/05 - 03/31/06	35,000	\$136,864.5					
5. 04/01/06 - 09/30/06	35,000	\$136,864.5					
6. 10/01/06 - 03/31/07	31,800	\$127,079.5					
7. 04/01/07 - 09/30/07	31,800	\$127,079.5					
8. 10/01/07 - 03/31/08	30,800	\$125,600					
9. 04/01/08 - 09/30/08	30,800	\$125,600					
OPTION 1							
10. 10/01/08 - 03/31/09	30,800	\$129,328					
11. 04/01/09 - 09/30/09	30,800	\$129,328					
OPTION 2							
12. 10/01/09 - 03/31/10	30,800	\$133,202.5					
13. 04/01/10 - 09/30/10	30,800	\$133,202.5					
TOTALS	459,900	\$1,837,544					

The LOE Award Fee Available in the above table is based on the assumption that the hours worked will correspond with the hours in the Estimated LOE Hours Column. Should the hours worked represent a variation of +/- 20 percent from those in the table, then the table will be modified to rephase the total hours and the LOE Award Fee Available to the appropriate award fee period. Neither the total hours nor the total LOE Award Fee Available shall change as a result of re-phasing.

Attachment J-3

Data Requirements List
&
Data Requirements Descriptions

DATA REQUIREMENTS LIST (DRL) AND DATA REQUIREMENTS DESCRIPTIONS

The following pages set out the documentation requirements of this contract, starting with a DRL, which is an index to the DRDs. Each DRD prescribes the required data product content, schedule, type, and other particulars for specific data submission requirements.

DRD #	Data Type	DRD Title
A-CM		
CM = Configuration Management		
A-CM-01	1	Configuration Management Plan
A-CM-02	2	Change Engineer's Handbook
A-DI		
DI = Data Integration		
A-DI-01	1	Technical Data Access Plan
A-II		
II = International Integration		
A-II-01	2	ISS Support Plans for International Partner Milestone Reviews
A-II-02	2	Export Control Audit Results
A-IT		
IT = Information Technology		
A-IT-01	1	IT Management Plan
A-IT-02	1	IT Project Plan
A-IT-03	1	IT Security Plan and Reports
A-PC		
PC = Program Control & Business Management		
A-PC-01	3	NF533 M/Q Cost Reporting
A-PC-02	3	Cost Performance Report
A-PC-03	3	Workforce Reports
A-PC-04	3	Work Breakdown Structure (WBS) & Dictionary
A-PC-05	2	Cost Performance Report (CPR) Earned Value Methodology Report
A-PC-06	2 / 3	Integrated Program Schedules
A-PM		
PM = Program Management		
A-PM-01	1	PI&C Management Plan
A-PM-02	2	Integrated Management Review Products
A-PM-03	1	Certification of Flight Readiness (CoFR) Plan
A-PR		
PR = Procurement		
A-PR-01	2	Patent Rights - Retention
A-PR-02	1	Contract Close-out
A-PR-03	3	Wage/Salary and Fringe Benefit
A-PR-04	2	Data Reprourement Package
A-PR-05	2	Property Financial Reporting
A-SA		
SA = Safety & Mission Assurance		
A-SA-01	1	Mission Assurance & Risk Management (MA&RM) Plan
A-SA-02	1	Safety & Health (S&H) Plan
A-SA-03	3	Monthly Safety & Health Metrics
A-SA-04	3	Safety and Health Program Self-Evaluation
A-SA-05	3	Probabilistic Risk Assessment (PRA)
A-SA-06	1	Element Acceptance Review Plans
A-SI		
SI = Systems Integration		
A-SI-01	1	ISS System Specification
A-SI-02	1	Interface Control Documents (ICDs) / Interface Requirements Documents (IRDs)
A-SI-03	1	International Partner/Participant Segment Specifications
A-SI-04	2	Specification Traceability and Compliance Reports
A-SI-05	3	Systems Engineering Technical Assessment
A-SI-06	2	On-Orbit Assembly, Modeling, and Mass Properties Data Book (Blue Book)
A-SI-07	3	ISS Interior 3D CAD Models

Subject to the Clause 52.227-14, Rights in Data - General, this document sets forth the data requirements in each Data Requirements Description (DRD) and shall govern that data required for this contract. The contractor shall furnish data defined by the DRD's listed on the Data Requirements List (DRL) by category of data. Such data shall be prepared, maintained, and delivered to NASA in accordance with the requirements set forth within this document. In cases where data requirements are covered by a Federal Acquisition Regulation (FAR) or NASA FAR Supplement (NFS) regulation or clause, the regulation will take precedence over this document, per FAR 52.215.33. NASA-Owned/Contractor-Held records shall be managed by the Contractor in accordance with Title 36 of the code of Federal Regulations, Chapter XII B, Records Management, and NMI 1440.6, NASA Records Management Program. The records shall be organized in accordance with the instructions in NHB 1442.1, NASA Uniform Files index, as applicable. The contractor shall disposition records and non-records in accordance with NHB 1441.1, NASA Retention Schedules, which has been approved by NASA and the National Archives and Records Administration (NARA). All questions on records management issues shall be directed through the Contracting Officer to the JSC Records Management Officer.

Documents included as applicable documents in the data requirements form a part of this document to the extent specified herein. References to documents other than applicable documents in the data requirements of this document may sometimes be utilized. These do not constitute a contractual obligation on the contractor. They are to be used only as a possible example or to provide related information to assist the contractor in developing a response to that particular data requirement.

DESCRIPTION

This document identifies and defines the requirements and data types for information and data required under this contract.

The Data Requirement Descriptions (DRD)s define, by an individual DR, the information and data required for each deliverable document.

The data types are used to identify the approval and control required for each DR. The Data Requirements List (DRL) is an index of all the DRs by category.

Documentation submitted pursuant to this clause may incorporate references to other current approved documentation, provided the references are adequate and include such identification elements as title, document number, and approval date (where applicable). However, if the pertinent information is of relatively minor size, the contractor shall incorporate the information itself, in lieu of using a reference. The contractor shall assure that any referenced information is readily available to appropriate users of the submitted document.

DATA TYPES

For the purpose of this clause, the following information/documentation types are applicable:

Type 1 That information and documentation which requires NASA approval prior to release. Approved type 1 information and documentation shall be controlled, and deviations from or changes to the concepts, techniques, and/or requirements stated therein shall require NASA approval prior to implementation. All work under this contract covered by approved type 1 documents shall be performed in accordance with those approved documents. The Contracting Officers Technical Representative will have approval authority and will sign the data prior to its release. Contractually binding documents will not be implemented nor revised without contractual authorization.

Type 2 That information and documentation for which NASA reserves a time-limited right to disapprove, in whole or in part. Type 2 data shall be submitted to JSC for review not less than 30 calendar days prior to its release for use or implementation. The contractor shall clearly identify the release target date in the "submitted for review" transmittal. If the contractor has not received any comment prior to the released target date, the document may be released for appropriate use. Any NASA comment received shall be appropriately dispositioned before the document is to be used. Type 2 data may be approved by NASA prior to its submittal.

Type 3 That information and documentation which is provided to NASA for surveillance, information, review, and/or management control. This information does not require formal NASA review and approval. Information in this category would include design solutions, status, and cost/schedule reporting; analyses and test results, handbooks; and other designated lists, reports, etc.

Type 1 submissions shall be marked "TYPE 1 PRELIMINARY pending NASA approval or Type I APPROVED BY NASA, as appropriate." Additional special designations and deviations may be required on specific submissions in accordance with configuration management requirements.

Type 2 submissions shall be marked "TYPE 2 PRELIMINARY - RELEASE TARGET DATE, xx/xx/xx" or "TYPE 2 FINAL - NASA COMMENTS INCLUDED" or "TYPE 2 FINAL DOCUMENT," where NASA comments were not received.

NOTE: Documents submitted under this clause, even though directly (Type 1) or implicitly (Type 2) approved by NASA, shall not take precedence over the specifications as set out in Section C, Statement of Work.

The contractor shall normally deliver a complete revised Type 1 or Type 2 data requirement with NASA comments incorporated within 45 days of receipt of comments.

Type 3 submissions shall be marked "TYPE 3 DOCUMENT - FOR INFORMATION, SURVEILLANCE, REVIEW OR MANAGEMENT CONTROL".

NUMBER OF COPIES AND DISTRIBUTION REQUIREMENTS

The contractor shall provide one copy of each DR to the standard distribution list shown in Block 12 of the DRDs. Additional distribution shall be made as directed, in writing, by the Contracting Officer. The number of copies required will not exceed the limits set forth in Clause 1852.208-81, Restrictions on Printing and Duplicating, without prior Contracting Officer approval. Data Transmittal Forms will be used to confirm delivery of electronically resident DR deliverables.

ELECTRONIC FORMAT

DRDs shall be maintained electronically.

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: CM Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-CM-01	3b. RFP/Contract No. 9-BG-44-02-77P/ NAS 9 - 03002
1b. Data Type: 1			5. DRD Category <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) This plan is prepared by the contractor to describe the assignment of responsibility organizationally and the procedures used in accomplishment of the specific configuration management requirements as stated in the SOW and SSP 41170.		6. References (SOW, Clause, etc.) SOW 1.3	
7. Interrelationships (e.g., with other DRDs)			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This CM plan defines the requirements, responsibilities, and procedures for the CM system pursuant to SSP 41170 and as it applies to this contract.

CONTENT: The CM plan shall address, as a minimum, the following:

- 1) Management Organization, (including reference documents)
 - (a) Identification, Relationships and Integration of contractor's proposed organization
 - (b) Responsibility and authority for CM including roles in configuration control boards and technical reviews
 - (c) Interfaces between contractor's CM organization and NASA, Subcontractors, and other contractor's/contracts.
 - (d) Training plans

- 2) Configuration Identification
 - (a) Selection of CI's (Hardware, CSCI's, and firmware)
 - (b) Establishment of the functional, allocated and product baselines for H/W and S/W
 - (c) Assignment and application of configuration identifiers including serial numbers, part numbers, lot codes, software and firmware identifiers

- 3) Configuration Control
 - (a) Establishment of internal configuration and contractual baselines
 - (b) Implementation of Internal and NASA configuration control
 - (c) Establishment of configuration control boards and processes
 - (d) Identification of processes to control changes, deviations, and waivers to program baselines

- 4) Configuration Status Accounting (CSA)
 - (a) Hardware/Software Configuration Status Accounting processes and provisions for reports and/or access to CSA data
 - (b) Description and methods of processes and tools to provide:
 - i. Identification of current approved configuration documentation and configuration identifiers associated with each CI
 - ii. Status of proposed engineering changes from initiation to implementation
 - iii. Waiver/deviation status and processing
 - iv. Results of configuration audits; status and disposition of discrepancies
 - v. Traceability of changes and confirmation of change incorporation
 - vi. Methods of access to information
 - (c) Retention of historical data
 - (d) Systems and tools (including data elements)

5) Configuration Verification/Audits

- (a) Audit conduct, policies, procedures, documentation, access, and support
- (b) Processes, plans, schedules for internal CM audits and subcontractor CM audits

6) Data Management

- (a) Development, approval, release and submittal of configuration data/documentation (including drawings) in relation to program and contractual events (DRD's, technical reviews, FCA/PCA, Acceptance Reviews, COFR, etc.)
- (b) Plan for subcontractor data management deliveries/control access
- (c) Establishment and operation of Engineering Release Unit and CM receipt desk
- (d) Process for Documentation control (i.e., DCNs)
- (e) Retention of historical data
- (f) Systems and tools

FORMAT: Electronic.

9. **OPR:** OL2/NASA ISS Configuration Management Office

10. **FIRST SUBMISSION DATE:** Sixty (60) days following contract start

Frequency Of Submission: Once

Additional Submissions: Updated if major systems or processes are changed

11. **MAINTENANCE:** Electronic, as required (see additional submissions)

12. **COPIES/DISTRIBUTION:**

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. **REMARKS:** None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: IT Management Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-IT-01	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1 4. Use (Define need for, intended use of, and/or anticipated results of data) The IT Management Plan is required to manage IT activities within the PI&C, interfaces with other users/customers of the ISSP IT infrastructure and various institutional IT providers, and IT reportability requirements.		5. DRD Category — Technical <input checked="" type="checkbox"/> Administrative — SR&QA	
6. References (SOW, Clause, etc.) SOW 1.4.1		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The Contractor shall provide plans to coordinate and execute all technical and administrative tasks for all management activities required to satisfy IT management and interfaces with other ISSP IT providers.

CONTENT: The IT Management Plan shall be an umbrella document, which encompasses and integrates all IT management activities. As a minimum, the IT Management Plan shall cover:

1. The significant policies and plans of all aspects of reportable IT.
2. Levels of approvals.
3. Flow of authority.
4. External interfaces with the Government, other ISSP contractors, and institutional IT providers.
5. The relationship between and integration of IT DRDs to the overall management of the IT content.
6. IT Metrics will be partnered annually and will include:

a. LEVEL 1 METRICS: The Contractor shall calculate and report service delivery, productivity, system availability, problem identification/resolution, and customer satisfaction for each functional area on a monthly basis. The monthly reports shall be available to the government within 2 weeks following monthly closeout. The Contractor shall use the same information to create and report quarterly and annual roll-ups.

b. LEVEL 2 METRICS: Contractor-specific metrics will augment or provide greater detail than Level 1 metrics and identify key areas of interest (such as the measurement of proactive, vendor-discovered, versus user-discovered, problems). These metrics will be specified by the Contractor and will be used to augment, validate, and ensure the completeness of the Level 1 metrics; however, regular reporting of contractor-specific metrics to the Government is not required. These metrics shall also be used to ensure the impartiality, effectiveness, and consistency of the overall metric gathering and reporting process.

c. LEVEL 3 METRICS: The Contractor shall create a set of metrics, comprised of the previously reported Level 1 and contractor-specific metrics, which will allow for the evaluation of time-based trends. These metrics will illustrate IOSS service level trends over the previous three-month or greater period.

d. DAILY METRICS SUPPORT: The Contractor shall provide identification of work closures on a daily basis and shall provide for online read access to the detailed information for the closed work for a limited number (not to exceed 5) of individuals identified by the CO. These individuals should be able to request online reports, formatted from the available parameters.

FORMAT: Contractor supplied format, compatible with ISS document standards

9. OPR: OL/ISS Management Integration Office

10. FIRST SUBMISSION DATE: 30 days after contract start

Frequency Of Submission: Once

Additional Submissions: The IT Management Plan shall be updated as required to reflect significant changes that occur after its initial publication.

11. MAINTENANCE: The IT Management Plan shall be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: IT Project Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-IT-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) IT Project Plans are required to baseline activities to be performed for all planned activities for which detailed project management is required to ensure the contractor implement requirements within costs and schedule.			6. References (SOW, Clause, etc.) SOW 1.4.2.1
7. Interrelationships (e.g., with other DRDs)			(Empty)

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The Contractor shall prepare project plans for coordination and execution of all developmental, sustaining engineering and technology infusion projects implemented under the PI&C contract. The Contractor shall submit a project plan, which shall be used to assure requirements are adequately communicated; the proposed design satisfies user operational and performance requirements, proposed project costs are within budgetary constraints, and the completion schedule is reasonable. The Contractor shall provide planning, design, sustaining engineering, and operations support for all systems and systems elements identified under this contract.

CONTENT: For development projects performed under this contract, the Contractor shall provide the following items as directed by the Government:

- Project Plan – see below
- Developed or configured and tested system, ready for use.
- Additional documentation:
 - Requirements Document - defines functional and performance requirements for the system.
 - Design Document and Drawings – defines the design rationale, approach, and system cost elements. Includes diagrams depicting system elements, process and logic flows, and platform and networking architecture. Also includes sustaining engineering and integration requirements.
 - User Documentation (e.g., Quick Reference Guide, Users Guide, Administrators Guide)
 - Operations Plan – defines operational requirements for supporting the deployed system.
 - Deployment Plan – defines the approach and procedures for deploying the system into production.
 - Security Plan – Must conform to JSC standard format for security plans.
 - Verification of compliance with Section 508 of the Rehabilitation Act of 1974.
 - Profile for Out Year Sustaining Engineering Costs – defines operations, sustaining engineering and consumables costs for the 5 year period beginning at the time of deployment.
 - Test Plan – defines the testing methodology and test scenarios used to verify that the system functions as required. Test scenarios shall be correlated to each system requirement-by-requirement number.
 - Customer Acceptance Testing Results - documents the results of testing performed by system customers, including their concurrence that the system is ready for deployment.
 - Requirements Traceability Matrix – defines how each requirement is addressed.
 - As-built Design Document and Drawings – describes the system as built and deployed.
 - Studies and Market Survey Results – describes the results of studies and market surveys requested by the Government or initiated by the Contractor.
 - Training Plans - training on systems capabilities, operations, and architectures, as required, and training materials

FORMAT: The Contractor shall prepare the Project Plan using the following outline. If after initial delivery of the plan, the Government issues a change in the requirements, the Contractor shall revise the Project Plan to reflect those changes and resubmit it to the CO.

PROJECT PLAN

1.0 SCOPE

This is a short narrative paragraph stating the purpose and scope of the project. It states why the project is needed, which organization requested it, and who the equipment users are. Usually, this information can be taken directly from the service request.

2.0 INTRODUCTION

This section shall restate the operational and performance requirements contained in the service request. However, if the service request contains only general requirements, the Contractor shall expand those requirements to comprehensively identify the total requirement. Environmental considerations and requirements should also be identified here if needed for special processing and operations.

3.0 PROPOSED SYSTEM DESIGN

This section shall contain a narrative description and functional block diagram of the Contractor's proposed design that will satisfy the operational requirements. If the (system) design contains brand name equipment, then the Contractor shall include rationale stating why the specific brand name equipment is required.

4.0 PROPOSED SYSTEM DESIGN VERIFICATION

In this section, the Contractor shall propose methods of verifying the completed design. Methods can include analyses, tests, or a combination of tests. This section shall include results and data, which shall be submitted in the final report to verify the system design. For routine tasks and projects, the Contractor may propose using generic or existing test procedures.

APPENDIX 1: PROJECT COSTS

Project costs shall include the following: 1) direct labor personnel-hours and dollar costs for engineering, technician support, drafting, and other direct labor; 2) indirect labor hours and dollar costs; 3) material costs; and 4) equipment costs. All dollar costs shall be stated as probable total costs to the Government and shall include G&A, indirect costs, and maximum performance award fee.

APPENDIX 2: PROJECT SCHEDULE

The Project schedule shall include the following milestones referenced to the date of approval of the project plan: 1) submission of initial design drawings, 2) submission of acceptance test procedures, 3) completion of system testing, 4) day system becomes operational, and 5) submission of final report.

9. OPR: OL/ISS Management Integration Office

10. **FIRST SUBMISSION DATE:** Within 2 weeks of assignment of a task to develop a Project Plan

Frequency Of Submission: Once

Additional Submissions: As required

11. **MAINTENANCE:** Electronically, changes shall be incorporated by change page or complete reissue

12. **COPIES/DISTRIBUTION:**

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. **REMARKS:** None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Information Technology (IT) Security Plan and Reports	2. Date of Current Version 01/01/04	3a. DRD No. A-IT-03	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1		4. Use (Define need for, intended use of, and/or anticipated results of data) To meet IT security reporting requirements	
5. DRD Category X_ Technical ___ Administrative ___ SR&QA		6. References (SOW, Clause, etc.) SOW 1.4.1 NFS 1852.204-76 (July 2001) NPG 2810.1 JPG 2810.1	
7. Interrelationships (e.g., with other DRDs)		(Empty)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: All contracts that purchase, lease, network to, or otherwise utilize government-funded IT (as defined by the Clinger-Cohen Act of 1996) must implement SSP 50222, ISS Program Capital Investment Process.

CONTENT:

SECURITY PLAN:

This plan shall contain the overall security policies, as required, for each system and application in a form compatible with the NASA Information Technology System (ITS) Security Program and the security and policies of the Center at which the work is being performed. For work being performed at JSC or at remote contractor sites not located at a NASA field center, the plan shall be in accordance with JPG 2810.1, JSC IT Security Handbook.

SECURITY STATUS REPORT:

This report shall document the security status of all ITS, including any suspected security violations or infractions.

INFORMATION ON EMPLOYEES IN SENSITIVE AIS POSITIONS/ASSIGNMENTS REPORT:

The Information on Employees in Sensitive ITS Positions/Assignments Report shall provide information for personnel screening as required by JPG 2810.1.

SYSTEM ADMINISTRATOR SECURITY CERTIFICATION PROGRAM:

This Agency-wide program applies to all lead system administrators administering systems on NASA IP address space.

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 these skills assessments 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 devices 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 arbitrate 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 only servicing their own IT system, is not required to obtain a System Administrator Certification.

FORMAT: As defined in JPG 2810.1

9. OPR: OL/Chief Information Officer

10. FIRST SUBMISSION DATE: Within thirty (30) days after contract award

Frequency Of Submission: As defined in JPG 2810.1

Additional Submissions: As defined in JPG 2810.1

11. MAINTENANCE: As defined in JPG 2810.1

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: The final plan, as approved by the Contracting Officer, shall be incorporated in the contract as Attachment J-6.

Reviewed By: <u>See Attached</u> Chief, Cost Accounting, Reports, and Property Branch Financial Management Division	Concurrence: <u>See Attached</u> Chief Financial Officer
Date	Date

DATA REQUIREMENTS DESCRIPTION
(Based on JSC-STD-123)

1a. DRD Title: NF533 M/Q Cost Reporting	2. Date of Current Version 01/01/04	3a. DRD No. A-PC-01	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3			4. Use (Define need for, intended use of, and/or anticipated results of data) Provides summary level cost reporting.
4. Use (Define need for, intended use of, and/or anticipated results of data)			5. DRD Category <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) NPD 9501.1G and NPG 9501.2D		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	

8. PREPARATION INFORMATION: Overall instructions and guidance are provided in NPG 9501.2D.

SCOPE: The M/Q report shall provide a report for projecting costs and equivalent personnel (EPs), for evaluating contractors' actual cost and fee, for the planning, monitoring, and controlling of project and program resources, and for accruing cost.

CONTENT: Instructions for content are in Attachment 1. Content shall also include adding EPs associated with direct labor and EPs associated with subcontracts to the list of cost elements in NPG9501.2D. Also added to the cost elements is a separate line for major subcontractors costs. Major subcontractors are defined as contracts with \$1M annually. All content shall be mapped and reported at the levels of detail provided in Attachment 2. All content of PC-01 shall reconcile to PC-02, PC-03, and PM-02.

FORMAT: In addition, the following modifications shall be made to the monthly format. A column shall be added in front of column 6 to provide for "Prior Years Cost" (this column shall remain blank until the beginning of FY05). For column 8 add a column to provide for a total of three months of forecast; also under column 8, columns shall be added to provide for Balance of Current Year (forecast)," and a breakdown by fiscal year for the remainder of contract value. The report shall be in three parts:

PC-01A shall be an executive summary narrative with variance explanations at each level identified in Attachment 2. Variance explanations shall be required when a +/- 5% variance occurs between the monthly forecasted cost and the actual cost for that month. The computation is (Forecasted Monthly Cost - Monthly Actual Cost / Monthly Forecasted Cost). The variance explanation shall identify the lowest level WBS contributing to the variance. In addition, variance explanations need to detail what caused the variance (i.e., ISSP change in direction, unexpected problems, discrepancy due to a change order, etc.) Also addressed will be any impact to delivery and/or schedule and the contractor's plan for resolving the impact of the variance. The forecast plan shall be adjusted to reflect a change in baseline plan. The executive summary shall also explain (listing and amount) any contract value changes and any changes between the types of contract.

PC-01B shall be a top-level summary listing by contract cost elements (see NPG9501.2D) including EPs and major subcontractors. The top-level summary shall also include a cost rollup at the first WBS level.

PC-01C shall be by current task order. The format for this report is modified as follows. The left side will be a listing of all the cost elements as identified in the paragraph on content above. For each level of detail identified in Attachment 2, cumulative-to-date actual costs and cumulative-to-date plans will be reported per cost element. In addition, the entire task order will be totaled per WBS and per cost elements.

9. OPR: LO

10. **FIRST SUBMISSION DATE:** NF533Q (initial baseline) shall be submitted 30 days after contract start.

Frequency Of Submission: NF533M is due no later than 10 working days following the close of the contractor's monthly accounting period. NF533Q is due no later than the 15th day of the month preceding the quarterly review being reported.

Additional Submissions: N/A

11. **MAINTENANCE:** The contractor shall provide a revised NF533 to correct errors when deemed necessary by the Financial Management Division. The revised NF533 shall be delivered prior to closure of the current JSC accounting system for the month. The reports shall be maintained electronically by the contractor.

12. **COPIES/DISTRIBUTION:** 1 hard copy: CO

1 hard copy: COTR

1 hard copy: DCMA

1 hard copy: LF6/Financial Management Division

2 hard copies: LO

1 hard copy: LW

1 hard copy: OG/Assessment Office

1 hard copy: OL/Data Management

1 electronic copy: LO, LF6, OG, COTR, BG & DCMA

1 electronic copy: Program secure repository

13. **REMARKS:** None

PC-01 ATTACHMENT 1

The NASA Form 533 (NF533) reports provide data necessary for the following:

1. Projecting costs and hours to ensure that dollar and labor resources realistically support project and program schedules.
2. Evaluating contractors' actual cost and fee data in relation to negotiated contract value, estimated costs, and budget forecast data.
3. Planning, monitoring, and controlling project and program resources.
4. Accruing cost in NASA's accounting system, providing program and functional management information, resulting in liabilities reflected on the financial statements.

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.

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 Element

Labor: Reported to NASA as hours are incurred.

Equipment & Materials (commercial off the shelf): Generally reported to NASA when received and accepted by the contractor.

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.

Leases: Reported to NASA using a proration over the life of the lease.

Travel: Reported to NASA as costs are incurred.

Subcontracts: Actual and estimated costs reported by prime contractors shall include subcontractors' incurred costs for the same accounting period. Where subcontract costs are material (significant), 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).

Unfilled Orders: Reported as the difference between the cumulative cost incurred to date and amounts obligated to suppliers and subcontractors.

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 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.

Prompt Payment Discounts: Cumulative cost reported to NASA should be the fully 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.

The NF533 reports are the official cost documents used at NASA for cost type, price redetermination, 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.

The due dates for the NF533M and NF533Q reports are outlined in Chapter 3 of NPG 9501.2D. The following is a summary of the NF533 due date requirements.

NF533 Report Due Date

NF533M: Due not later than 10 working days following the close of the contractor's monthly accounting period.

NF533Q: Due not later than the 15th day of the month preceding the quarter being reported.

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.

Uncompensated overtime hours worked should be reported on NF533 reports as a separate line item or in the footnotes.

For contracts, which have multiple schedules, a summary NF533 is required to provide a cumulative from inception cost for the contract, regardless of schedule.

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.

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 column 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.

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.

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.

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.

Monthly Contractor Financial Management Report

Form Approved
OMB No. 2700-
0003

2. REPORT FOR MONTH ENDING AND NUMBER OF WORKING DAYS

TO:		FROM:		3. CONTRACT VALUE	
				a. COST	b. FEE
				\$	\$
1. DESCRIPTION OF CONTRACT	a. TYPE	b. CONTRACT NO. & LATEST DEFINITIZED MODIFICATION NO.		4. FUND LIMITATION	
				\$	
	c. SCOPE OF WORK	d. AUTH. CONTR. REP. (Signature)	DATE	5. BILLING	
				a. INVOICE AMTS. BILLED	b. TOTAL PYTS. REC'D
				\$	\$

6. REPORTING CATEGORY	7. COST INCURRED/HOURS WORKED				8. ESTIMATED COST/HOURS TO COMPLETE			9. ESTIMATED FINAL		10. UN- FILLED ORDERS OUTSTANDING
	DURING MONTH		CUM TO DATE		DETAIL		BALANCE OF CONTRACT c.	COST/HOURS		
	ACTUAL a.	PLANNED b.	ACTUAL c.	PLANNED d.	a.	b.		CONTRACTOR ESTIMATE a.	CONTRACT VALUE b.	

Baseline Plan Identification (Col. 7b & 7d): _____ Revision No. _____, Dated _____

Quarterly Contractor Financial Management Report

Form Approved
O.M.B. No. 2700-0003

2. REPORT FOR QUARTER BEGINNING

To:			From:										3. CONTRACT VALUE				
													a. COST \$		b. FEE \$		
1. DESCRIPTION OF CONTRACT	a. TYPE						b. CONTRACT NO. AND LATEST DEFINITIZED MOD. NO.						4. FUND LIMITATION \$				
	c. SCOPE OF WORK						d. AUTH. CONTR. REP. (Signature)				DATE		5. BILLING				
													a. INVOICE AMTS. BILLED \$		b. TOTAL PYTS. RECD. \$		
6. REPORTING CATEGORY	7. COST INCURRED/ HOURS WORKED			8. ESTIMATED COST/HOURS TO COMPLETE										9. ESTIMATED FINAL COST/HOURS		10. ESTI-MATED COM- PLETION DATE	11. UN- FILLED ORDERS OUT- STAND- ING
	CUMU- LATIVE ACTUAL THROUGH PRIOR MONTH	CUR- RENT MONTH ESTI- MATE	CUMU- LATIVE ESTI- MATE TO DATE	MONTH	MONTH	MONTH	QUARTER	QUARTER	QUARTER	BALANCE OF FY-	NEXT FY-	BALANCE OF CON- TRACT	TOTAL TO COM- PLETE	CON- TRACTOR ESTIMATE	CONTRACT VALUE		
	a.	b.	c.	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	a.	b.		

NASA FORM 533Q AUG 96 PREVIOUS EDITIONS ARE OBSOLETE.

PC-01 ATTACHMENT 2 - Cost Reporting Level of Detail

The following table lists the lowest level of detail required for cost reporting.

SOW	PWBS	PI&C SOW Title
1.0	1.0	Management Integration and Control
1.1	1.1	Program Management
1.1.1	1.1.1	Program Management and Administration
1.1.2	1.1.2	Internal/External Program Review Support
1.2	1.2	Business Management
1.2.3	1.2.3	Resources Management
1.2.4	1.2.4	ISSP Budget Support / Assessments
1.2.5	1.2.5	Scheduling
1.3	1.3	Configuration Management / Data Integration
1.3.1	1.3.1	Configuration Management
1.3.1.1	1.3.1.1	Management and Administration
1.3.1.2	1.3.1.2	Configuration Status Accounting and Verification
1.3.1.3	1.3.1.3	Configuration Control
1.3.1.4	1.3.1.4	Data Management
1.3.1.5	1.3.1.5	Software Configuration Management
1.3.2	1.3.2	Program Data Integration
1.4	1.4	Program Information Technology (IT)
1.4.1	1.4.1	IT Management
1.4.2	1.4.2	Systems Management and Operations
1.4.2.1		Life Cycle Management
1.4.2.2		Work Authorization and User Support
1.5	1.5	International Integration
1.5.3	1.5.3	IP Elements Integration Management
1.6	1.6	Human Space Flight Collaboration
2.0	2.0	Systems Engineering, Analysis, and Integration
2.2	2.2	Systems Analysis and Integration
2.2.1	2.2.1	Program Requirements and Interfaces
2.2.2	2.2.2	System Performance Analysis and Integration
2.2.3	2.2.3	Assembly and Configuration Definition/Analysis
3.0	3.0	Spacecraft
3.1.1	3.1.1	Vehicle Management and Administration
3.1.1.1		Engineering and Technical Services
6.0	6.0	Safety and Mission Assurance (S&MA)
6.1	6.1	Management and Administration
6.2	6.2	S&MA Integration
6.3	6.3	Program Risk
6.6	6.6	Quality Assurance

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Modified Cost Performance Report (CPR)	2. Date of Current Version 01/01/04	3a. DRD No. A-PC-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3			5. DRD Category ___ Technical X Administrative ___ SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) Provides five formats containing cost and related data for measuring contractor cost and schedule performance.			6. References (SOW, Clause, etc.) NPD 9501.3A and NPG 9501.3
6. References (SOW, Clause, etc.) NPD 9501.3A and NPG 9501.3			7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: PC-02 must be reconcilable with PC-01 and PM-02. See Attachment

CONTENT: See Attachment

FORMAT: See Attachment

9. OPR: OG

10. FIRST SUBMISSION DATE: Ten (10) Workdays after initial month end

Frequency Of Submission: Monthly

Additional Submissions:

11. MAINTENANCE:

11. COPIES/DISTRIBUTION:

1 **hardcopy:** LW

2 **hardcopies:** LO

1 **hardcopy:** OG/Assessment Office

1 **hardcopy:** OL/Data Management

1 **hardcopy:** DCMA

1 **electronic copy:** LO, OG, COTR, BG & DCMA

1 **electronic copy:** Program secure repository in Electronic Data Interchange in American National Standards Institute (ANSI) X12 Standards (Transaction sets 839 for cost and 806 for schedule)

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION PREPARATION INFORMATION

TITLE: COST PERFORMANCE REPORT (CPR)

8.0 DESCRIPTION /PURPOSE (Attachment)

8.1 INTRODUCTION

8.1.1 This report consists of five formats containing cost and related data for measuring contractors' cost and schedule performance. Format 1 (Sample Format 1) provides data to measure cost and schedule performance by summary level Work Breakdown Structure (WBS) elements, the hardware, software and services the Government is buying. Format 2 (Sample Format 2) provides the same data by the contractor's organization. Format 3 (Sample Format 3) provides the budget baseline plan against which performance is measured. Format 4 (Sample Format 4) provides staffing forecasts for correlation with the budget plan and cost estimates. Format 5 (Sample Format 5) is a narrative report used to explain significant cost and schedule variances and other identified contract problems and topics.

8.1.2 CPR data will be used by NASA managers to: (a) integrate cost and schedule performance data with technical performance measures, (b) identify the magnitude and impact of actual and potential problem areas causing significant cost and schedule variances, and (c) provide valid, timely program status information to higher management.

8.1.3 The CPR is a management report. It should provide timely, reliable summary-level data with which to assess current and projected contract performance. The CPR's primary value to government program management is its ability to reasonably reflect current contract status. If the CPR contains excessively detailed or outdated information, management's ability to make informed, timely decisions may be impaired. It is important that the CPR be as accurate as possible so it can be used for its intended purpose. It should be used by the NASA management team, including Program Managers, engineers, cost estimators and financial management personnel, to confirm, quantify and track known or emerging contract problems and as a basis for communicating with the contractor. The contractor should ensure that CPR data accurately reflect how work is being performed and is consistent with the actual contract status.

8.2 APPLICATION /INTERRELATIONSHIP

8.2.1 This Data Requirements Document (DRD) contains the format and content preparation instructions for the data product generated by the specific and discrete task requirements as delineated in the contract.

8.2.2 This DRD will be used in conjunction with the standard NASA Form 533M/Q, and the Contract Work Breakdown Structure DRD.

8.2.3 The CPR will be provided consistent with Industry Guidelines for Earned Value Management Systems (ANSI/EIA Standard 748-98).

8.2.4 Unless otherwise provided in the contract, the CPR will be required on a monthly basis and submitted to the DRD distribution list no later than 10 workdays following the reporting cutoff date. Reports may reflect data either as of the end of the calendar month or as of the contractor's accounting period cutoff date.

8.2.5 Data reported in the CPR will pertain to all authorized contract work, including both priced and unpriced effort.

8.2.6 Certain aspects of the report are subject to negotiation between the Government and the contractor, such as:

8.2.6.1 The WBS levels to be reported on Format 1. The level of detail to be reported on Format 1 normally will be limited to level three of the Contract WBS or higher, but lower levels may be specified for high-cost or -risk items. The Government and the contractor should periodically review and adjust as necessary WBS reporting levels on Format 1 to ensure they continue to provide appropriate visibility without requiring excessive information. If there is a significant problem at a lower level, detailed reporting for that WBS element may be required until the problem is resolved.

8.2.6.2 All 5 formats are required.

8.2.6.3 The variance analysis thresholds, which, if exceeded, require problem analysis and narrative explanations. (Thresholds to be established by LO and contractor.)

8.2.6.4 The specific time increments to be used for the baseline and staffing projections required by Formats 3 and 4, will correspond (within the limits of the contractor's disclosed Fiscal Calendar) with the Government Fiscal Year.

8.2.6.5 The reporting provisions, which apply to the Cost of Money, line on Formats 1 and 2.

8.2.6.6 Organizational categories for Format 4, if different from Format 2. The Government may request that different organizational categories be used for reporting staffing in Format 4. If so, the Government and the contractor will negotiate the Format 4 categories. The Format 2 categories shall reflect the contractor's internal organization being used to perform the contract at hand.

8.2.6.7 In all cases, the CPR CDRL is subject to "tailoring." Tailoring is defined as deleting requirements from this DRD. All negotiated reporting provisions will be specified in the contract.

8.3 PREPARATION INSTRUCTIONS

8.3.1 Format. Contractor formats should be substituted whenever they contain all the required data elements at the specified reporting levels in a form suitable for NASA management.

8.3.2 Content. The Cost Performance Report shall contain the following:

8.3.2.1 Heading Information - Formats 1 - 5. Preparation instructions for Heading Information (Blocks 1 through 4) apply to Formats 1 through 5.

8.3.2.1.1 Contractor. Enter in Block 1.a the contractor's name and division, if applicable. Enter in Block 1.b the plant location and mailing address of the reporting contractor.

8.3.2.1.2 Contract. Enter the contract name in Block 2.a, the contract number in Block 2.b, the contract type in Block 2.c and the contract share ratio, if applicable, in Block 2.d.

8.3.2.1.3 Program. Enter in Block 3.a the program name, number, acronym and/or type, model, and series, or other designation of the item(s) purchased under the contract. Indicate the program phase, DDT&E or Production, in Block 3.b.

8.3.2.1.4 Report Period. Enter the beginning date in Block 4.a and the ending date in Block 4.b of the period covered by the report.

8.3.2.1.5 Security Classification. Enter the appropriate security classification at the top and bottom of each page.

8.3.2.1.6 Dollars in Factors. If reported dollar amounts have been factored down by a thousand, a million or a billion, enter the factor at the top of each page.

8.3.2.2 Format 1 - Work Breakdown Structure.

8.3.2.2.1 Contract Data.

8.3.2.2.1.1 Quantity. Enter in Block 5.a the number of items to be procured on this contract.

8.3.2.2.1.2 Negotiated Cost. Enter in Block 5.b the dollar value (excluding fee or profit) on which contractual agreement has been reached as of the cutoff date of the report. For an incentive contract, enter the definitized contract target cost. Amounts for changes will not be included in this item until they have been priced and incorporated in the contract through contract change order or supplemental agreement. For a cost plus fixed fee or award fee contract, enter the estimated cost negotiated. Changes to the estimated cost will consist only of amounts for changes in the contract scope of work, not for cost growth ("overrun") from the original estimated cost.

8.3.2.2.1.3 Estimated Cost of Authorized, Unpriced Work. Enter in Block 5.c the amount (excluding fee or profit) estimated for that work for which written authorization has been received, but for which definitized contract prices have not been incorporated in the contract through contract change order or supplemental agreement.

8.3.2.2.1.4 Target Profit/Fee. Enter in Block 5.d the fee or percentage of profit which will apply if the negotiated cost of the contract (see 8.3.2.2.1.2, above) is met.

8.3.2.2.1.5 Target Price. Enter in Block 5.e the target price (negotiated contract cost plus profit/fee) applicable to the definitized contract effort.

8.3.2.2.1.6 Estimated Price. Based on the most likely estimate of cost at completion for all authorized contract work and the appropriate profit/fee, incentive, and cost sharing provisions, enter in Block 5.f the estimated final contract price (total estimated cost to the Government). This number will be based on the most likely management estimate at completion in Block 6.c.1 and normally will change whenever the management estimate or the contract is revised.

8.3.2.2.1.7 Contract Ceiling. Enter in Block 5.g the contract ceiling price applicable to the definitized effort.

8.3.2.2.1.8 Estimated Contract Ceiling. Enter in Block 5.h the estimated ceiling price applicable to all authorized contract effort including both definitized and undefinitized effort.

8.3.2.2.2 Estimated Cost at Completion. These blocks will present the contractor's range of estimated costs at completion. The range of estimates is intended to allow contractor management flexibility to express possible cost outcomes. Contractors are encouraged to provide the most accurate EACs possible through program-level assessments of factors that may affect the cost, schedule or technical outcome of the contract. Where possible, such program-level assessments should include consideration of known or anticipated risk areas, and planned risk reductions or cost containment measures. EACs should be reported without regard to contract ceiling, if applicable. The methods used to develop worst case, best case and most likely management estimates at completion need not be described in the contractor's C/SCSC-compliant management control system description or CPR-No Criteria management procedures.

8.3.2.2.2.1 Management Estimate at Completion - Best Case. Enter in Block 6.a.1 the contractor's best-case estimate at completion. The best-case estimate is the one that results in the lowest cost to the Government. This estimate should be based on the outcome of the most favorable set of circumstances. If this estimate is different from the most likely estimate at completion (Block 6.c.1), the assumptions and conditions underlying this estimate should be explained briefly in Format 5. This estimate is for informational purposes only; it is not an official company estimate. There is no requirement for the contractor to prepare and maintain backup data beyond the explanation provided in Format 5.

8.3.2.2.2.2 Management Estimate at Completion - Worst Case. Enter in Block 6.b.1 the contractor's worst-case estimate at completion. The worst-case estimate is the one that results in the highest cost to the Government. This estimate should be based on the outcome of the least favorable set of circumstances. If this estimate is different from the most likely estimate at completion (Block 6.c.1), the assumptions and conditions underlying this estimate should be explained briefly in Format 5. This estimate is for informational purposes only; it is not an official company estimate. There is no requirement for the contractor to prepare and maintain backup data beyond the explanation provided in Format 5.

8.3.2.2.2.3 Management Estimate at Completion - Most Likely. Enter in Block 6.c.1 the contractor's most likely estimate at completion. This estimate is the contractor's official contract EAC and, as such, takes precedence over the estimates presented in Column (15) of Formats 1 and 2 and Blocks 6.a.1 and 6.b.1. This EAC is the value that the contractor's management believes is the most likely outcome based on a knowledgeable estimate of all authorized work, known risks and probable future conditions. This value need not agree with the total of Column (15) (Block 8.e). However, any difference should be explained in Format 5 in such terms as risk, use of management reserve, or higher management knowledge of current or future contract conditions. This EAC need not agree with EACs contained in the contractor's internal data, but must be reconcilable to them. The most likely EAC also will be reconcilable to the contractor's latest statement of funds required as reported in the Contract Funds Status Report, or its equivalent, if this report is a contractual requirement.

8.3.2.2.2.4 Contract Budget Base. Enter in Block 6.c.2 the total of negotiated cost (Block 5.b) and estimated cost of authorized, unpriced work (5.c).

8.3.2.2.2.5 Variance. Enter in Block 6.c.3 the Contract Budget Base (Block 6.c.2) minus the most likely estimate at complete (Block 6.c.1). This value will be explained in Format 5 according to applicable contractual requirements.

8.3.2.2.3 Authorized Contractor Representative. Enter in Block 7.a the name of the authorized person signing the report. Enter that person's title in Block 7.b. The authorized person will sign in Block 7.c. Enter the date signed in Block 7.d.

8.3.2.2.4 Performance Data.

8.3.2.2.4.1 Work Breakdown Structure Element. Enter in Column (1) of Block 8.a the noun description of the WBS items for which cost information is being reported. WBS items or levels reported will be those specified in the contract. (See 8.2.6.1 above.)

8.3.2.2.4.2 Cost of Money. Enter in Columns (2) through (16) of Block 8.b the Facilities Capital Cost of Money applicable to the contract.

8.3.2.2.4.3 General and Administrative (G&A). Enter in Columns (2) through (16) of Block 8.c the appropriate G&A costs. If G&A has been included in the total costs reported in Block 8.a above, G&A will be shown as a non-add entry on this line with an appropriate notation. If a G&A classification is not used, no entry will be made other than an appropriate notation to that effect.

8.3.2.2.4.4 Undistributed Budget. Enter the amount of budget applicable to contract effort, which has not yet been identified to WBS elements at or below the reporting level. For example, contract changes, which were authorized late in the reporting period should have received a total budget; however, assignment of work and allocation of budgets to individual WBS elements may not have been accomplished as of the end of the period. Budgets which can be identified to WBS elements at or below the specified reporting level will be included in the total budgets shown for the WBS elements in Block 8.a and will not be shown as undistributed budget. Enter in Column (15) of Block 8.d the estimate at completion for the scope of work represented by the undistributed budget in Column (14) of Block 8.d. Enter in Column (16) of Block 8.d the variance, if any, and fully explain it in Format 5. All undistributed budget will be fully explained in Format 5.

8.3.2.2.4.4.1 Use of Undistributed Budget. The provisions made in this report for undistributed budget are primarily to accommodate temporary situations where time constraints prevent adequate budget planning or where contract effort can only be defined in very general terms. Undistributed budget should not be used as a substitute for adequate contract planning. Formal budgets should be allocated to contract effort and responsible organizations at the earliest possible time, preferably within the next reporting period.

8.3.2.2.4.5 Subtotal (Performance Measurement Baseline). Enter the sum of the direct, indirect, Cost of Money, and G&A costs and budgets in Columns (2) through (16) of Block 8.a through e. This subtotal is also referred to as the Performance Measurement Baseline because it represents the allocated budget baseline (less management reserve) against which performance is actually measured.

8.3.2.2.4.6 Management Reserve. Management reserve is an amount of the overall contract budget withheld for management control purposes rather than for the accomplishment of a specific task or set of tasks. It is not a contingency fund, and may not be eliminated from contract prices by the Government during subsequent negotiations nor used to absorb the cost of contract changes. In Column (14) of Block 8.f enter the total amount of budget identified as management reserve as of the end of the current reporting period. The amounts shown as management reserve in Formats 1, 2 and 3 will agree. Amounts of management reserve applied to WBS elements during the reporting period will be listed in Block 6.b of Format 3 and explained in Format 5.

8.3.2.2.4.6.1 Negative Management Reserve. Negative entries will not be made in Management Reserve (Column (14) of Block 8.f). There is no such thing as "negative management reserve." If the contract is budgeted in excess of the Contract Budget Base (the negotiated contract cost plus the estimated cost for authorized, unpriced work), the provisions applicable to formal reprogramming and the instructions in paragraphs 8.3.2.2.5.1, 8.3.2.2.6.6, 8.3.2.2.6.7 and 8.3.2.4.1.7 apply.

8.3.2.2.4.7 Total. Enter the sum of all direct, indirect, Cost of Money, G&A cost, undistributed budgets and management reserves, if applicable, in Columns (2) through (14) of Block 8.g. The Total lines of Format 1 (Block 8.g) and Format 2 (Block 5.g) will agree. The total of Column (14), Block 8.g, will equal the Total Allocated Budget shown in Block 5.f on Format 3.

8.3.2.2.5 Reconciliation to Contract Budget Base.

8.3.2.2.5.1 Formal Reprogramming. In exceptional cases, the procuring agency may authorize the contractor to establish performance measurement budgets that in total exceed the Contract Budget Base. This process is called formal reprogramming. The contractor and the Government will agree on how the results of a formal reprogramming will be reported in the Cost Performance Report before the formal reprogramming is initiated. This agreement and any other pertinent details on the reporting of the formal reprogramming will be included in Format 5. Blocks 9.a and 9.b provide the contractor the opportunity to reconcile the higher performance measurement budgets, also called an "Over Target Baseline," to the Contract Budget Base. (See 8.3.2.2.6.6, 8.3.2.2.6.7, 8.3.2.4.1.7, and 8.3.2.6.5 below for more information on reporting Over Target Baselines.)

8.3.2.2.5.2 Variance Adjustment. In reporting the results of a formal reprogramming (Over Target Baseline) the contractor may 1) apply the additional budget to completed work, thereby eliminating some or all of the existing cost or schedule variances, 2) apply the additional budget to remaining work, 3) apply some of the additional budget to completed work and some to remaining work, or 4) apply some of the additional budget to management reserve. If the contractor uses a portion of the additional budget to eliminate variances applicable to completed work, the total adjustments made to the cost and schedule variances will be shown in Columns (10) and (11) of Block 9.a. The total cost variance adjustment entered in Column (11) of Block 9.a will be the sum of the individual cost variance adjustments shown in Column (12) of Blocks 8.a through g.

8.3.2.2.5.3 Total Contract Variance. In Columns (10) and (11) of Block 9.b, enter the sum of the cost and schedule variances shown on the Total line (Block 8.g) and on the Variance Adjustment line (Block 9.a). In Column (14) enter the Contract Budget Base from Block 6.c.2. In Column (15) enter the management estimate at completion from Block 6.c.1. In Column (16) of Block 9.b enter the difference between Columns (14) and (15) of Block 9.b.

8.3.2.2.6 Columns (2) Through (16). When compliance with the C/SCSC is contractually required, the data in Columns (2) through (16) shall reflect the output of the contractor's C/SCSC-compliant integrated management system (refer to DFARS 252.234-7001). When compliance with the C/SCSC is not contractually required ("CPR - No Criteria"), the data in these columns shall be derived using the contractor's summary management procedures (refer to DFARS 252.242-7005).

8.3.2.2.6.1 Column (2) and Column (7) - Budgeted Cost - Work Scheduled. For the time period indicated, enter the Budgeted Cost for Work Scheduled (BCWS) in these columns.

8.3.2.2.6.2 Column (3) and Column (8) - Budgeted Cost - Work Performed. For the time period indicated, enter the Budgeted Cost for Work Performed (BCWP) in these columns.

8.3.2.2.6.3 Column (4) and Column (9) - Actual Cost - Work Performed (ACWP). For the time period indicated, enter the Actual Cost of Work Performed without regard to ceiling. In all cases, costs and budgets will be reported on a comparable basis.

8.3.2.2.6.4 Column (5) and Column (10) - Variance - Schedule. For the time period indicated, these columns reflect the differences between BCWS and BCWP. For the current period, Column (5) (schedule variance) is derived by subtracting Column (2) (BCWS) from Column (3) (BCWP). For the cumulative to date, Column (10) (schedule variance) is derived by subtracting Column (7) (BCWS) from Column (8) (BCWP). A positive figure indicates a favorable variance. A negative figure (indicated by parentheses) indicates an unfavorable variance. Significant variances as specified in the contract will be fully explained in Format 5. If the contract does not specify variance analysis thresholds, the contractor will provide appropriate variance analyses. (See 8.3.2.6.3.2.4 below.)

8.3.2.2.6.5 Column (6) and Column (11) - Variance - Cost. For the time period indicated, these columns reflect the difference between BCWP and ACWP. For the current period, Column (6) (cost variance) is derived by subtracting Column (4) (ACWP) from Column (3) (BCWP). For cumulative to date, Column (11) (cost variance) is derived by subtracting Column (9) (ACWP) from Column (8) (BCWP). A positive figure indicates a favorable variance. A negative figure (indicated by parentheses) indicates an unfavorable variance. Significant variances as specified in the contract will be fully explained in Format 5. If the contract does not specify variance analysis thresholds, the contractor will provide appropriate variance analyses. (See 8.3.2.6.3.2.4 below.)

8.3.2.2.6.6 Column (12) Reprogramming Adjustments - Cost Variance. Formal reprogramming (Over Target Baseline) results in budget allocations in excess of the Contract Budget Base and, in some instances, adjustments to previously reported variances. If previously reported variances are being adjusted, the adjustment applicable to each reporting line item affected will be entered in Column (12). The total of Column (12) will equal the amount shown on the Variance Adjustment line (Block 9.a) in Column (11).

8.3.2.2.6.7 Column (13) Reprogramming Adjustments - Budget. Enter the total amounts added to the budget for each reporting line item as the result of formal reprogramming (Over Target Baseline). The amounts shown will consist of the sum of the budgets used to adjust cost variances (Column (12)) plus the additional budget added to the WBS element for remaining work. Enter the amount of budget added to management reserve in the space provided on the management reserve line (Block 8.f). The total of Column (13) will equal the amount the Total Allocated Budget has been budgeted in excess of the Contract Budget Base as shown in Block 5.g of Format 3. An explanation of the reprogramming will be provided in Format 5.

8.3.2.2.6.7.1 Formal Reprogramming Reporting. Columns (12) and (13) are intended for use only in situations involving formal reprogramming (Over Target Baseline). Internal replanning actions within the Contract Budget Base do not require entries in these columns. Where contractors are submitting CPR data directly from automated systems, the addition of Columns (12) and (13) as shown may not be practical due to computer reprogramming problems or space limitations. In such cases, the information may be provided on a separate sheet and attached as Format 1a to each subsequent report. Contractors will not be required to abandon or modify existing automated reporting systems to include Columns (12) and (13) if significant costs will be associated with such change. Nor will contractors be required to prepare the report manually solely to include this information.

8.3.2.2.6.7.2. Formal Reprogramming Timeliness. Formal reprogramming (Over Target Baseline) can be a significant undertaking that may require more than a month to implement. To preclude a disruption of management visibility caused by a reporting hiatus, the contractor should implement the formal reprogramming expeditiously. If a reporting hiatus is needed, the contractor and the Government will agree on the date and duration of the hiatus before the formal reprogramming is initiated.

8.3.2.2.6.8 Column (14) - At Completion - Budgeted. Enter the budgeted cost at completion for the items listed in Column (1). This entry will consist of the sum of the original budgets plus or minus budget changes resulting from contract changes, internal replanning, and application of management reserves. The total (Block 8.g) will equal the Total Allocated Budget shown in Block 5.f on Format 3.

8.3.2.2.6.9 Column (15) - At Completion - Estimated. Enter the latest revised estimate of cost at completion including estimated overrun/underrun for all authorized work. If the subtotal (Block 8.e) does not agree with the most likely management estimate at completion (Block 6.c.1), the difference will be explained in Format 5. (See 8.3.2.2.2.3 above.)

8.3.2.2.6.10 Column (16) - At Completion - Variance. Enter the difference between the Budgeted - At Completion (Column (14)) and the Estimated - At Completion (Column (15)) by subtracting Column (15) from Column (14). A negative figure (indicated by parentheses) reflects an unfavorable variance. Significant variances as specified in the contract will be fully explained in Format 5. If the contract does not specify variance analysis thresholds, the contractor will provide appropriate variance analyses. (See 8.3.2.6.3.2.4 below.)

8.3.2.3 Format 2 - Organizational Categories.

8.3.2.3.1 Performance Data.

8.3.2.3.1.1 Column (1) - Organizational Category. In Block 5.a list the organizational categories, which reflect the contractor's internal management structure. This format will be used to collect organizational cost information at the total contract level rather than for individual WBS elements. The level of detail to be reported will normally be limited to the organizational level immediately under the operating head of the facility. The contractor shall be given flexibility to report this information according to its own internal management structure. If the contractor is organized by product teams, this format may not be needed because it should resemble Format 1.

8.3.2.3.1.2 Cost of Money. Enter in Columns (2) through (16) of Block 5.b the Facilities Capital Cost of Money applicable to the contract.

8.3.2.3.1.3 General and Administrative. Enter in Columns (2) through (16) of Block 5.c the appropriate G&A costs. (See 8.3.2.2.4.3 above.)

8.3.2.3.1.4 Undistributed Budget. Enter in Column (14) of Block 5.d the budget applicable to contract effort, which cannot be planned in sufficient detail to be assigned to a responsible organizational area at the reporting level. The amount shown on this format may exceed the amount shown as undistributed budget on Format 1 if budget is identified to a task at or below the WBS reporting level but organizational identification has not been made; or may be less than the amount on Format 1 where budgets have been assigned to organizations but not to WBS elements. Enter in Column (15) of Block 5.d the estimate at completion for the scope of work represented by the undistributed budget in Column (14) of Block 5.d. Enter in Column (16) of Block 5.d the variance, if any, and fully explain it in Format 5. (See 8.3.2.2.4.4 above.)

8.3.2.3.1.5 Subtotal (Performance Measurement Baseline). Enter the sum of the direct, indirect, Cost of Money, and G&A costs and budgets in Columns (2) through (16) of Block 5.a through e. (See 8.3.2.2.4.5 above.)

8.3.2.3.1.6 Management Reserve. In Column (14) of Block 5.f enter the amount of budget identified as management reserve. The Management Reserve entry will agree with the amounts shown in Format 1 and 3. (See 8.3.2.2.4.6 above.)

8.3.2.3.1.7 Total. Enter the sum of all direct, indirect, Cost of Money, and G&A costs and budgets, undistributed budgets and management reserves, if applicable, in Columns (2) through (14) of Block 5.g. The totals on this page will equal the Total line on Format 1. The total of Column (14) will equal the Total Allocated Budget shown in Block 5.f on Format 3.

8.3.2.3.2 Columns (2) Through (16). The instructions applicable to these columns are the same as the instructions for corresponding columns on Format 1. (See 8.3.2.2.6 and 8.3.2.2.6.1 through 8.3.2.2.6.10 above.)

8.3.2.4 Format 3 - Baseline.

8.3.2.4.1 Contract Data.

8.3.2.4.1.1 Original Negotiated Cost. Enter in Block 5.a the dollar value (excluding fee or profit) negotiated in the original contract. For a cost plus fixed fee or award fee contract, enter the estimated cost negotiated. For an incentive contract, enter the definitized contract target cost.

8.3.2.4.1.2 Negotiated Contract Changes. Enter in Block 5.b the cumulative cost (excluding fee or profit) applicable to definitized contract changes, which have occurred since the beginning of the contract.

8.3.2.4.1.3 Current Negotiated Cost. Enter in Block 5.c the sum of Blocks 5.a and 5.b. The amount shown should equal the current dollar value (excluding fee or profit) on which contractual agreement has been reached and should be the same as the amount in Negotiated Cost (Block 5.b) on Format 1.

8.3.2.4.1.4 Estimated Cost of Authorized, Unpriced Work. Enter in Block 5.d the estimated cost (excluding fee or profit) for contract changes for which written authorizations have been received, but for which contract prices have not been incorporated in the contract, as shown in Block 5.c of Format 1.

8.3.2.4.1.5 Contract Budget Base. Enter in Block 5.e the sum of Blocks 5.c and 5.d.

8.3.2.4.1.6 Total Allocated Budget. Enter in Block 5.f the sum of all budgets allocated to the performance of the contractual effort. The amount shown will include all management reserves and undistributed budgets. This amount will be the same as that shown on the Total line in Column (14) on Format 1 (Block 8.g) and Format 2 (Block 5.g).

8.3.2.4.1.7 Difference. Enter in Block 5.g the difference between Blocks 5.e and 5.f. In most cases, the amounts shown in Blocks 5.e and 5.f will be identical. If the amount shown in Blocks 5.f exceeds that shown in Block 5.e, it usually is an indication of a formal reprogramming (Over Target Baseline). The difference should be explained in Format 5 at the time the negative value appears and subsequently for any change in the value.

8.3.2.4.1.8 Contract Start Date. Enter in Block 5.h the date the contractor was authorized to start work on the contract, regardless of the date of contract definitization. (Long lead procurement efforts authorized under prior contracts are not to be considered.)

8.3.2.4.1.9 Contract Definitization Date. Enter in Block 5.i the date the contract was definitized.

8.3.2.4.1.10 Planned Completion Date. Enter in Block 5.j the completion date to which the budgets allocated in the Performance Measurement Baseline have been planned. This date should represent the planned completion of all significant effort on the contract. The cost associated with the schedule from which this date is taken is the Total Allocated Budget (Block 5.f of Format 3).

8.3.2.4.1.10.1 Performance Measurement Schedule Inconsistent With Contractual Schedule. In exceptional cases, the contractor may determine that the existing contract schedule cannot be achieved and no longer represents a reasonable basis for management control. With Government approval, the contractor may rephrase its performance measurement schedule to new dates, which exceed the contractual milestones, a condition known as "Over Target Schedule." These new dates are for performance measurement purposes only and do not represent an agreement to modify the contract terms and conditions. The Government and the contractor will agree on the new performance measurement schedule prior to reporting it in the Cost Performance Report. The contractor should provide pertinent information in Format 5 on any schedule milestones that are inconsistent with contractual milestones, beginning the month the schedule is implemented and each month thereafter.

8.3.2.4.1.10.2 Indicators of a Performance Measurement Schedule Inconsistent With the Contractual Schedule. Formal reprogramming or internal replanning may result in performance measurement milestones that are inconsistent with the contractual milestones (Over Target Schedule). A difference between the planned completion date (Block 5.j) and the contract completion date (Block 5.k) indicates that some or all of the performance measurement milestones are inconsistent with the contractual milestones. However, some performance measurement milestones may be inconsistent with contractual milestones even if these dates are the same.

8.3.2.4.1.11 Contract Completion Date. Enter in Block 5.k the contract scheduled completion date in accordance with the latest contract modification. The cost associated with the schedule from which this date is taken is the Contract Budget Base (Block 5.e of Format 3).

8.3.2.4.1.12 Estimated Completion Date. Enter the contractor's latest revised estimated completion date. This date should represent the estimated completion of all significant effort on the contract. The cost associated with the schedule from which this date is taken is the most likely management estimate at completion (Block 6.c.1 of Format 1).

8.3.2.4.2 Column (1) - Item.

8.3.2.4.2.1 Performance Measurement Baseline (Beginning of Period). Enter in Block 6.a the time-phased Performance Measurement Baseline (PMB) (including G&A) which existed at the beginning of the current reporting period. Most of the entries on this line are taken directly from the PMB (End of Period) line on the previous report. For example, the number in Column (4) on the PMB (End of Period) line from last month's report becomes the number in Column (3) on the PMB (Beginning of Period) line on this report. The number in Column (5) (end of period) last report becomes Column (4) (beginning of period) on this report, etc. This rule pertains through Column (9) where the time increments change from monthly to some other periods of time. At this point, a portion of Column (10) (end of period) would go into Column (9) (beginning of period) and the remainder of Column (10) (end of period) would go into Column (10) (beginning of period). Columns (11) through (16) simply move directly up to the (beginning of period) line without changing columns. Total amounts should be segregated by major contract cost categories (e.g., development and spares).

8.3.2.4.2.2 Baseline Changes. List by number in Block 6.b, the contract changes and supplemental agreements authorized during the reporting period. All authorized baseline changes should be listed whether priced or unpriced. The amount of management reserve applied during the period should also be listed. Total amounts should be segregated by major contract cost categories (e.g., development and spares).

8.3.2.4.2.3 Performance Measurement Baseline (End of Period). Enter in Block 6.c the time-phased PMB as it exists at the end of the reporting period. The difference between this line and the PMB (Beginning of Period) should represent the effects of the authorized changes and allocations of management reserves made during the period. Significant differences should be explained in Format 5 in terms of reasons for necessary changes to time phasing due to internal replanning or formal reprogramming, and reasons for the application of management reserve. Total amounts should be segregated by major contract cost categories (e.g., development and spares).

8.3.2.4.2.4 Management Reserve. Enter in Block 7 the total amount of management reserve remaining as of the end of the reporting period. This figure will agree with the amounts shown as management reserve in Formats 1 and 2.

8.3.2.4.2.5 Total. Enter in Column (16) of Block 8 the sum of Column (16) of Block 6.c (PMB (End of Period)) and Column (16) of Block 7 (Management Reserve). This amount should be the same as that shown on the Total line (Block 8.g) in Column (14) on Format 1.

8.3.2.4.3 Column (2) - BCWS - Cum To Date. On the PMB (Beginning of Period) line (Block 6.a), enter the cumulative BCWS as of the first day of the reporting period. This should be the same number reported as BCWS - Cum To Date on the Total line (Column (7) of Block 8.g) of Format 1 of the previous CPR. On the PMB (End of Period) line (Block 6.c), enter the cumulative BCWS as of the last day of the reporting period. This should be the same number reported as BCWS - Cum to Date on the Total line (Column (7) of Block 8.g) of Format 1 for this CPR.

8.3.2.4.4 Column (3) - BCWS For Report Period. On the PMB (Beginning of Period) line (Block 6.a), enter the BCWS planned for the reporting period. This should be the number in Column (4) on the PMB (End of Period) line (Block 6.c) on the preceding month's report.

8.3.2.4.5 Columns (4) Through (14). Enter the names of the next six months in the headings of Columns (4) through (9) of Block 6, and the names of the appropriate periods in the headings of Columns (10) through (14). In the PMB (Beginning of Period) line (Block 6.a), enter the BCWS projection reported in the previous CPR as PMB (End of Period) (Block 6.c). In the PMB (End of Period) line (Block 6.c) of this report, enter the projected BCWS (by month for six months and by periodic increments thereafter, or as negotiated with the procuring activity) for the remainder of the contract. The time phasing of each item listed in Column (1) of Block 6.b need not be shown in Columns (4) through (14).

8.3.2.4.6 Column (15) - Undistributed Budget. On the PMB (Beginning of Period) line (Block 6.a), enter the number from Column (15) on the PMB (End of Period) line (Block 6.c) from the preceding report. On the PMB (End of Period) line, enter the undistributed budget shown in Column (14) of Block 8.d on Format 1 of this report.

8.3.2.4.7 Column (16) - Total Budget. On the PMB (Beginning of Period) line (Block 6.a) enter the number from Column (16) on the PMB (End of Period) line (Block 6.c) from the preceding report. In the section where baseline changes that occurred during the period are listed (Column (1) of Block 6.b), enter the amount of each of the changes listed. On the PMB (End of Period) line (Block 6.c), enter the sum of the amounts in the preceding columns on this line. On the Management Reserve line (Block 7), enter the amount of management reserve available at the end of the period. On the Total line (Block 8) enter the sum of the amounts in this column on the PMB (End of Period) line and the Management Reserve line. (This should equal the amount in Block 5.f on this format and also the amount of the Total line in Column (14), Block 8.g, of Format 1.)

8.3.2.5 Format 4 - Staffing.

8.3.2.5.1 Performance Data. For those organizational categories shown in Column (1) of Block 5, equivalent months will be indicated for the current reporting period, cumulative through the current period, and forecast to completion. Direct equivalent months will be shown for each organizational category for the contract. An equivalent month is defined as the effort equal to that of one person for one month. Figures should be reported in whole numbers. (Partial months, .5 and above, will be rounded to 1; below .5 to 0.) When the Government and the contractor agree, staffing may be reported in equivalent days or hours.

8.3.2.5.1.1 Organizational Category. List the organizational categories that reflect the contractor's internal management structure in Block 5. Format 4 categories may differ from those reported in Format 2. If the Government needs different categories in Formats 2 and 4, the Format 4 categories will be addressed during negotiations. (See 7.6.7 above.)

8.3.2.5.1.2 Total Direct. In Block 6, Columns (2) through (15), enter the sum of all direct equivalent months for the organizational categories shown in Column (1).

8.3.2.5.2 Column (2) - Actual - Current Period. Enter the actual equivalent months incurred during the current reporting period.

8.3.2.5.3 Column (3) - Actual End of Current Period (Cum). Enter the actual equivalent months incurred to date (cumulative) as of the end of the report period.

8.3.2.5.4 Columns (4) Through (14) - Forecast (Non Cumulative). Enter a staffing forecast by month for a six-month period following the current period and by periodic increment thereafter, as negotiated with the procuring activity (see 7.6.4 above). The forecast will be updated at least quarterly unless a major revision to the plan or schedule has taken place, in which case forecasts will be changed for all periods involved in the report submitted at the end of the month in which the change occurred.

8.3.2.5.5 Column (15) - Forecast at Completion. Enter the estimate of equivalent months necessary for the total contract in Column (15) by organizational category. This estimate should be consistent with the most likely management estimate at completion shown in Block 6.c.1 of Format 1. Any significant change in the total number of equivalent months at completion of the contract (i.e., Column (15) Total) should be explained in Format 5.

8.3.2.6 Format 5 - Explanations and Problem Analyses.

8.3.2.6.1 General. Format 5, Explanations and Problem Analyses, is a narrative report prepared to supplement the other CPR formats. Format 5 will normally address 1) contractually required cost, schedule and estimate at completion variance analyses, 2) management reserve changes and usage, 3) undistributed budget contents, 4) differences between the best case, worst case, and most likely management estimate at completion, if any, 5) the difference between the most likely management estimate at completion and the estimate in Block 8.e of Column (15), if any, 6) significant differences between beginning of period PMB time phasing and end of period PMB time phasing in Format 3, 7) performance measurement milestones that are inconsistent with contractual milestones (Over Target Schedule), 8) formal reprogramming (Over Target Baseline) implementation details, and 9) significant staffing estimate changes in Format 4. However, any topic relevant to contract cost, schedule or technical performance can be addressed in this format.

8.3.2.6.2 Total Contract. Provide a summary analysis, identifying significant problems affecting performance. Indicate corrective actions required, including Government action where applicable. Significant changes since the previous report should be highlighted. Discuss any other issues affecting successful attainment of contract cost, schedule or technical objectives, which the contractor deems significant or noteworthy. This section should be brief, normally one page.

8.3.2.6.3 Cost and Schedule Variances. Explain all variances, which exceed specified variance thresholds. Explanations of variances must clearly identify the nature of the problem, significant reasons for cost or schedule variance, effect on the immediate task, impact on the total contract, and the corrective action taken or planned. Explanations of cost variances should identify amounts attributable to rate changes separately from amounts applicable to hours worked; amounts attributable to material price changes separately from amounts applicable to material usage; and amounts attributable to overhead rate changes separately from amounts applicable to overhead base changes or changes in the overhead allocation basis. To reduce the volume of variance analysis, the Government may allow the contractor to refer to a prior CPR's variance analysis explanations if the explanation for the current CPR's variance has not changed significantly.

8.3.2.6.3.1 Setting Variance Analysis Thresholds. The Government should require the minimum amount of variance analysis in Format 5, which satisfies its management information needs. Excessive variance analysis is burdensome and costly, and detracts from the CPR's usefulness, while too little information is equally undesirable. The contract should include a provision to review cost and schedule variance analysis thresholds periodically, normally semiannually, to determine if they continue to meet the Government's information needs. If they do not, the thresholds should be changed at no cost to the Government.

8.3.2.6.3.2 Identifying Significant Variances. There is no prescribed basis for identifying which cost and schedule variances are to be explained in Format 5. The Government may specify any one of several ways to identify such variances, including, but not limited to the following:

8.3.2.6.3.2.1 Fixed Number of Variances. Specify a number of significant variances. These variances can be either current month, cumulative, or at-completion. Any number of significant variances may be selected, but the Government should be careful to select only the number that it feels are necessary.

8.3.2.6.3.2.2 Percentage or Dollar Thresholds. Select variances based on percentage or dollar thresholds. Significant schedule variances are identified based on their size or percentage to Budgeted Cost for Work Scheduled, and significant cost variances are identified based on their size or percentage to Budgeted Cost for Work Performed. For example, all current month, cumulative or at-completion variances greater than 10% or \$500K may be selected for analysis. This method usually results in a larger number of variances requiring reporting. Consequently, the thresholds should be reviewed periodically to ensure they continue to provide a reasonable amount of useful information.

8.3.2.6.3.2.3 Specific Variances. Select variances for analysis only after reviewing Formats 1 or 2. Under this method, the CPR is delivered promptly after the contractor's accounting period ends with all required information in Formats 1 through 5 except variance analyses. Once the Government has reviewed this performance data, it selects specific variances for analysis. This method may be the most efficient in that the Government can pinpoint areas to be analyzed. It is also the most flexible because there may be some months where a review of the performance data yields few or no variance analysis candidates. However, this method should only be used if the Government is certain it has sufficient resources to review the CPR early and select variances each month.

8.3.2.6.3.2.4 No Variance Analysis Thresholds Specified. If the contract does not specify variance analysis thresholds, the contractor will determine what significant variance explanations are reported. These explanations should focus on 1) areas where the Government should be informed of developing issues or problems, 2) areas of identified program risk or management interest, or 3) areas of significantly unfavorable cost or schedule performance.

8.3.2.6.4 Other Analyses. In addition to variance explanations, the following analyses are mandatory:

8.3.2.6.4.1 Management Estimate at Completion. If the best or worst-case management estimates at completion differ from the most likely estimate, the contractor must provide a brief explanation of the difference. Also, if the most likely management estimate at completion differs from the total entered in Column 15 of Format 1 or 2, the contractor must explain the difference. The explanations should focus on such areas as differences in underlying assumptions; a knowledgeable, realistic risk assessment; projected use of management reserve; estimate for undistributed budget; and higher management knowledge of current or future contract conditions.

8.3.2.6.4.2 Undistributed Budget. Identify the effort to which the undistributed budget applies. Also, explain any variance between the undistributed budget and the estimate for undistributed budget in Formats 1 and 2.

8.3.2.6.4.3 Management Reserve Changes. Identify the sources and uses of management reserve changes during the reporting period. For management reserve uses, identify the WBS and organizational elements to which applied, and the reasons for application.

8.3.2.6.4.4 Baseline Changes. Explain reasons for significant shifts in time phasing of the PMB shown on Format 3.

8.3.2.6.4.5 Staffing Level Changes. Explain significant changes in the total staffing estimate at completion shown on Format 4. Also, explain reasons for significant shifts in time phasing of planned staffing.

8.3.2.6.5 Formal Reprogramming (Over Target Baseline). If the difference shown in Block 5.g on Format 3 becomes a negative value or changes in value, provide information on the following:

8.3.2.6.5.1 Authorization. Procuring activity authorization for the baseline change, which resulted in negative value, or change.

8.3.2.6.5.2 Reason. A discussion of the reason(s) for the change.

8.3.2.6.5.3 CPR Reporting. A discussion of how the change affected CPR reporting (i.e., amount allocated to management reserve, adjustments to cost or schedule variances, etc.).

8.3.2.6.5.4 Schedule. Indicate whether the contract schedule was retained for performance measurement or was replaced with a schedule that exceeds the contractual schedule (Over Target Schedule).

8.3.2.6.6 Over Target Schedule. If a performance measurement schedule exceeding the contractual schedule (Over Target Schedule) has been implemented, provide a discussion of the pertinent information, such as authorization, reasons and significant dates

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**COST PERFORMANCE REPORT
FORMAT 1 - WORK BREAKDOWN STRUCTURE** DOLLARS IN _____

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1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD									
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)									
b. LOCATION (Address and ZIP Code)		b. NUMBER				b. TO (YYYYMMDD)									
		c. TYPE	d. SHARE RATIO	b. PHASE (X one)											
				<input type="checkbox"/> RDT&E	<input type="checkbox"/> PRODUCTION										
5. CONTRACT DATA															
a. QUANTITY	b. NEGOTIATED COST	c. EST. COST AUTHORIZED UNPRICED WORK	d. TARGET PROFIT/FEE	e. TARGET PRICE	f. ESTIMATED PRICE	g. CONTRACT CEILING	h. ESTIMATED CONTRACT CEILING								
6. ESTIMATED COST AT COMPLETION				7. AUTHORIZED CONTRACTOR REPRESENTATIVE											
	MANAGEMENT ESTIMATE AT COMPLETION (1)	CONTRACT BUDGET BASE (2)	VARIANCE (3)	a. NAME (Last, First, Middle Initial)		b. TITLE									
a. BEST CASE				c. SIGNATURE		d. DATE SIGNED (YYYYMMDD)									
b. WORST CASE															
c. MOST LIKELY															
8. PERFORMANCE DATA															
ITEM (1)	CURRENT PERIOD					CUMULATIVE TO DATE					REPROGRAMMING ADJUSTMENTS		AT COMPLETION		
	BUDGETED COST		ACTUAL COST WORK PERFORMED	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED	VARIANCE				BUDGETED	ESTIMATED	VARIANCE
	WORK SCHEDULED (2)	WORK PERFORMED (3)	SCHEDULE (4)	COST (5)	WORK SCHEDULED (7)	WORK PERFORMED (8)	COST (9)	SCHEDULE (10)	COST (11)	COST VARIANCE (12)	BUDGET (13)	(14)	(15)	(16)	
a. WORK BREAKDOWN STRUCTURE ELEMENT															
b. COST OF MONEY															
c. GENERAL & ADMINISTRATIVE															
d. UNDISTRIBUTED BUDGET															
e. SUBTOTAL (Performance Measurement Baseline)															
f. MANAGEMENT RESERVE															
g. TOTAL															
9. RECONCILIATION TO CONTRACT BUDGET BASE															
a. VARIANCE ADJUSTMENT															
b. TOTAL CONTRACT VARIANCE															

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**COST PERFORMANCE REPORT
FORMAT 2 - ORGANIZATIONAL CATEGORIES**

DOLLARS IN _____

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1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD	
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)	
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE (X one) <input type="checkbox"/> RDT&E <input type="checkbox"/> PRODUCTION		b. TO (YYYYMMDD)	
		c. TYPE					
5. PERFORMANCE DATA							

ITEM (1)	CURRENT PERIOD				CUMULATIVE TO DATE					REPROGRAMMING ADJUSTMENTS		AT COMPLETION			
	BUDGETED COST		ACTUAL COST WORK PERFORMED (4)	VARIANCE		BUDGETED COST		ACTUAL COST WORK PERFORMED (9)	VARIANCE		COST VARIANCE (12)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)
	WORK SCHEDULED (2)	WORK PERFORMED (3)		SCHEDULE (5)	COST (6)	WORK SCHEDULED (7)	WORK PERFORMED (8)		SCHEDULE (10)	COST (11)					
a. ORGANIZATIONAL CATEGORY															
b. COST OF MONEY															
c. GENERAL & ADMINISTRATIVE															
d. UNDISTRIBUTED BUDGET															
e. SUBTOTAL (Performance Measurement Baseline)															
f. MANAGEMENT RESERVE															
g. TOTAL															

DD FORM 2734/2, AUG 96

PREVIOUS EDITION MAY BE USED.

LOCAL REPRODUCTION AUTHORIZED.

CLASSIFICATION (When filled in)

CLASSIFICATION (When filled in)

**COST PERFORMANCE REPORT
FORMAT 3 - BASELINE**

DOLLARS IN _____

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 6.3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA, 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.

1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD	
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)	
b. LOCATION (Address and ZIP Code)		b. NUMBER				b. TO (YYYYMMDD)	
		c. TYPE	d. SHARE RATIO	b. PHASE (X one)			
				<input type="checkbox"/> RDT&E	<input type="checkbox"/> PRODUCTION		

5. CONTRACT DATA						
a. ORIGINAL NEGOTIATED COST	b. NEGOTIATED CONTRACT CHANGES	c. CURRENT NEGOTIATED COST (a. + b.)	d. ESTIMATED COST OF AUTHORIZED UNPRICED WORK	e. CONTRACT BUDGET BASE (c. + d.)	f. TOTAL ALLOCATED BUDGET	g. DIFFERENCE (e. - f.)
h. CONTRACT START DATE (YYYYMMDD)	i. CONTRACT DEFINITIZATION DATE (YYYYMMDD)	j. PLANNED COMPLETION DATE (YYYYMMDD)	k. CONTRACT COMPLETION DATE (YYYYMMDD)	l. ESTIMATED COMPLETION DATE (YYYYMMDD)		

6. PERFORMANCE DATA															
ITEM (1)	BCWS CUMULATIVE TO DATE (2)	BCWS FOR REPORT PERIOD (3)	BUDGETED COST FOR WORK SCHEDULED (BCWS) (Non-Cumulative)											UNDISTRIBUTED BUDGET (15)	TOTAL BUDGET (16)
			SIX MONTH FORECAST						ENTER SPECIFIED PERIODS						
			+1	+2	+3	+4	+5	+6	(10)	(11)	(12)	(13)	(14)		
a. PERFORMANCE MEASUREMENT BASELINE (Beginning of Period)															
b. BASELINE CHANGES AUTHORIZED DURING REPORT PERIOD															
c. PERFORMANCE MEASUREMENT BASELINE (End of Period)															
7. MANAGEMENT RESERVE															
8. TOTAL															

DD FORM 2734/3, AUG 96

PREVIOUS EDITION MAY BE USED.

LOCAL REPRODUCTION AUTHORIZED.

CLASSIFICATION (When filled in)

CLASSIFICATION (When filled in)

**COST PERFORMANCE REPORT
FORMAT 4 - STAFFING**

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 5.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THIS ADDRESS. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.

1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD	
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)	
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE (X one) <input type="checkbox"/> RDT&E <input type="checkbox"/> PRODUCTION		b. TO (YYYYMMDD)	
		c. TYPE d. SHARE RATIO					

5. PERFORMANCE DATA (All figures in whole numbers)														
ORGANIZATIONAL CATEGORY (1)	ACTUAL CURRENT PERIOD (2)	ACTUAL END OF CURRENT PERIOD (Cumulative) (3)	FORECAST (Non-Cumulative)											AT COMPLETION (15)
			SIX MONTH FORECAST BY MONTH (Enter names of months)						ENTER SPECIFIED PERIODS					
			(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
6. TOTAL DIRECT														

DD FORM 2734/4, AUG 96

PREVIOUS EDITION MAY BE USED.

LOCAL REPRODUCTION

CLASSIFICATION (When filled in)

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Workforce Reports	2. Date of Current Version 01/01/04	3a. DRD No. A-PC-03	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3		4. Use (Define need for, intended use of, and/or anticipated results of data) To provide workforce information by geographic location.	
6. References (SOW, Clause, etc.)		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	
5. DRD Category ___ Technical X Administrative ___ SR&QA			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The reports provide workforce data by geographic location. There are two types of reports: 1) a Monthly Workforce Report by location, and 2) an As Requested Workforce Report.

CONTENT: The monthly workforce report should provide Equivalent Personnel (EPs) by location, specifically on or near 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.

FORMAT: Specific formatting to be tailored by LO/Contractor.

9. OPR: OG

10. FIRST SUBMISSION DATE: Ten (10) Workdays after initial month end

Frequency Of Submission: Monthly for the Monthly Workforce Report, and as directed for the As Requested Workforce Report.

Additional Submissions: As required

11. MAINTENANCE: Changes shall be incorporated by change page or complete reissue.

12. COPIES/DISTRIBUTION:

- 1 **hardcopy:** LW
- 2 **hardcopies:** LO
- 1 **hardcopy:** OG/Assessment Office
- 1 **hardcopy:** OL/Data Management
- 1 **hardcopy:** DCMA
- 1 **electronic copy:** LO, OG, COTR, BG & DCMA
- 1 **electronic copy:** Program secure repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Work Breakdown Structure (WBS) and Dictionary 1b. Data Type: 3	2. Date of Current Version 01/01/04	3a. DRD No. A-PC-04	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) Provides framework to define work and to establish financial reporting levels and to correlate schedules.			5. DRD Category ___ Technical X Administrative ___ SR&QA
6. References (SOW, Clause, etc.)		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Contains the contractual Work Breakdown Structure (WBS), the WBS Dictionary, and a map to the ISSP WBS.

CONTENT: Contains the contractual WBS, its Dictionary, and ISS Program map as follows:

The WBS and Dictionary shall indicate the mapping of the contractor WBS to the contract SOW WBS and the ISSP WBS at the lowest levels of the ISSP WBS.

- a. **WBS:** The WBS shall subdivide the total contracted effort into elements that serve as the basis for detailed planning and control of the project, and permit collection of cost and schedule data at element level. These elements include hardware, software, services, tasks, etc. It shall include all subcontracting and major procurement effort at the proper level. It shall be product oriented and structured so that key SOW tasks are at an appropriately high level.
- b. **WBS Dictionary:** The WBS Dictionary shall define the scope of each WBS element and narratively describe the tasks included in each element
- c. **Program WBS Map:** The contractor shall provide a mapping of the contract WBS to the ISS Program WBS.

FORMAT: Per JSC instructions and in a format supported by the program-authorized electronic library. The WBS shall be in a chart format showing element relationships. The WBS Dictionary shall be ordered in consonance with the WBS and shall reference each WBS element by its identifier and name. Specific formatting for the map to the Program WBS will be done by LO/contractor.

9. OPR: OG

10. FIRST SUBMISSION DATE: Thirty (30) days after contract start date.

Frequency Of Submission: As required

Additional Submissions: N/A

11. MAINTENANCE: Electronically. Information shall be updated as required by the contractor.

12. COPIES/DISTRIBUTION:

- 1 **hardcopy:** LW
- 2 **hardcopies:** LO
- 1 **hardcopy:** OG and OL
- 1 **hardcopy:** DCMA
- 1 **electronic copy:** LO, OG, COTR, BG & DCMA
- 1 **electronic copy:** Program secure repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Cost Performance Report (CPR) Earned Value Methodology Report	2. Date of Current Version <p style="text-align: center;">01/01/04</p>	3a. DRD No. <p style="text-align: center;">A-PC-05</p>	3b. RFP/Contract No. <p style="text-align: center;">NNJ04AA01C</p>
1b. Data Type: 2			5. DRD Category ___ Technical X Administrative ___ SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) Provides a framework to define and to establish reporting requirements for determination of earned value on Control Account Packages (CAPs).			7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs
6. References (SOW, Clause, etc.) NPD 9501.3 NPG 9501 SOW 1.2.3.2		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	

8. PREPARATION INFORMATION: The contractor shall prepare a report in an electronic format similar to the structure of the sample report (See Attachment).

SCOPE: The contractor shall report on the methodology used to report the Budgeted Cost of Work Scheduled (BCWS), Actual Cost of Work Performed (ACWP), and the Budgeted Cost of Work Performed (BCWP) for all applicable contract reporting categories used to prepare the Cost Performance Report (CPR), as submitted per the requirements of DRD A-PC-02. Reporting is also required on subcontracts that, based on risk, schedule or dollar value criticality, may potentially impact successful fulfillment of this contract.

CONTENT: The minimum reporting criteria shall be consistent with the criteria used to prepare the CPR. The report shall be prepared on the Work Breakdown Structure (WBS) cost categories reported within the CPR and as submitted IAW DRD A-PC-02. Segregation of Indefinite Delivery Indefinite Quantity (IDIQ) / Level of Effort (LOE) managed work tasks from other discretely measured work tasks is required and should be submitted in a format that would allow for a direct comparison of the CPR Format 1 (DRD A-PC-02) to this report. A sample report structure and format for preparing the report is provided (See attachment).

FORMAT: See attachment.

9. OPR: OG

10. FIRST SUBMISSION DATE: Thirty (30) days after contract start.

Frequency Of Submission: Initial submittal due after contract award.

Additional Submissions: Quarterly or as necessary to report significant changes to CPR methodology.

11. MAINTENANCE: Electronically.

12. COPIES/DISTRIBUTION:

- 1 **hardcopy:** LW
- 2 **hardcopies:** LO
- 1 **hardcopy:** OG/Assessment Office
- 1 **hardcopy:** OL/Data Management
- 1 **hardcopy:** DCMA
- 1 **electronic copy:** LO, OG, COTR, BG & DCMA
- 1 **electronic copy:** Program secure repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Integrated Program Schedules 1b. Data Type: 2 (Initial), 3 (Subsequent)	2. Date of Current Version 01/01/04	3a. DRD No. A-PC-06	3b. RFP/Contract No. NNJ04AA01C
4. Use: Provide and maintain a consistent and standardized schedule development and status for the International Space Station Program Office.			5. DRD Category ___ Technical X_ Administrative ___ SR&QA
6. References SOW 1.2.5 Integrated Scheduling Planning Process Document (ISPPD)		7. Interrelationships (e.g., with other DRDs) A-PC-02	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The schedule integrates the ISSP organization. The intent is for the contractor to utilize established standard processes, data structures and reporting conventions to plan, manage, and report the assigned work for the ISSP Manager, International Partners Element Integration Managers, System Engineering and Integration Managers, Program Schedules Manager, and the Space Station Program Office.

CONTENT:

(a) The contractor shall provide resource loaded schedules which clearly depict the interrelationships and constraints among related critical path Level I or Level II tasks and tasks which reflect activities which directly interface between ISS and Space Shuttle Program (SSP) contracts. The contractor is encouraged to utilize modern manufacturing resource planning, industrial engineering techniques and other approaches to ensure schedule stability, accuracy, reliability, predictability, and achievability.

(b) The schedule shall be developed, maintained (updated), and provided to ensure a consistent, accurate, and stable scheduling approach that provides for the identification, coordination, sequencing, control, implementation and tracking of all ISSP activities. The schedule shall be easily auditable by the Government.

(c) The approach shall provide the ability to fully identify, analyze, mitigate and control scheduling risks and impacts; accurately identify and analyze critical path activities; and allow its users to easily measure the progress towards achieving the intended plan.

(d) The approach shall not only represent the scheduled work for that activity, but also the requirements commitment from all interfacing organizations.

(e) Represent the ISSP Office on issues, status analyses and special agenda topics to the Integrated Program Schedule Panel weekly. Provide every other week status and updates to the Common Schedules Database or equivalent.

(f) *Schedule consistency* as used in this DRD is defined as the degree to which the contractor utilized standardized scheduling approaches between similar processing activities and flows. *Accurate scheduling* as used in this DRD is defined as the accurate representation of work content and tasks duration (predicted vs. actuals). A *stable schedule* as used in this DRD refers to the degree to which daily schedule changes are minimized and limited to unforeseen hardware/software problems or NASA-directed changes.

(g) Scheduling approaches shall address the following information as a minimum

- i. Scheduling symbology that is consistent with the ISPPD
- ii. Predicted task duration/labor standards derived from accurate and objective prediction methodologies
- iii. Indications of activities by appropriate nomenclature that clearly delineates the task to be performed
- iv. Identification of who is responsible for doing the actual work
- v. Required supporting activities or support form other contractors, outside organizations, agencies, or center.

- vi. Identification of critical resource requirements.
- vii. Clear depiction of the interrelationships and constraints among related tasks
- viii. Identification of the critical path, priorities, high risk activities and other significant activities
- ix. Special test activities or requirements.

(h) PI&C schedules (Data type 3) shall cover as a minimum the following activities in addition to the above information:

Activity	Required by	Frequency
Performance to Plan	Daily Space Station Review (DSSR)	3 days per week starting at L-12 months
Team Level schedules	Team Lead	Weekly
ISS Integrated Assessment	Daily Space Station Review (DSSR)	Weekly
Common schedules database updates	Integrated Program Schedule Panel	Every other week
Top Level schedules	ISS Monthly Program Review (IMPR)	Monthly
Lower level schedules by exception	ISS Monthly Program Review (IMPR)	Monthly

FORMAT: Electronic

9. **OPR:** OM1

10. **FIRST SUBMISSION DATE:** First month after contract start, on the first Monday of the month.

Frequency Of Submission: Schedules monthly no more than 5 business days after as of last date of previous month

Additional Submissions: Informal updates in accordance with 8h above

11. **MAINTENANCE:** Changes shall be incorporated by change page or complete reissue.

12. **COPIES/DISTRIBUTION:**

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. **REMARKS:** None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: PI&C Management Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-PM-01	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1			
4. Use (Define need for, intended use of, and/or anticipated results of data) To enable NASA to evaluate the contractor's management organization, approach, processes and systems. .			5. DRD Category <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) RFP Clause H.9, Additional Export Control Requirements		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The PI&C Management Plan shall describe the basis for the contractor's management organization, approach, and processes. It shall provide a comprehensive integration of all management systems of the prime and subcontractors. The plan will include those processes 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. The PI&C Management Plan shall describe the contractor's approach for accomplishing contract functions while adhering to export laws, regulations and directives.

CONTENT: The PI&C Management Plan shall address the contractor's plan for work definition and authorization, scheduling, budgeting, data accumulation, Safety and Mission Assurance, Program recovery process, subcontract, material control, indirect cost management, baseline control, and organization structure.

FORMAT: Contractor's format is acceptable.

9. OPR: COTR

10. FIRST SUBMISSION DATE: Draft within thirty (30) days after contract award. Final within ninety (90) days after contract start.

Frequency Of Submission: See below

Additional Submissions: Within 45 days after the addition/deletion of major content to the contract or to describe and justify major changes in the contractor's management organization, approach and/or processes.

11. MAINTENANCE: Electronic. Changes shall be incorporated as required by change page or complete reissue.

12. COPIES/DISTRIBUTION:

1 **original/record (hard copy):** OL/Data Management

1 **electronic copy:** Program Authorized Repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Integrated Management Review Products (IMRP)	2. Date of Current Version 01/01/04	3a. DRD No. A-PM-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 2		4. Use (Define need for, intended use of, and/or anticipated results of data) These packages support the monthly and quarterly management reviews of costs, schedule, and technical performance. The format provides a standardized approach for review materials.	
6. References (SOW, Clause, etc.) NPG 7120.5B and NHB 9501.2		7. Interrelationships (e.g., with other DRDs) All PC and PM DRDs	
5. DRD Category ___ Technical X Administrative ___ SR&QA			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: These data packages document the integrated management reviews of the cost, schedule, and technical performance on the contract. There are two types of reviews: monthly and quarterly.

CONTENT: These packages support the monthly and quarterly management reviews of cost, schedule, and technical performance. The metrics shall be developed and defined by the contractor with concurrence from the Government. These metrics shall provide linkage to Program level metrics in the Management Information System. Metrics that effectively indicate the level of success in the execution of contract requirements and the status of the contractor's achievement against the performance standards contained within this statement of work or elsewhere in this contract shall be presented at the program review. The cost baseline is the Performance Measurement Baseline (PMB). The format provides a standardized approach for review materials.

The Monthly Integrated Review package:

Summary Section:

- Stoplight Status of fiscal year Program cost, schedule, and technical performance.
- Summary status of fiscal year reserves, risks and opportunities, and earned value performance.
- Fiscal year cost and workforce summaries
- Cumulative variance explanations (to fiscal year plan) and End-Of-Year trend variance explanations.
- Major Contract Milestone Schedule – 90 Day

Component Sections (done at major element/organization/subsystem level):

- Include all Summary Section items.
- Fiscal year resource loaded schedules
- Statement of Work reconciliation

The Quarterly Integrated Review Package:

Summary Section:

- Total Contract planning assumptions for budget horizon estimates (5 years), work content summary, workload drivers and key technical metrics.
- Cost and workforce estimates through the budget horizon (5 years)
- Major Program Milestone Schedule – 5 Years
- Summary Risks & Opportunities
- Performance of contract metrics

Component Sections (done at major element/organization/subsystem level)

- Include all Summary Section items
- Resource loaded schedules by Work Breakdown Structure element for budget horizon (5 years).

FORMAT: Specific formatting to be tailored by LO and the Contractor

9. OPR: OG

10. FIRST SUBMISSION DATE: The first Monthly input should support a review 20 working days after the initial financial month end. The first Quarterly input should support a review 20 working days after the end of the initial GFY quarter under contract.

Frequency Of Submission: Monthly and Quarterly

Additional Submissions: N/A

11. MAINTENANCE: Changes shall be incorporated as required by change page or complete reissue.

12. COPIES/DISTRIBUTION:

1 hardcopy: LW

2 hardcopies: LO

1 hardcopy: OG/Assessment Office

1 hardcopy: OL/Data Management

1 hardcopy: DCMA

1 electronic copy: LO, OG, COTR, BG & DCMA

1 electronic copy: Program secure repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION
(Based on JSC-STD-123)

1a. DRD Title: Certification of Flight Readiness (CoFR) Plan 1b. Data Type: 1	2. Date of Current Version 01/04/03	3a. DRD No. A-PM-03	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) To provide a management approach and implementation plan for Certificate of Flight Readiness (CoFR) endorsement			5. DRD Category <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> Technical <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 1.1.1.1.4 SSP 50108		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the data delivery as follows:

SCOPE: The plan shall describe the management approach and planned implementation methods for accomplishing the contractor's CoFR responsibilities and requirements of the contract.

CONTENT: Address all contractor responsibilities for preparing for the CoFR endorsement in accordance with SSP 50108. The CoFR Plan must address relationship to NASA counterparts and the division of responsibility for the CoFR endorsement activities.

FORMAT: Electronic

9. OPR: COTR

10. FIRST SUBMISSION DATE: Draft within 30 days after contract award. Final within 60 days of contract start.

Frequency Of Submission: Annually, as required.

Additional Submissions: Update as required. If there are no changes since the last update, the contractor shall re-certify the CoFR Plan accuracy NLT 1 October of each fiscal year.

11. MAINTENANCE: Changes to the plan shall be incorporated as required by change page or complete reissue. Changes to Flight Readiness Status and Endorsements shall be made as required. The contractor shall maintain a historical file of Flight Readiness Status.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: N/A

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Patent Rights-Retention 1b. Data Type: 2	2. Date of Current Version 01/01/04	3a. DRD No. A-PR-01	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) Identification of any subject inventions including information on patent applications and related filings.			5. DRD Category ___ Technical <input checked="" type="checkbox"/> Administrative ___ SR&QA
6. References (SOW, Clause, etc.) NFS Clause 18-52.227-11		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Inventions by the Contractor as part of their performance on this government contract.

CONTENT: The content of the deliverable shall include:

- a. A listing every twelve (12) months of all subject inventions required to be disclosed during the period.
- b. A final report prior to closeout of the contract listing all subject inventions or certifying that there were none.
- c. Upon request, the filing date, serial number and title, a copy of the patent application, and patent number and issue date for any subject invention in any country in which the contractor has applied for patents.

FORMAT: The electronic or paper version of NASA form 1679, Disclosure of Invention and New Technology (Including Software) to disclose subject Invention

9. OPR: BG

10. FIRST SUBMISSION DATE: 12 months after contract start

Frequency Of Submission: Once a year

Additional Submissions: Final report at contract closeout.

11. MAINTENANCE: Updated annually by the Contractor and submitted in printed form.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Contract Close-out Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-PR-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1		4. Use (Define need for, intended use of, and/or anticipated results of data) Manage and control contract close-out.	
6. References (SOW, Clause, etc.) RFP Clause G.3		5. DRD Category ___ Technical X Administrative ___ SR&QA	
7. Interrelationships (e.g., with other DRDs)			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This plan shall provide the details necessary to transition the contract to any follow-on contract and to close out the existing contract.

CONTENT: The content of the deliverables shall include:

- (a) Implementation Strategy
- (b) Task description and schedule
- (c) Staffing profile
- (d) Cost Estimate

FORMAT: Contractor's format is acceptable

9. OPR: BG

10. FIRST SUBMISSION DATE: Six months prior to the end of the contract

Frequency Of Submission: Once

Additional Submissions: N/A

11. MAINTENANCE: Electronically.

12. COPIES/DISTRIBUTION:

1 copy (electronic): Program authorized repository

1 original/record hard copy: OL/Data Management for distribution to Contracting Officer and COTR

13. REMARKS: N/A

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Wage/Salary and Fringe Benefit Data 1b. Data Type: 3	2. Date of Current Version 01/01/04	3a. DRD No. A-PR-03	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) The Wage/Salary and Fringe Benefit Data will 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.			5. DRD Category <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) FAR 52.222-41, Service Contract Act of 1965, As Amended		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The report will list all jobs in the categories below that were not processed through the Information Services OFFICE/GA/BT4 The Wage/Salary and Fringe Benefit Data must 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.

CONTENTS: The Wage/Salary and Fringe Benefit Data should 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 working on the contract. Separate forms should be utilized for classifications working in different geographic areas and for each subcontractor. Wage determination numbers, appropriation labor organization names, and subcontractor names, must be reflected. All nonexempt labor classifications must 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 should reflect the actual lowest and highest paid employees, along with a computed average rate. State the number of employees working in each category. Separate Fringe Benefit forms should be completed for nonrepresented classifications and for each separate CBA. A separate form must be completed for the prime and each subcontractor. Three copies of each Collective Bargaining Agreement are required.

FORMAT: The Wage/Salary and Fringe Benefit Data should be in a format substantially the same as enclosed with this DRD. (Forms 2, 3, and 3A)

9. OPR: BA

10. FIRST SUBMISSION DATE: Start date of contract, at end of phase-in.

Frequency Of Submission: Annually, 90 days prior to the anniversary date of the contract.

Additional Submission: N/A

11. MAINTENANCE: Changes shall be incorporated as required by change page or complete reissue.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management
 1 copy: CO
 1 copy: COTR

13. REMARKS: Sample Work Sheet

WORK SHEET FOR SF-98 DATA					
WAGE RATE INFORMATION					
CONTRACTORS LABOR CLASSIFICATION	WAGE DETERMINATION CLASSIFICATION	EXEMPT OF NONEXEMPT	UNION OR NONUNION	CURRENT HOURLY RATE	MYE NO OF EMPLOYEES
Illustration of required data:					
Project Manager	Not Required	E	N	\$35.00	1
Supervisor	Not Required	E	N	\$28.00	1
Electrical Engineer	Not Required	E	N	\$22.50 - \$28.00	3
Technician, Jr	Elect Tech Main I	N	U	\$13.36 - \$15.50	12
Technician, Sr	Elect Tech Main II	N	U	\$19.02 - \$21.50	4
Secretary	Secretary I	N	N	\$13.56 - \$15.50	2
File Clerk	General Clerk II	N	N	\$9.27	1
Clerical Data Entry	Word Processor I	N	N	\$10.41 - \$12.90	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 must be matched to wage determination classes listed in CBA's represented classes or classes shown in WD 94-2516 for nonrepresented classes.

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)		

3. Paid Absences:

<u>Service Requirement</u>	<u>Days per Year</u>
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

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.)

<u>Item</u>	<u>Coverage Provided</u>	<u>Average Hourly Cost</u>
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

<u>Service Requirement</u>	<u>Days per Year</u>
a. Vacation	
b. Holidays	
c. Sick Leave	
d. Jury Leave	
e. Funeral Leave	
f. Military Leave	
g. Other (Describe)	

Signature of Company Representative

Date

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Data Reprourement Package 1b. Data Type: 2	2. Date of Current Version 01/01/04	3a. DRD No. A-PR-04	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) Provide content and format requirements for delivery to NASA of all analytical models, tools, supporting documentation, equipment and resource/cost information used to perform future reprourement activities. Note: This data may be disclosed to competing offerors in the future			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) Section H		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Analytical models, unique tools, supporting documentation, equipment and resource/cost information shall be submitted in accordance with this Data Requirement (DR).

CONTENTS:

- A catalog of models and tools provided according to any DR on this contract shall be developed which contains the following:
 - Unique name of item
 - Version number, revision number, or release date as appropriate
 - Abstract which describes purpose or use of item
 - Location of electronic copy
- Models and tools to be submitted include:
 - Models which are delivered per requirements contained in any other DR on this contract shall not be redelivered for this DR. However, each shall still be documented appropriately.
- Supporting documentation for the use of each item, including those submitted per other DRDs on this contract where that DRD doesn't require it, shall be submitted. The documentation shall include, at a minimum, the following information:
 - Purpose of the model or tool
 - Inputs required
 - Governing assumptions or constraints, including definition of the Vehicle configuration if pertinent to the model definition or its use
 - Model or tool certification history, including description of validation methods used and results of correlation activities
 - Association with other models, such as connection between an integrated ISS model and a supporting element model
 - For models, necessary tools such as a specific software modeling environment required to operate the model
 - For tools, necessary platforms such as computer processor requirements or operating system limitations
- Data package containing the following:
 - Labor resources:
 - List of all direct labor skills by labor category, segregated by current work breakdown structure (WBS)
 - 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
 - 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
 - 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.
 - Seniority level of all skills on the current contract
 - Non-labor resources:
 - List of all materials, equipment, travel, supplies, etc., and the incurred annual cost by WBS
 - 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.

- 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.
- Equipment (additional information to that listed in #2, a., above):
List of all contractor-owned equipment (at the time of delivery of this DRD) being used in the performance of the contract. The list of equipment shall include:
 - Description of the equipment (include make and model #)
 - Location of the equipment (address, building and room #)
 - Date purchased
 - Purchase price of the equipment
 - Current depreciated value of the equipment

FORMAT: Electronic

9. OPR: COTR

10. FIRST SUBMISSION DATE: 1 year prior to contract end or at the CO's direction.

Frequency Of Submission: No periodic submissions required per this DR (this does not relieve the requirement for periodic or incremental deliveries per other DRs)

Additional Submissions: End of period of performance: submission of current version of all models, tools, and supporting documentation which have been updated since first submission

11. MAINTENANCE: All models/tools shall be maintained electronically. All documentation developed to support the use of each model/tool 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.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: It is only intended that unique models and tools developed for the ISS Program be delivered per this DRD. Unmodified commercially available tools should not be delivered, but must be referenced in the supporting documentation.

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Property Financial Reporting 1b. Data Type: 2	2. Date of Current Version 01/01/04	3a. DRD No. A-PR-05	3b. Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) Report NASA Property in the custody of contractors on both a quarterly and annual basis.			5. DRD Category ___ Technical X Administrative ___ SR&QA
6. References (SOW, Clause, etc.) Procurement Information Circular (PIC) 03-14 NASA FAR Supplement Subpart 1845.7101		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

8a. SCOPE: Quarterly reporting shall be in compliance with NASA PIC 03-14. Annual reporting shall be in compliance with NASA FAR Supplement Subpart 1845.7101.

8b. CONTENT:

(1) Quarterly Property Financial Reports are required to be submitted using the spreadsheet located at the URL referenced in paragraph 8c below.

(2) Annual reports are required to be submitted using the NASA Form 1018. The annual report provides financial data on government-furnished and contractor-acquired property to which NASA has title. Contractors shall report on all NASA-owned property in US dollars (regardless of the location), including real property and equipment, special test equipment, special tooling, and agency peculiar property, as well as materials and contract work in process of any value in their possession (including subcontractors). Negative reports are required. This reporting shall be completed in accordance with the NASA FAR Supplement Subpart 1845.7101 and any supplemental guidance provided by the contracting officer.

(3) Acquisition costs shall be developed using actual costs to the greatest extent possible, especially costs directly related to fabrication such as labor and materials. Where estimates are used, there must be a documented basis. Supporting documentation shall be maintained and available for all amounts reported.

(4) Items that are considered obsolete in the plant clearance cycle or heritage assets must be reported separately. Obsolete property is property for which there are no current plans for use in their intended purpose. Examples of obsolete property are items in configurations which are no longer required or used by NASA or items held for engineering evaluation purposes only. NASA may have approved the retention of these items for programmatic reasons even though they have no current plans to be used.

(5) Quarterly Report General Instructions:

SUMMARY TAB - Complete a summary of property activity for the reporting period. The period would be defined as one quarter (3 months). Identify any amounts of obsolete, plant clearance, or heritage asset items in columns F-H.

ADJUSTMENTS TAB - List all adjustments (with explanation) that were reported in column B of the summary. Complete all fields where applicable.

EQUIPMENT TRANSACTIONS TAB - List all transactions (additions, deletions, or modifications of equipment, (including software)) accountable to this contract. For the purpose of this exercise, equipment includes general purpose, special test, special tooling, and agency peculiar property greater or equal to \$100,000. Complete all fields. The total of these items should equal columns C and D for lines 5 through 8 on the summary (tab one).

MATERIALS >=\$100K TAB - Provide a listing of all materials with a unit price of \$100,000 or more. Complete all fields. The total of these items should equal column E of line 10 on the summary (tab one).

CONTRACT WIP TAB - Provide a listing (including description of item(s) and related NASA program) of all Work In Process (WIP), which includes both construction in progress and contract work in process projects which have accumulated costs of \$100,000 or more. WIP consist of property items under development (i.e., not completed) and includes the costs of all WIP regardless of value for all categories of property, including real property, all types of equipment and material, as well as WIP for International Space Station and Space Shuttle components. Do not include the costs of WIP for other assets destined for permanent operation in space such as satellites and space probes and their components. If WIP amounts are not calculated by individual project, provide program, types of items and methodology for determining values. The total of these items should equal column E of line 11 on the summary (tab one).

HERITAGE ASSETS TAB - Include a listing of all heritage assets (any value) as of the end of the reporting quarter. Include all attributes listed.

8c. FORMAT: Use NASA Form 1018 for the annual submission. The spreadsheet located at URL address <http://www.hq.nasa.gov/office/procurement/regs/PIC Attachment Quarterly Property.xls> must be used for the quarterly submissions (Note: Use Internet Explorer to access the spreadsheet)

9. OPR: JB3/Property and Equipment Office

10. FIRST SUBMISSION DATE: The first quarterly report shall be submitted at the end of the quarter after contract start (April 21 for the quarter ending March 31)

Frequency of Submission:

- a. The due dates for the Property Financial Reporting quarterly submissions are as follows:
 - July 21 for the quarter ending June 30.
 - October 15 for the quarter ending September 30.
 - January 21 for the quarter ending December 31.
 - April 21 for the quarter ending March 31.
- b. The due date for the Financial Property annual submission (NASA Form 1018) is October 15.

Additional Submissions:

11. MAINTENANCE: Revisions shall be incorporated by change page or complete reissue.

12. COPIES/DISTRIBUTION:

- 1 original/record (hard copy):** OL/Data Management
- 1 electronic copy:** Program Authorized Repository

The annual NASA Form 1018 shall be filed electronically through the NASA Form 1018 Electronic Submission System (NESS). The quarterly submission shall be filed electronically to NASA ContractorProperty@nasa.gov and the JSC Delegated Property Administrator.

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Mission Assurance and Risk Management (MA&RM) Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-01	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1 4. Use (Define need for, intended use of, and/or anticipated results of data) The plan is used to identify the contractor processes for establishing and maintaining a Quality Management System (QMS), S&MA integration function, Risk Management and meeting quality assurance requirements.			5. DRD Category <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 6.1.1		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Applicable to all NASA Centers and sites where the contractor is operational.

CONTENT: The plan shall demonstrate the contractor's compliance with Section 6.0 of the SOW:

- a. S&MA Management (SOW 6.1) - Description of the contractor's processes for establishing and maintaining a quality records system in accordance with SSP 41173 and AS9100, a Quality Management System in accordance with AS9100, Mishap Investigation and Reporting in accordance with NPG 8621.1, Lessons Learned in accordance with NPG 7120.5 and AG-CWI-001, and Safety Motivation and Awards Program in accordance with NPG 8715.3.
- b. S&MA Integration (SOW 6.2) - Description of the contractor's process for developing and maintaining S&MA requirements in IP agreements, identifying and resolving issues affecting S&MA, and coordinating and facilitating S&MA review of change requests.
- c. Program Risk (SOW 6.3) - Description of the contractor's process for compliance with SSP 50175, NPG 8000.4, JPD 306, JPD 328 and NPG 8705.
- d. Quality Assurance (SOW 6.6) - Description of the contractor's processes for compliance with AS9100, SSP 41173, SSP 30695, SSP 50287, SSP 30223 and SSP 30524 for both hardware and software.

FORMAT: Electronic

9. OPR: OE

10. FIRST SUBMISSION DATE: Draft MA&RM plan by the end of the phase-in period. Final MA&RM plan within 90 days after contract start.

Frequency Of Submission: The MA&RM plan shall be reviewed at least annually thereafter and updated as required.

Additional Submissions: If there are no changes since the last update, the Contractor shall re-certify its accuracy NLT 1 October of each year.

11. MAINTENANCE: The document shall be delivered and maintained electronically. Changes shall be incorporated as required by change page or complete reissue.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: The MA&RM Plan requires approval of the Manager, S&MA/Program Risk Office.

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Safety & Health (S&H) Plan	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1			
4. Use (Define need for, intended use of, and/or anticipated results of data) The plan is used to establish Safety, Health, and Environmental Compliance for the contractor in meeting NASA and OSHA Standards.			5. DRD Category <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 6.1.6		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Applicable to safety and health activity at all NASA Centers and sites where the contractor is operational under this contract.

CONTENT: The plan shall demonstrate the contractor's compliance with NFS Clause 1852.223-73 and NPG 8715.3, and JPG 1700.1. In addition, the plan shall be consistent with NPG 8715.3, Appendix H and address the following:

- 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
 - (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
 - d. Elimination from Specifications and Standards requirements for the use of Hazardous/Toxic Substances & Materials
 - e. Use of an Environmental Planning Checklist to review & document Impacts of New and Modified Programs, Projects, Activities and Operations.
 - f. Life cycle analysis and costing
 - g. Incorporating Environmental Requirements in Subcontracts
 - h. Participation in JSC Recycling
 - i. 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 will be implemented as approved and that the project manager will 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 will identify the following:
- 1.5.1 Safety Representative - identify by title the individual who will 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 will 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 will 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, mail code SD22. This will 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 will be trained in accordance with JPG 1700.1. The roster shall be maintained by letter to JSC Occupational Safety, mail code NS2, with copies to the Contracting Officer and Contracting Officer's Technical Representative. 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 will be maintained throughout the life of the contract.
- 1.7 Accountability. Describe procedures for ensuring that management and employees will 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) will 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 will 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, code NS2, for assistance. The contractor will 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 8.4, 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 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 will 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, mail code SD13, 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 will be sent upon receipt of the material for use on NASA property to the JSC Central Repository, Occupational Health and Test Support, Mail Code SD13, 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 working 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 will be issued by the JSC Occupational Health and Test Support Office, mail code SD13. 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
- (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 will 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 will identify what records it will 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 will be implemented at the direction of the NASA Contracting Officer's Technical Representative 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 will be subject to JSC SR&QA review and concurrence unless otherwise waived by the JSC Occupational Safety Office.

- 2.1 Industrial Hygiene. Describe your industrial hygiene program and how it will 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 will 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 will 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 will 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 will 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 will 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 will be documented in safety program evaluations or the monthly Accident/ Incident Summary reports. Inspections will 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 will describe steps it will take to create reprisal-free employee 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 will describe the methods to be used to report and investigate mishaps on NASA property and on contractor or third party property. The contractor will 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 will discuss its procedures for immediate notification requirements for fires, hazardous materials releases, and other emergencies. The contractor will 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, mail code NS2. 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 will 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, mail code NS2, 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 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 must 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 will serve as a guide for defining, classifying, and prioritizing hazardous operations; 29 CFR 1910.119 will 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 will be provided to JSC as part of the plan for review and approval. JSC and the Contractor will 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 will develop a schedule to develop written procedures with particular emphasis on identifying the job safety steps required. NASA will 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 will 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 will 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.
- 3.4 Hazardous Operations Permits. Identify facilities, operations and/or tasks where hazardous operations permits will 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.

- 3.6.1 Operations Involving Exposures to Toxic or Unhealthful materials. Such operations must be evaluated by the JSC Occupational Health Office and must be properly controlled as advised by same. JSC Occupational Health Office must 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 must be evaluated by the JSC Environmental Services Office and must be properly controlled as advised by same. JSC Environmental Services Office must 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, mail code JA131. 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 JA131/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 will 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 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 will approach interim and final abatement of hazards. Describe how you will 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.

4.0 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 meet federal, state, and local regulatory requirements. In doing so, the contractor will 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 traceability 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 should 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/tagout, etc.) as appropriate with particular emphasis on programs designed for the multiple employer work environment on NASA property. All training materials and training records will 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 will be secured with JSC Occupational Safety Branch and Occupational Health and Test Support office prior to beginning training. The agreement will 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.

FORMAT: Electronic

9. **OPR:** OE

10. **FIRST SUBMISSION DATE:** The Safety and Health plan shall be submitted in final form with the proposal.

Frequency Of Submission: The plan shall be reviewed at least annually thereafter and updated as required.

Additional Submissions: If there are no changes since the last update, the Contractor shall re-certify its accuracy NLT October 1 of each year.

11. **MAINTENANCE:** The document shall be delivered and maintained electronically. Changes shall be incorporated as required by change page or complete reissue.

12. COPIES/DISTRIBUTION:

- 1 original/record (hard copy): OL/Data Management
- 1 electronic copy: Program Authorized Repository

13. **REMARKS:** The Safety and Health Plan requires approval of the Manager, S&MA/Program Risk Office. The final plan, as approved by the Contracting Officer, shall be incorporated in the contract as Attachment J-5.

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Monthly Safety & Health Metrics	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-03	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3			5. DRD Category ___ Technical ___ Administrative <u> X </u> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) Establishes selected Safety and Health Program metrics in accordance with OSHA Requirements			6. References (SOW, Clause, etc.) SOW 6.1.6
7. Interrelationships (e.g., with other DRDs)			7. Interrelationships (e.g., with other DRDs)

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The scope of the information required is limited to NASA Centers and sites where the contractor is operational under this contract.

CONTENT:

The Safety & Health Metrics shall be in accordance with the Safety & Health Plan and JPG 1700.1.

1. Management Commitment and Employee Involvement. Dates and types of meetings (i.e. Safety Committee Meetings, Employee Safety Meetings, etc), and number of management, supervisors & non-supervisory attendees. Include electronic copies of minutes or representative information.
2. Worksite Analysis. Number of required and performed hazard analyses, job safety analyses and routine inspections for reported month and year-to-date.
3. Hazard Prevention and Control - Identified hazards found during routine and special inspections, close calls, mishap investigations, etc., and require correction. Report number found, closed and open during reported month, previous month and year-to-date. Also, include number of JF 1240's in place. Attach copies of JF 1240's (or equivalent) or send electronically. Indicate JF 1240's where abatement has been completed as closed.
4. Safety and Health Training - List courses specific to loss control initiatives (such as slips/trips falls, material handling; etc.) and report number to be trained, completed training and schedule of training. 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.)

Note: For definitions refer to JPG 1700.1 and OSHA requirements for definitions of terms.

FORMAT: Electronic

9. OPR: OE

10. FIRST SUBMISSION DATE: 10th day of first full month after contract start

Frequency Of Submission: Monthly by the 10th of the month following the month being reported

Additional Submissions: N/A

11. MAINTENANCE: The document shall be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Safety and Health Program Self-Evaluation 1b. Data Type: 3	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-04	3b. RFP/Contract No. NNJ04AA01C
4. Use (Define need for, intended use of, and/or anticipated results of data) To provide Self-Evaluation of Contractor's safety and health program performance.			5. DRD Category — Technical — Administrative X SR&QA
6. References (SOW, Clause, etc.) SOW 6.1.6		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The scope of the information required is limited to NASA Centers and sites where the contractor is operational under this contract.

CONTENT: The contractor shall conduct an annual self-evaluation of its safety and health program as required by the Safety and Health Plan and in accordance with JPG 1700.1. The following information is required as a minimum:

1. 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.
2. Safety and health concerns and resolutions relating to JSC operations, which may have been identified during the report period.
3. Unresolved safety and health concerns relating to JSC operations which the Contractor feels merit attention of JSC safety and health management.
4. The goals and objectives of the contractor safety and health program for the next report period.
5. 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 Notice 65:45649-45663, July 24, 2000
6. Action plans shall be attached for identified problem areas. Action plans shall include schedule for periodic progress reports to the Government on a frequency agreed to by the Government and the contractor for each problem area.

FORMAT: Format to be as required 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.

9. OPR: OE

10. FIRST SUBMISSION DATE: September 30, 2004

Frequency Of Submission: Annually on September 30th of each year.

Additional Submissions: N/A

11. MAINTENANCE: The document shall be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Probabilistic Risk Assessment (PRA)	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-05	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3			5. DRD Category <input type="checkbox"/> Technical <input type="checkbox"/> Administrative <input checked="" type="checkbox"/> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) The PRA provides an analytical capability to quantify safety and risk issues and is designed to support strategic decisions. As an integral part of risk assessment, PRA helps determine, (i) what can go wrong that could lead to an undesired outcome, (ii) how likely is this to happen, and (iii) if it happens, what consequences are expected. Effective resource allocation depends on a good, thorough risk model, like PRA.			
6. References (SOW, Clause, etc.) SOW 6.3.5.1		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Risk model capable of assessing risks due to changes in ISS configuration, operations, or environmental factors. The Risk model will address ISS systems and visiting vehicles.

CONTENT: PRA analyses and reports shall be in accordance with NPG 8705, PRA Guidelines for NASA Programs and Projects. There shall be a PRA final report for each configuration modeled which contains (i) an introductory section, (ii) PRA Development Approach, (iii) a detailed section describing the model including end state definitions, master logic diagram, event sequence diagrams, fault trees, data collection and analysis methods, ground rules and assumptions, (iv) Results of the modeling effort, and (v) future work and recommendations.

FORMAT: Electronic

9. OPR: OE

10. FIRST SUBMISSION DATE: As required by Task Order.

Frequency Of Submission: As required

Additional Submissions: As required

11. MAINTENANCE: The documents shall be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Element Acceptance Review Plans	2. Date of Current Version 01/01/04	3a. DRD No. A-SA-06	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1			5. DRD Category ___ Technical ___ Administrative X SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) Acceptance review activities shall be conducted after the provider has completed all requirements for hardware and/or software deliveries and is ready to present the item for acceptance. The plan will describe the preparation for and conducting of the acceptance review.		6. References (SOW, Clause, etc.) SOW 6.6.2	
7. Interrelationships (e.g., with other DRDs)			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The plan will address the organization, processes, schedules, objectives, and resources required to complete a successful Element acceptance review.

CONTENT: The plan will, as a minimum, include the following information:

- a. Applicable documents
- b. Acceptance Review objectives
- c. Review Data Package and criteria
- d. Acceptance Review documentation
- e. Sequence of events (Acceptance Review activities schedule)
- f. Success Criteria
- g. Responsibilities

FORMAT: Electronic

9. OPR: OE

10. FIRST SUBMISSION DATE: Initial plan thirty (30) months prior to launch of the Element

Frequency Of Submission: As required

Additional Submissions: N/A

11. MAINTENANCE: The document shall be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: ISS System Specification	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-01	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) Establish the International Space Station System requirements applicable to all the program participants.			6. References (SOW, Clause, etc.) SOW 2.2.1 SSP 41171
7. Interrelationships (e.g., with other DRDs) A-SI-03 and A-SI-04			

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This DRD establishes the content, format, maintenance, and submittal requirements for the International Space Station System Specification.

CONTENT: This specification shall contain the top-level design and performance requirements for the ISS System, including requirements allocation to all segments (e.g., U.S.O.S, NASDA JEM & CAM, ESA Columbus, ASI Node 2).

FORMAT: The format of this specification shall be in accordance with SSP 41171.

9. OPR: OM/Program Integration Office

10. FIRST SUBMISSION DATE: 6 months after contract start

Frequency Of Submission: Quarterly update as required. Final submission shall be prior to the end of the contract period of performance. After deliverables supplied under this DRD are added to the Applicable Documents List of this contract, updates will be accomplished in accordance with SSP 41170.

Additional Submissions: N/A

11. MAINTENANCE: This specification shall be maintained electronically in accordance with SSP 41171

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: N/A

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Interface Control Documents (ICDs) / Interface Requirements Documents (IRDs)	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-02	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1 4. Use (Define need for, intended use of, and/or anticipated results of data) Provide the functional interface requirements between ISS elements, segments and control the design implementation of those interface requirements			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 2.2.1 SSP 30459 SSP 41174		7. Interrelationships (e.g., with other DRDs) A-SI-01, A-SI-03	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This DRD establishes the content, format, maintenance, and submittal requirements for the ICDs/IRDs

CONTENT: The ICDs/IRDs shall contain all requirements (physical and functional) necessary to describe and control the interface between two ISSP elements and segments. ICD/IRD content shall be sufficient to assure hardware, software, and functional compatibility of all elements and segments that must be integrated to form the ISS System.

FORMAT: These ICDs shall be maintained & updated in two parts: Part I shall contain interface requirements and Part II shall contain the interface design implementation. The IRDs shall be maintained & updated in one part. The format shall be in accordance with SSP 41174.

9. OPR: OM/Program Integration Office

10. FIRST SUBMISSION DATE: 6 months after contract start.

Frequency Of Submission: Annual update as required. Final submission shall be prior to the end of the contract period of performance. After deliverables supplied under this DRD are added to the Applicable Documents List of this contract, updates will be accomplished in accordance with SSP 41170.

Additional Submissions: N/A

11. MAINTENANCE: The ICDs/IRDs shall be maintained electronically in accordance with SSP 30459 and SSP 41174.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION
(Based on JSC-STD-123)

1a. DRD Title: International Partner/Participant Segment Specifications	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-03	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 1 4. Use (Define need for, intended use of, and/or anticipated results of data) Provide the ISS system requirements applicable to the respective International Partner / Participant segments. The purpose is not to define total functionality but only that which the International Partners and Participants, and NASA agree contributes to the overall ISS.			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 2.2.1 SSP 41171		7. Interrelationships (e.g., with other DRDs) A-SI-01, A-SI-02, A-SI-04	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This DRD establishes the content, format, maintenance, and submittal requirements for the International Partner/Participant Segment Specifications.

CONTENT: These documents shall contain the minimum set of performance requirements for the International Partner/Participant segments of the ISS for NASDA, CSA, ESA, RSA, and ASI.

FORMAT: The format of these specifications shall meet SSP 41171, except as modified by negotiations with the International Partner/Participant.

9. OPR: OM/Program Integration Office

10. FIRST SUBMISSION DATE: 6 months after contract start

Frequency Of Submission: Annual update as required. Final submission shall be prior to the end of the contract period of performance. After deliverables supplied under this DRD are added to the Applicable Documents List of this contract, updates will be accomplished in accordance with SSP 41170.

Additional Submissions: N/A

11. MAINTENANCE: These specifications shall be maintained electronically and in accordance with SSP 41171, or as modified by negotiations with the Partner/Participant.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management
 1 electronic copy: Program Authorized Repository

13. REMARKS: None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Specification Traceability and Compliance Reports	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-04	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 2 4. Use (Define need for, intended use of, and/or anticipated results of data) Document specification traceability to support closure for the ISS System Specification, U.S. On-Orbit Segment Specification, and International Partners/Participants Segment Specifications. Document traceability from the ISS System Specification, the U.S. On-Orbit Segment Specification, and to the International Partners/Participants Segment Specifications.			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References (SOW, Clause, etc.) SOW 2.2.1		7. Interrelationships (e.g., with other DRDs) A-SI-01, A-SI-02, A-SI-03	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: The Specification Traceability and Compliance Reports document the requirements traceability flowdown and support verification closure for:

- (a) SSP 41000, ISS System Specification
- (b) SSP 41160, ESA Segment Specification for Columbus
- (c) SSP 41162, U.S. On-Orbit Segment Specification
- (d) SSP 41165, Segment Specification for the Japanese Element Module (JEM)
- (e) SSP 50273, HTV Segment Specification
- (f) SSP 50312, CAM Segment Specification
- (g) SSP 50333, Cupola Segment Specification
- (h) SSP 50439, ESA Segment Specification For The Automated Transfer Vehicle (ATV)

CONTENT:

(a) The Specification Compliance Report shall contain the following for each of the specifications identified above:

- (1) Specification numbers
- (2) Specification titles
- (3) Section 3 paragraph # and title
- (4) Requirement text
- (5) Requirement identification number
- (6) Section 4 paragraph # and text
- (7) Detailed verification objective number
- (8) Verification objective text
- (9) Verification activity title
- (10) Verification report number and title
- (11) Verification closure documentation
- (12) Requirements Status.

(b) The Specification Traceability Report shall contain the following for each of the specifications identified above:

- (1) Requirements with no lower level requirements.
- (2) Requirements with no parent requirements.

FORMAT: Electronic

9. OPR: OM/Program Integration Office

10. FIRST SUBMISSION DATE: 6 months after contract start

Frequency Of Submission: Twice annually update as required and to support Stage Integration Review (SIR). Final submission shall be prior to the end of the contract period of performance.

Additional Submissions: N/A

11. **MAINTENANCE:** The reports shall be maintained electronically.

12. **COPIES/DISTRIBUTION:**

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. **REMARKS:** None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: Systems Engineering Technical Assessments	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-05	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
4. Use (Define need for, intended use of, and/or anticipated results of data) To provide recommendations to the ISS Program management on the strategic implications of the ISSP launch schedules, manifests, and ISS on-orbit operations, and assist in the NASA's development of strategic requirements.			
6. References (SOW, Clause, etc.) SOW 2.2.2		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: Each technical assessment shall specify the stage(s) or configuration(s) for which the assessment is valid. Each assessment shall also include clear definition of assumptions (including bounding operational constraints and configuration assumptions) invoked in the assessment.

CONTENT: The technical assessment documentation shall include the SOW requirement(s) being addressed by the assessment, if applicable, and the following:

1. Coordination list
2. Background information sufficient to inform a cognizant ISS customer of the applicability of this analysis to their discipline
3. Summary of methodology and rationale for confidence in the results
4. Summary of findings and recommendations
5. Supporting data

FORMAT: Contractor supplied web-based format, compatible with ISS document standards. Format includes but is not limited to briefing charts in electronic form.

9. OPR: OM

10. FIRST SUBMISSION DATE: As needed by direction of the OPR

Frequency Of Submission: As required

Additional Submissions: Technical assessments are required on most SE&I deliverables.

11. MAINTENANCE: Electronically, as required

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS:

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: On-Orbit Assembly, Modeling, and Mass Properties Data Book (Blue Book)	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-06	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 2 4. Use (Define need for, intended use of, and/or anticipated results of data) The data book provides the ISSP on-orbit mass properties, geometric, and aerodynamic data of the ISS mated, intermediate assembly, and stage configurations. This data is utilized by ISSP/SSP subsystem teams (e.g. GN&C) that require on-orbit stage mass properties. The figures are also used in other ISS/SSP documents where ISS on-orbit figures are required.			5. DRD Category <input checked="" type="checkbox"/> Technical <input type="checkbox"/> Administrative <input type="checkbox"/> SR&QA
6. References SOW 2.2.3.2.2 SOW 2.2.3.2.11 SOW 2.2.3.2.12 JSC 26557 SSP 30219		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: This DR establishes the content for the development of On-Orbit Assembly, Modeling and Mass Properties Data Book (*Blue Book*). It will define the data sources for the development and the content of the Blue Book.

CONTENT: This *Blue Book* (named so because of the blue book covers) provides comprehensive assembly, mass and aerodynamic properties data for the full range of the ISS construction activities for the 18 months from the document release. Volume I contains free flying and Orbiter-attached configuration properties. In Volume II the mass property and aerodynamic data are organized into a multi-body system utilized by analysts. Volume II provides data used by a limited number of customers within the ISS analysis community. The reference document JSC 26557 is the current On-orbit Assembly, Modeling, and Mass Properties Data Book. The tool MODGEN was used extensively for the data book development and is available for use by the contractor as identified in Attachment J-1 SOW, Appendix D, Table 1:

ISS geometry, mass properties, and on-orbit orientation information is obtained from the ISS Sustaining Engineering Contract. The coordinate systems are defined in SSP 30219, Space Station Reference Coordinate Systems.

Elements moments of inertia, products of inertia and centers of pressure reported in this document shall be given with respect to the specific element, body, or vehicle center of mass. The center of mass and other significant points shall be reported with respect to the SSACS frame.

Vehicle configurations and dimensions shown in this document shall be derived from data for static, on-orbit element configurations. Dynamic conditions due to applied loads, including internal pressure deformations of individual elements, and thermal effects will not be depicted or dimensioned in this document.

Orbiter specific mass properties shall be obtained from mission specific SODBs.

The following information shall be provided for each configuration as defined by the Configuration List and the Assembly Matrix. Data will be given in the Space Station Analysis Coordinate System (SSACS) as defined in SSP 30219:

Detailed description

Solid model isometric hidden line drawing illustration

Reference point in SSACS and RSA Analysis Coordinate Systems

Total ISS on-orbit mass (lb, kg)

Center of mass location (X, Y, Z in ft, m)

Inertia tensor* (slug*ft**2, kg*m**2)

Principal moments of inertia (I_{XX}, I_{YY}, I_{ZZ} in slug*ft**2, kg*m**2).

The origin of the principal axes coordinate system is located at the configuration center of mass.

Principal to body Euler rotation angles

Projected areas (X, Y, Z in ft**2, m**2)

Aerodynamic centers of pressure are referenced in the SSACS frame to specific element, body, or vehicle center of mass and not the modeling origin.

Center of pressure offset matrix (with respect to the center of mass)

* Inertia matrix off-diagonal elements are negative integrals on these pages.

Configurations shall contain other extra data sets, including these items:

Element interfaces

Element properties*

The mass properties are given when the element either (a) initially is delivered to ISS, (b) increases or decreases in mass, (c) moves to a new location on the ISS, or (d) changes configuration [such as mechanism deployment or retraction].

Element dimensioned four-view drawings

Orbiter attach point location

Mass properties for an attached Orbiter vehicle*

Mass properties for mated ISS - Orbiter stack*

Dimensioned hidden line illustration of the final *Blue Book* ISS stage configuration showing interface to interface dimensions and other ISS key dimensions, such as solar array area or radiator location. Dimensions shall be in mm (inches).

* Inertia matrix off-diagonal elements are negative integrals on these pages.

Additional drawings shall be provided:

J-size drawing showing all the *Blue Book* configurations

C-size exploded isometric of the final *Blue Book* stage configuration

C-size dimensioned drawing of the final *Blue Book* stage configuration

Other drawings as required.

FORMAT: Delivery to NASA of the document volumes shall be made electronically in Microsoft Word and Acrobat. Hardcopies will be available for users as required. The illustrations shall also be available individually in tif, gif, and pic formats. The individual mass property sets will also be available separately in the user's required format. All electronic files will be available from an ftp server from JSC and non-JSC users (including International Partners) and are subject to the export control regulations.

9. OPR: OM5, Assembly & Configuration Team

10. FIRST SUBMISSION DATE:

Frequency Of Submission: The individual electronic files of the Blue Book shall be delivered every June and December. Volumes I and II shall be delivered electronically and in hard copy every January and July. Construction of two data books per year is scheduled to address assembly sequence modifications affecting missions close to launch. Users will be notified by mail notification to the user distribution list of document deliveries and updates.

Additional Submissions: Change pages shall be produced if a significant change in the assembly sequence or mission timeline occurs. Prior approval by the OPR is required.

11. **MAINTENANCE:** All versions of the deliveries must be maintained electronically and must be accessible by the ISSP/SSP users.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. **REMARKS:** None

DATA REQUIREMENTS DESCRIPTION

(Based on JSC-STD-123)

1a. DRD Title: ISS Interior 3D CAD Models	2. Date of Current Version 01/01/04	3a. DRD No. A-SI-07	3b. RFP/Contract No. NNJ04AA01C
1b. Data Type: 3 4. Use (Define need for, intended use of, and/or anticipated results of data) Input to vehicle integration to support the development of the on-orbit stage models to perform internal volume configuration analyses of the USOS. The models will be used for performing analyses related to IVA operations and Station interior integration included but not limited to crew translation paths, worksite operational volumes, visibility and access to critical equipment and controls, and other IVA-related functions.			5. DRD Category X_ Technical — Administrative — SR&QA
6. References (SOW, Clause, etc.) SOW 2.2.2.1.4.4.3		7. Interrelationships (e.g., with other DRDs)	

8. PREPARATION INFORMATION: The contractor shall prepare the deliverable as follows:

SCOPE: USOS pressurized elements, systems racks, payloads, payload racks, and significant GFE items that are part of the IVA environment and impact the Station crew's habitable environment. Best available and as-designed validated models for the planned interior are required.

CONTENT: Validated 3-D CAD models with sufficient detail that the internal geometry shows an accurate depiction of the ISS stage configuration. High fidelity models of modules, racks, payloads, and significant GFE items should be provided for on-orbit configurations. CAD models of interior features are required that may include the following: internal pressure shell, standoffs, hatches, ports, stowage compartments, rack attachments, vents, lights, handrails, racks, seat track, emergency equipment, and significant GFE (i.e CEVIS, IRED, CMRS, etc.). All objects that deploy rotate or otherwise move shall be documented and modeled with location and limit parameters described.

FORMAT:

- Models shall be full scale in English (inches) units.
- Models shall be constructed to nominal dimensions.
- Models should be built with respect to element local coordinate system as defined by SSP 30219.
- Models shall be maintained in Pro-Engineer (or equivalent)
- Translation: STEP AP203 neutral file format acceptable only if Pro-Engineer formats are not available.
- Solid Models Only—Models may be unparameterized “dumb solids” meaning tolerance data; model history, material properties, etc. need not be included.
- Model parts should be individual entities and not fused together. This will allow CAD team to update the model based on hardware measurements. Assembly structure, part names and part numbers would be helpful. However, for controlling file size growth and having redundant geometry, all identical components (i.e., handrails, connectors, etc) will be nested in detail/ditto space/assemblies. For example if 20 identical handrails are used, only one detail is required and the rest should be in ditto space/assembly.
- Description on movement limits for any articulating items should be provided.
- As-designed and As-built (validated and final) models shall be validated to released engineering MBD data sets/drawings. MBD data sets/drawings shall be located in the VMDB.
- Where interior subassemblies are supplied as separate models, sufficient documentation shall be provided to support correct geometrical integration of each subassembly into its larger interior element.
- A model tree shall be provided which documents the element model assembly architecture as well as model and subassembly titles.
- Models shall be under configuration management so that the pedigree and source of models, including validation data, are documented and retained.
- Models and associated assembly trees and configuration data shall be delivered electronically via FTP site or as Compact Discs.

9. OPR: OM

10. FIRST SUBMISSION DATE: See below

Frequency Of Submission: High fidelity best available 3-D CAD model required at L-16 months. High fidelity validated 3-D CAD model required at L-9 months

Additional Submissions: N/A

11. MAINTENANCE: Models must be maintained electronically.

12. COPIES/DISTRIBUTION:

1 original/record (hard copy): OL/Data Management

1 electronic copy: Program Authorized Repository

13. REMARKS: All ISS interior CAD models shall be deliverables to NASA and be made available to the ISS community or other users. Individual models shall be available at the level of modules, racks, and GFE.

Attachment J-4

DOL

WAGE

DETERMINATION

January 1996

**NOTICE OF INTENTION TO MAKE
A SERVICE CONTRACT AND RESPONSE TO
NOTICE**

U.S. DEPARTMENT OF LABOR

EMPLOYMENT STANDARDS
ADMINISTRATION*(See Instructions on Reverse)*

1. NOTICE NO.

A-2241840
Memorandum

MAIL TO:

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

2. Estimated solicitation date *(use numerals)*
New Procurement

Month	Day	Year
02	28	03

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

Month	Day	Year
06	13	03

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

Month	Day	Year
01	01	04

5. PLACE(S) OF PERFORMANCE

Harris County, TX

6. SERVICES TO BE PERFORMED *(describe)*

II: International Space Station Program Integration and
Control Contract
WD Contract Period: 01/01/04 to 12/31/04

7. INFORMATION ABOUT PERFORMANCE

A. 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

See attached list

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

WD 94-2516

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

RESPONSE TO NOTICE

*(by Department of Labor)*A. The attached wage determination(s)
listed below apply to procurement.

WD 94-2516 Rev 21

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)

9. OFFICIAL SUBMITTING NOTICE

SIGNED:

DATE

TYPE OR PRINT NAME

Connie R. Pritchard
Contract Labor Relations Officer

TELEPHONE NO.

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**

SF98 Request
A2241840
International Space Station Program Integration and Control Contract
NASA Johnson Space Center

Item # 8a Name and address of incumbent contactors that are currently performing a portion of the work to be included in this competition:

- NAS 9-00125 Johnson Engineering
12130 Highway 3, Building 1
Webster, TX 77598-1504
- NAS 9-01054 The Futron Corporation
7315 Wisconsin Avenue, Suite 900W
Bethesda, MD 20814-3202
- NAS 9-01090 Blackhawk Management Corp.
1335 Regents Park Drive, Suite 130
Houston, TX 77058
- NAS 9-98123 Muniz Engineering
16903 Buccaneer Lane, Suite 200
Houston, TX 77058
- NAS 15-10215 Barrios Technology, Inc.
2525 Bay Area Blvd., Suite 300
Houston, TX 77058
- NAS 9-19180 SAIC
2200 Space Park Dr., Suite 200
Houston, TX 77058
- NAS 15-10000 Boeing Company
13100 Space Center Blvd.
Houston, TX 77059
- NAS 9-20000 United Space Alliance
1150 Gemini
Houston, TX 77058-2708
- NAS 9-19100 Lockheed Martin
2400 NASA Parkway
Houston, TX 77258-8561

01315 - Secretary V	25.57
01320 - Service Order Dispatcher	13.30
01341 - Stenographer I	12.06
01342 - Stenographer II	14.34
01400 - Supply Technician	20.69
01420 - Survey Worker (Interviewer)	14.26
01460 - Switchboard Operator-Receptionist	10.65
01510 - Test Examiner	16.12
01520 - Test Proctor	16.12
01531 - Travel Clerk I	11.09
01532 - Travel Clerk II	11.95
01533 - Travel Clerk III	12.79
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	11.98
03041 - Computer Operator I	12.05
03042 - Computer Operator II	14.61
03043 - Computer Operator III	16.59
03044 - Computer Operator IV	22.60
03045 - Computer Operator V	23.59
03071 - Computer Programmer I (1)	19.99
03072 - Computer Programmer II (1)	24.38
03073 - Computer Programmer III (1)	27.62
03074 - Computer Programmer IV (1)	27.62
03101 - Computer Systems Analyst I (1)	25.70
03102 - Computer Systems Analyst II (1)	27.62
03103 - Computer Systems Analyst III (1)	27.62
03160 - Peripheral Equipment Operator	12.36
05000 - Automotive Service Occupations	
05005 - Automotive Body Repairer, Fiberglass	21.26
05010 - Automotive Glass Installer	19.86
05040 - Automotive Worker	19.15
05070 - Electrician, Automotive	20.76
05100 - Mobile Equipment Servicer	17.65
05130 - Motor Equipment Metal Mechanic	22.47
05160 - Motor Equipment Metal Worker	19.15
05190 - Motor Vehicle Mechanic	22.47
05220 - Motor Vehicle Mechanic Helper	16.93
05250 - Motor Vehicle Upholstery Worker	18.17
05280 - Motor Vehicle Wrecker	19.15
05310 - Painter, Automotive	20.76
05340 - Radiator Repair Specialist	20.96
05370 - Tire Repairer	14.40
05400 - Transmission Repair Specialist	23.06

07000 - Food Preparation and Service Occupations

(not set) - Food Service Worker	7.39
07010 - Baker	8.93
07041 - Cook I	8.19
07042 - Cook II	8.83
07070 - Dishwasher	7.16
07130 - Meat Cutter	11.33
07250 - Waiter/Waitress	6.83

09000 - Furniture Maintenance and Repair Occupations

09010 - Electrostatic Spray Painter	16.65
09040 - Furniture Handler	11.74
09070 - Furniture Refinisher	12.78
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	7.54
11060 - Elevator Operator	6.90
11090 - Gardener	10.26
11121 - House Keeping Aid I	6.79
11122 - House Keeping Aid II	6.90
11150 - Janitor	7.54
11210 - Laborer, Grounds Maintenance	8.23
11240 - Maid or Houseman	6.79
11270 - Pest Controller	10.73
11300 - Refuse Collector	7.54
11330 - Tractor Operator	9.66
11360 - Window Cleaner	8.23

12000 - Health Occupations

12020 - Dental Assistant	12.93
12040 - Emergency Medical Technician (EMT) Paramedic/Ambulance Driver	11.75
12071 - Licensed Practical Nurse I	12.86
12072 - Licensed Practical Nurse II	14.63
12073 - Licensed Practical Nurse III	15.94
12100 - Medical Assistant	11.41
12130 - Medical Laboratory Technician	13.61
12160 - Medical Record Clerk	12.09
12190 - Medical Record Technician	14.56
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	20.25
12312 - Registered Nurse II	24.95

12313 - Registered Nurse II, Specialist	26.51
12314 - Registered Nurse III	31.37
12315 - Registered Nurse III, Anesthetist	31.37
12316 - Registered Nurse IV	35.94
13000 - Information and Arts Occupations	
13002 - Audiovisual Librarian	18.40
13011 - Exhibits Specialist I	19.15
13012 - Exhibits Specialist II	24.55
13013 - Exhibits Specialist III	28.72
13041 - Illustrator I	17.60
13042 - Illustrator II	22.56
13043 - Illustrator III	26.40
13047 - Librarian	21.17
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	7.68
15030 - Counter Attendant	7.68
15040 - Dry Cleaner	9.65
15070 - Finisher, Flatwork, Machine	7.68
15090 - Presser, Hand	7.68
15100 - Presser, Machine, Drycleaning	7.68
15130 - Presser, Machine, Shirts	7.68
15160 - Presser, Machine, Wearing Apparel, Laundry	7.68
15190 - Sewing Machine Operator	10.22
15220 - Tailor	11.02
15250 - Washer, Machine	8.42
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	17.64
21030 - Material Expediter	17.64
21040 - Material Handling Laborer	11.72
21050 - Order Filler	10.53
21071 - Forklift Operator	12.84
21080 - Production Line Worker (Food Processing)	12.84
21100 - Shipping/Receiving Clerk	11.79
21130 - Shipping Packer	12.22
21140 - Store Worker I	9.51
21150 - Stock Clerk (Shelf Stocker; Store Worker II)	12.79
21210 - Tools and Parts Attendant	13.58

21400 - Warehouse Specialist	12.84
23000 - Mechanics and Maintenance and Repair Occupations	
23010 - Aircraft Mechanic	21.09
23040 - Aircraft Mechanic Helper	16.43
23050 - Aircraft Quality Control Inspector	22.02
23060 - Aircraft Servicer	18.28
23070 - Aircraft Worker	19.26
23100 - Appliance Mechanic	16.65
23120 - Bicycle Repairer	13.91
23125 - Cable Splicer	19.33
23130 - Carpenter, Maintenance	17.01
23140 - Carpet Layer	15.92
23160 - Electrician, Maintenance	21.45
23181 - Electronics Technician, Maintenance I	13.36
23182 - Electronics Technician, Maintenance II	19.02
23183 - Electronics Technician, Maintenance III	22.33
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	17.43
23430 - Heavy Equipment Mechanic	17.43
23440 - Heavy Equipment Operator	17.43
23460 - Instrument Mechanic	17.43
23470 - Laborer	8.82
23500 - Locksmith	16.65
23530 - Machinery Maintenance Mechanic	19.81
23550 - Machinist, Maintenance	20.16
23580 - Maintenance Trades Helper	13.58
23640 - Millwright	19.02
23700 - Office Appliance Repairer	16.65
23740 - Painter, Aircraft	18.32
23760 - Painter, Maintenance	16.65
23790 - Pipefitter, Maintenance	19.33
23800 - Plumber, Maintenance	17.15
23820 - Pneudraulic Systems Mechanic	17.43
23850 - Rigger	17.43
23870 - Scale Mechanic	15.92
23890 - Sheet-Metal Worker, Maintenance	17.43
23910 - Small Engine Mechanic	15.92
23930 - Telecommunication Mechanic I	19.17
23931 - Telecommunication Mechanic II	20.02
23950 - Telephone Lineman	17.43
23960 - Welder, Combination, Maintenance	17.43
23965 - Well Driller	17.43
23970 - Woodcraft Worker	17.43
23980 - Woodworker	9.64

24000 - Personal Needs Occupations

24570 - Child Care Attendant	9.68
24580 - Child Care Center Clerk	12.06
24600 - Chore Aid	6.15
24630 - Homemaker	15.41
25000 - Plant and System Operation Occupations	
25010 - Boiler Tender	19.86
25040 - Sewage Plant Operator	17.00
25070 - Stationary Engineer	19.86
25190 - Ventilation Equipment Tender	14.33
25210 - Water Treatment Plant Operator	16.65
27000 - Protective Service Occupations	
(not set) - Police Officer	19.63
27004 - Alarm Monitor	12.98
27006 - Corrections Officer	18.04
27010 - Court Security Officer	18.04
27040 - Detention Officer	18.04
27070 - Firefighter	17.70
27101 - Guard I	10.02
27102 - Guard II	17.90
28000 - Stevedoring/Longshoremen Occupations	
28010 - Blocker and Bracer	15.18
28020 - Hatch Tender	15.18
28030 - Line Handler	15.18
28040 - Stevedore I	14.21
28050 - Stevedore II	16.17
29000 - Technical Occupations	
21150 - Graphic Artist	23.11
29010 - Air Traffic Control Specialist, Center (2)	31.76
29011 - Air Traffic Control Specialist, Station (2)	21.90
29012 - Air Traffic Control Specialist, Terminal (2)	24.12
29023 - Archeological Technician I	19.34
29024 - Archeological Technician II	21.66
29025 - Archeological Technician III	26.79
29030 - Cartographic Technician	26.79
29035 - Computer Based Training (CBT) Specialist/ Instructor	25.70
29040 - Civil Engineering Technician	24.82
29061 - Drafter I	15.37
29062 - Drafter II	15.85
29063 - Drafter III	20.90
29064 - Drafter IV	26.79
29081 - Engineering Technician I	14.00
29082 - Engineering Technician II	17.40
29083 - Engineering Technician III	20.25
29084 - Engineering Technician IV	25.71
29085 - Engineering Technician V	33.57
29086 - Engineering Technician VI	38.16
29090 - Environmental Technician	24.76

29100 - Flight Simulator/Instructor (Pilot)	32.45
29160 - Instructor	21.34
29210 - Laboratory Technician	16.34
29240 - Mathematical Technician	28.04
29361 - Paralegal/Legal Assistant I	17.19
29362 - Paralegal/Legal Assistant II	20.65
29363 - Paralegal/Legal Assistant III	25.71
29364 - Paralegal/Legal Assistant IV	28.58
29390 - Photooptics Technician	24.76
29480 - Technical Writer	21.85
29491 - Unexploded Ordnance (UXO) Technician I	20.19
29492 - Unexploded Ordnance (UXO) Technician II	24.42
29493 - Unexploded Ordnance (UXO) Technician III	30.65
29494 - Unexploded (UXO) Safety Escort	20.19
29495 - Unexploded (UXO) Sweep Personnel	20.19
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	14.24
31260 - Parking and Lot Attendant	7.38
31290 - Shuttle Bus Driver	10.80
31300 - Taxi Driver	8.01
31361 - Truckdriver, Light Truck	10.96
31362 - Truckdriver, Medium Truck	14.24
31363 - Truckdriver, Heavy Truck	15.22
31364 - Truckdriver, Tractor-Trailer	15.22
99000 - Miscellaneous Occupations	
99020 - Animal Caretaker	8.13
99030 - Cashier	7.90
99041 - Carnival Equipment Operator	9.36
99042 - Carnival Equipment Repairer	9.84
99043 - Carnival Worker	7.22
99050 - Desk Clerk	9.68
99095 - Embalmer	19.59
99300 - Lifeguard	10.61
99310 - Mortician	21.55
99350 - Park Attendant (Aide)	13.32
99400 - Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	8.62
99500 - Recreation Specialist	14.74
99510 - Recycling Worker	11.12
99610 - Sales Clerk	10.30
99620 - School Crossing Guard (Crosswalk Attendant)	7.54
99630 - Sport Official	9.48
99658 - Survey Party Chief (Chief of Party)	16.58
99659 - Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	14.34
99660 - Surveying Aide	11.35
99690 - Swimming Pool Operator	12.60

99720 - Vending Machine Attendant	10.49
99730 - Vending Machine Repairer	12.60
99740 - Vending Machine Repairer Helper	10.76

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 \$2.56 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 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 ordnance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordnance, 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 ordnance, (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 ordnance, 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 ordnance, 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 ****

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) and computes a proposed rate).
- 2) After contract award, the contractor prepares a written report listing in order proposed classification title), a Federal grade equivalency (FGE) for each proposed classification), job description), and rationale for proposed wage rate), 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.

