

AMENDMENT OF SOLICITATION/  
MODIFICATION OF CONTRACT

1. CONTRACT ID CODE

PAGE OF PAGES

1 | 3

2. AMENDMENT/MODIFICATION NO.  
**Mod 63**

3. EFFECTIVE DATE  
See block 16c

4. REQUISITION/PURCHASE REQ. NO.  
4200207413

5. PROJECT NO. (If applicable)

6. ISSUED BY CODE **BG**  
NASA Space Station Program Office  
Johnson Space Center  
Attn: BG/Michelle Isermann  
Houston, TX 77058

7. ADMINISTERED BY (If other than Item 6) CODE **BG**  
NASA Space Station Program Office  
Johnson Space Center  
Attn: BG/Michelle Isermann  
Houston, TX 77058

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and ZIP Code)  
ARES Corporation  
Attn: Marcy Linebarger  
Armand Plaza, Building A  
16441 Space Center Boulevard  
Houston, TX 77058

CODE

FACILITY CODE

9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

X

10A. MODIFICATION OF CONTRACT/ORDER NO.  
Contract NNJ04AA01C

10B. DATED (SEE ITEM 13)  
11/12/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

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

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**INCREASE FUNDING BY \$1,500,000.00**

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

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES

**B.4 CONTRACT FUNDING** PURSUANT TO THE AUTHORITY OF FAR 43.103(b) & Limitation of Funds 52.232.22 (APR 1984) as modified by NFS 1832.232-81. Date for estimated period of performance agreed to via e-mail on June 26, 2007 between Marcy Linebarger, ARES and Michelle Isermann, CO, NASA, JSC.

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

d. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase funding by \$1,500,000.00 from \$93,365,855.10 to 94,865,855.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

Michelle Isermann, Contracting Officer

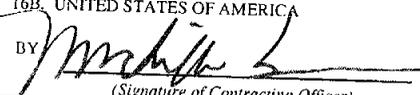
15B. CONTRACTOR/OFFEROR

15C. DATE SIGNED

16B. UNITED STATES OF AMERICA

16C. DATE SIGNED

(Signature of person authorized to sign)

BY  (Signature of Contracting Officer)

6/24/07

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

(a) Fixed Price Phase In: **\$638,667**

(b) 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:


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 July 31, 2007.

(c) An additional amount is obligated under this contract for payment of fee as follows:


(d) The total amount of funds obligated to this contract for the payment of Phase In, Cost and Fee is:

**\$94,865,855.10**

**(End of clause)**

Contract  
NNJ04AA01C

PROGRAM INTEGRATION AND CONTROL

Page 3 of 3  
Mod 63

PR 4200207413

**FUNDING RECAPITULATION**

For Administrative Purposes Only Contract Value:

	COST	FEF	SUBTOTAL	TOTAL
TOTAL	\$93,080,999	\$7,142,647	\$100,223,646	\$100,862,313

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF 1   2
2. AMENDMENT/MODIFICATION NO. 67	3. EFFECTIVE DATE See Block 16c	4. REQUISITION/PURCHASE REQ. NO. 4200217482	5. PROJECT NO. (If applicable)
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Robin P. Chapman Houston, TX 77058-3696	CODE BG	7. ADMINISTERED BY (If other than Item 6) NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

CODE	FACILITY CODE
(X) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
X 10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

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

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

**INCREASE FUNDING BY \$200,000**

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

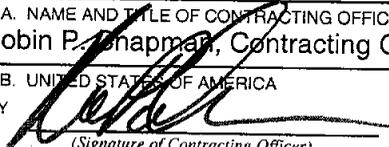
(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). Per the limitation of funds clause. Date for estimated period of performance agreed to via e-mail on September 11, 2007 between Jennifer Harlan, ARES and Lauren Johnson, CS, NASA, JSC.
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
	d. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$200,000 from \$99,596,855.00 to \$99,796,855.00.

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

15A. NAME AND TITLE OF SIGNER (Type or print) Robin P. Chapman, Contracting Officer		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 9/12/07

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$92,681,613**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **October 8, 2007**.
- (b) An additional amount of **\$7,115,242** is obligated under this contract for payment of fee.

**(End of clause)**

	Previous Funding - Thru Mod 65	Current Funding Mod 67	Cumulative Funding through Mod 67
Cost	\$ 92,524,613.00	\$ 157,000.00	\$ 92,681,613.00
Fee	\$ 7,072,242.00	\$ 43,000.00	\$ 7,115,242.00
Total Cost & Fee	\$ 99,596,855.00	\$ 200,000.00	\$ 99,796,855.00

2. Block 4 - Requisition Purchase Req. No.

PR Number	Closed	Amount
4200210373	(Y)	\$200,000
TOTAL		\$200,000

AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF 1   2
2. AMENDMENT/MODIFICATION NO. 70	3. EFFECTIVE DATE See Block 16c	4. REQUISITION/PURCHASE REQ. NO. 4200225917	5. PROJECT NO. (if applicable)	
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE BG	7. ADMINISTERED BY (if other than Item 6)		CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

9A. AMENDMENT OF SOLICITATION NO.	FACILITY CODE
9B. DATED (SEE ITEM 11)	
10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

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

12. ACCOUNTING AND APPROPRIATION DATA (if required)  
**INCREASE FUNDING BY \$2,533,000.00**

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

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b)
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
X	D. OTHER (Specify type of modification and authority) LIMITATION OF FUNDS, FAR 52.232-22

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$2,533,000.00 from \$101,853,279.10 to \$104,386,279.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 11/06/07

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$96,896,564.10**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **December 17, 2007**.
- (b) An additional amount of **\$7,489,715.00** is obligated under this contract for payment of fee.

**(End of clause)**

	Previous Funding - Thru Mod 69	Current Funding Mod 70	Cumulative Funding through Mod 70
Cost	\$ 94,717,923.10	\$ 2,178,641.00	\$ 96,896,564.10
Fee	\$ 7,135,356.00	\$ 354,359.00	\$ 7,489,715.00
Total Cost & Fee	\$ 101,853,279.10	\$ 2,533,000.00	\$ 104,386,279.10

2. Block 4 - Requisition Purchase Req. No. 4200225917

PR Number	Closed	Amount
4200225917	(Y)	\$2,533,000
TOTAL		\$2,533,000

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF PAGES 1   2
2. AMENDMENT/MODIFICATION NO. <b>75</b>	3. EFFECTIVE DATE <b>See Block 16c</b>	4. REQUISITION/PURCHASE REQ. NO. <b>4200231424</b>	5. PROJECT NO. (if applicable)
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE <b>BG</b>	7. ADMINISTERED BY (if other than Item 6)	CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

CODE	FACILITY CODE
(x) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
x 10A. MODIFICATION OF CONTRACT/ORDER NO. <b>NNJ04AA01C</b>	10B. DATED (SEE ITEM 13) <b>11/12/03</b>

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

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

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

**INCREASE FUNDING BY \$450,000**

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

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(p).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
X	d. OTHER (Specify type of modification and authority) <b>LIMITATION OF FUNDS, FAR 52.232-22</b>

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$450,000 from \$107,281,967.10 to \$107,731,967.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) <b>Michelle Isermann, Contracting Officer</b>
15B. CONTRACTOR/OFFEROR  <i>(Signature of person authorized to sign)</i>	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY <i>[Signature]</i> <i>(Signature of Contracting Officer)</i>	16C. DATE SIGNED <b>12/19/07</b>

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$99,927,603.10**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **January 28, 2008**.
- (b) An additional amount of **\$7,804,364.00** is obligated under this contract for payment of fee.

(End of clause)

	Previous Funding - Thru Mod 74	Current Funding Mod 75	Cumulative Funding through Mod 75
Cost	\$ 99,615,603.10	\$ 312,000.00	\$ 99,927,603.10
Fee	\$ 7,666,364.00	\$ 138,000.00	\$ 7,804,364.00
Total Cost & Fee	\$ 107,281,967.10	\$ 450,000.00	\$ 107,731,967.10

2. Block 4 - Requisition Purchase Req. No. 4200231424

PR Number	Closed	Amount
4200231424	(Y)	\$450,000
TOTAL		\$450,000

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF 1   2
2. AMENDMENT/MODIFICATION NO. 77	3. EFFECTIVE DATE See Block 16c	4. REQUISITION/PURCHASE REQ. NO. 4200234762 & 4200234082	5. PROJECT NO. (If applicable)	
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE BG	7. ADMINISTERED BY (If other than Item 6) CODE		

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

9A. AMENDMENT OF SOLICITATION NO.	FACILITY CODE
10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

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

12. ACCOUNTING AND APPROPRIATION DATA (if required)  
**INCREASE FUNDING BY \$9,750,000**

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

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
X	d. OTHER (Specify type of modification and authority) LIMITATION OF FUNDS, FAR 52.232-22

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$9,750,000 from \$107,731,967.10 to \$117,481,967.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 11/23/08

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$109,152,676.10**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **May 31, 2008**.
- (b) An additional amount of **\$8,329,291.00** is obligated under this contract for payment of fee.

(End of clause)

	Previous Funding - Thru Mod 75	Current Funding Mod 77	Cumulative Funding through Mod 77
Cost	\$ 99,927,603.10	\$ 9,225,073.00	\$ 109,152,676.10
Fee	\$ 7,804,364.00	\$ 524,927.00	\$ 8,329,291.00
Total Cost & Fee	\$ 107,731,967.10	\$ 9,750,000.00	\$ 117,481,967.10

2. Block 4 - Requisition Purchase Req. No. 4200234762 & 4200234082

PR Number	Closed	Amount
4200234762	(Y)	\$9,700,000
4200234082	(Y)	\$50,000
TOTAL		\$9,750,000

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE		PAGE OF 1   2	
2. AMENDMENT/MODIFICATION NO. 78		3. EFFECTIVE DATE See Block 16c		4. REQUISITION/PURCHASE REQ. NO.	
5. PROJECT NO. (If applicable)		6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696		7. ADMINISTERED BY (If other than Item 6)	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Lineburger  
 16441 Space Center Boulevard  
 Houston, TX 77058

CODE	FACILITY CODE
(X) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
X 10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

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

12. ACCOUNTING AND APPROPRIATION DATA (If required)

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

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). Per the limitation of funds clause.
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
X	d. OTHER (Specify type of modification and authority) FAR 43.103(a)(3) Mutual Agreement of the Parties

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

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

The purpose of this modification is to update SOW Section 1.3 CONFIGURATION MANAGEMENT (CM) / DATA Management and Integration (DMI) of the Statement of Work to include SSP 50172, Data Management Handbook – Baseline 04-06.

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

15A. NAME AND TITLE OF SIGNER (Type or print) <i>Walter M. York</i> 2/18/08		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY <i>[Signature]</i> (Signature of Contracting Officer)	16C. DATE SIGNED 2/19/08

1. SOW Section **1.3.1 Configuration Management**, first paragraph, first sentence is hereby amended to include SSP 50172, Data Management Handbook and is replaced with the following:

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, and SSP 50172, Data Management Handbook.

2. SOW Section **1.3.2.1.5**, first paragraph, first sentence is hereby amended to include SSP 50172, Data Management Handbook and is replaced with the following:

The PI&C contractor shall perform the following Data Management activities in accordance with SSP 41170, SSP 50010, and SSP 50172 specific to the PI&C contract:

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF 1   2	
2. AMENDMENT/MODIFICATION NO 71	3. EFFECTIVE DATE See Block 16c	4. REQUISITION/PURCHASE REQ. NO. 4200227185	5. PROJECT NO. (If applicable)	
6. ISSUED BY CODE	BG	7. ADMINISTERED BY (If other than Item 6)		CODE

NASA Lyndon B. Johnson Space Center  
Space Station Procurement Office  
Attn: BG/Lauren N. Johnson  
Houston, TX 77058-3696

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code):

ARES Corporation  
Attn: Marcy Linebarger  
16441 Space Center Boulevard  
Armand Plaza, Building A  
Houston, TX 77058

CODE	FACILITY CODE
(x) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
X 10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

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

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**INCREASE FUNDING BY \$2,795,000.00**

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

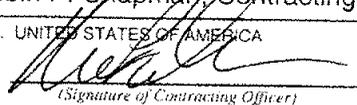
(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b)
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF <input type="checkbox"/>
X	d. OTHER (Specify type of modification and authority) LIMITATION OF FUNDS, FAR 52.232-22

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$2,795,000.00 from \$104,386,279.10 to \$107,181,279.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED
(Signature of person authorized to sign)	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)
	16C. DATE SIGNED 11/26/07

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$99,514,915.10**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **January 19, 2007**.
- (b) An additional amount of **\$7,666,364.00** is obligated under this contract for payment of fee.

**(End of clause)**

	Previous Funding - Thru Mod 70	Current Funding Mod 71	Cumulative Funding through Mod 71
Cost	\$ 96,896,564.10	\$ 2,618,351.00	\$ 99,514,915.10
Fee	\$ 7,489,715.00	\$ 176,649.00	\$ 7,666,364.00
Total Cost & Fee	\$ 104,386,279.10	\$ 2,795,000.00	\$ 107,181,279.10

2. Block 4 - Requisition Purchase Req. No. 4200227185

PR Number	Closed	Amount
4200227185	(Y)	\$2,795,000
TOTAL		\$2,795,000

**AMENDMENT OF SOLICITATION/  
MODIFICATION OF CONTRACT**

1. CONTRACT ID CODE

PAGE OF

1 2

2. AMENDMENT/MODIFICATION NO.

65

3. EFFECTIVE DATE

See Block 16c

4. REQUISITION/PURCHASE REQ. NO.

4200210373

5. PROJECT NO. (if applicable)

6. ISSUED BY

CODE

BG

7. ADMINISTERED BY (if other than Item 6)

CODE

NASA Lyndon B. Johnson Space Center  
Space Station Procurement Office  
Attn: BG/Robin P. Chapman  
Houston, TX 77058-3696

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)

ARES Corporation  
Attn: Marcy Linebarger  
16441 Space Center Boulevard  
Armand Plaza, Building A  
Houston, TX 77058

CODE

FACILITY CODE

(X)

9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

X

10A. MODIFICATION OF CONTRACT/ORDER NO.

NNJ04AA01C

10B. DATED (SEE ITEM 13)

11/12/03

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

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

12. ACCOUNTING AND APPROPRIATION DATA (if required)

**INCREASE FUNDING BY \$4,731,000.00**

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS,

IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14 (X)

(X)

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). Per the limitation of funds clause.

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

d. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

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

The purpose of this modification is to increase contract funding in the amount of \$4,731,000.00.

See page 2 for changes.

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

15A. NAME AND TITLE OF SIGNER (Type or print)

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

Robin P. Chapman, Contracting Officer

15B. CONTRACTOR/OFFEROR

15C. DATE SIGNED

16B. UNITED STATES OF AMERICA

16C. DATE SIGNED

(Signature of person authorized to sign)

BY

(Signature of Contracting Officer)

7/23/07

1. Clause B.4 Contracting Funding (NASA 18-52.232-81) is hereby deleted in its entirety and replaced by the following:

"B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)

(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 **\$92,524,613**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **September 28, 2007**.

(b) An additional amount of **\$7,072,242** is obligated under this contract for payment of fee."

(End of clause)

	<b>Mod 63</b>	<b>Mod 65</b>	<b>Total</b>
Total Cost & Fee	\$94,227,188	\$4,731,000	\$99,596,855

2. Block 4 - Requisition Purchase Req. No.

<b>PR Number</b>	<b>Closed</b>	<b>Amount</b>
4200210373	(Y)	\$4,731,000
TOTAL		\$4,731,000

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF 1   2
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2. AMENDMENT/MODIFICATION NO. <b>74</b>	3. EFFECTIVE DATE <b>See Block 16c</b>	4. REQUISITION/PURCHASE REQ. NO. <b>4200227177</b>	5. PROJECT NO. (If applicable)
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6. ISSUED BY <b>NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696</b>	7. ADMINISTERED BY (If other than Item 6)
---	---

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058**

9A. AMENDMENT OF SOLICITATION NO. <input checked="" type="checkbox"/>	9B. DATED (SEE ITEM 11)
10A. MODIFICATION OF CONTRACT/ORDER NO. <b>NNJ04AA01C</b>	10B. DATED (SEE ITEM 13) <b>11/12/03</b>

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

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

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**  
**INCREASE FUNDING BY \$100,688.00**

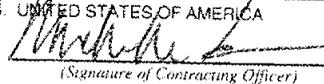
**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS,  
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.(x)**

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
<b>X</b>	d. OTHER (Specify type of modification and authority) <b>LIMITATION OF FUNDS, FAR 52.232-22</b>

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. description of amendment/modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
 The purpose of this modification is to increase contract funding in the amount of \$100,688 from \$107,181,279.10 to \$107,281,967.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) <b>Michelle Isermann, Contracting Officer</b>
15B. CONTRACTOR/OFFEROR	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)
(Signature of person authorized to sign)	16C. DATE SIGNED <b>12/17/07</b>

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$99,615,603.10**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **January 19, 2007**.
- (b) An additional amount of **\$7,666,364.00** is obligated under this contract for payment of fee.

**(End of clause)**

	Previous Funding - Thru Mod 71	Current Funding Mod 74	Cumulative Funding through Mod 74
Cost	\$ 99,514,915.10	\$ 100,688.00	\$ 99,615,603.10
Fee	\$ 7,666,364.00	\$ -	\$ 7,666,364.00
Total Cost & Fee	\$ 107,181,279.10	\$ 100,688.00	\$ 107,281,967.10

2. Block 4 - Requisition Purchase Req. No. 4200227177

PR Number	Closed	Amount
4200227177	(Y)	\$100,688
TOTAL		\$100,688

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF 1   2
2. AMENDMENT/MODIFICATION NO. 68	3. EFFECTIVE DATE See Block 16c	4. REQUISITION/PURCHASE REQ. NO. 4200221592 & 4200221721	5. PROJECT NO. (If applicable)
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE BG	7. ADMINISTERED BY (If other than Item 6)	CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

CODE	FACILITY CODE
(x) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
X 10A. MODIFICATION OF CONTRACT/ORDER NO. NNJ04AA01C	10B. DATED (SEE ITEM 13) 11/12/03

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing Items 8 and 15, and returning  copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)  
**INCREASE FUNDING BY \$945,424.00**

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

(x) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). Per the limitation of funds clause. Date for estimated period of performance agreed to via e-mail on September 18, 2007 between Jennifer Harlan, ARES and Lauren Johnson, CS, NASA, JSC.
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
d. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. description of amendment/modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
 The purpose of this modification is to increase contract funding in the amount of \$945,424.00 from \$99,796,855.00 to \$100,742,279.00.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Robin P. Chapman, Contracting Officer
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 9/19/07

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$93,606,923**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **October 20, 2007**.
- (b) An additional amount of **\$7,135,356** is obligated under this contract for payment of fee.

**(End of clause)**

	Previous Funding - Thru Mod 67	Current Funding Mod 68	Cumulative Funding through Mod 68
Cost	\$ 92,681,613.00	\$ 925,310.00	\$ 93,606,923.00
Fee	\$ 7,115,242.00	\$ 20,114.00	\$ 7,135,356.00
Total Cost & Fee	\$ 99,796,855.00	\$ 945,424.00	\$ 100,742,279.00

2. Block 4 - Requisition Purchase Req. No.

PR Number	Closed	Amount
4200221592	(Y)	\$800,000
4200221721	(Y)	\$145,424
TOTAL		\$945,424

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE	PAGE OF 1   2	
2. AMENDMENT/MODIFICATION NO. <b>69</b>	3. EFFECTIVE DATE <b>See Block 16c</b>	4. REQUISITION/PURCHASE REQ. NO. <b>4200222407</b>	5. PROJECT NO. (If applicable)	
6. ISSUED BY NASA Lyndon B. Johnson Space Center Space Station Procurement Office Attn: BG/Lauren N. Johnson Houston, TX 77058-3696	CODE <b>BG</b>	7. ADMINISTERED BY (If other than Item 6)		CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  
**ARES Corporation**  
 Attn: Marcy Linebarger  
 16441 Space Center Boulevard  
 Armand Plaza, Building A  
 Houston, TX 77058

CODE	FACILITY CODE
(x) 9A. AMENDMENT OF SOLICITATION NO.	9B. DATED (SEE ITEM 11)
X 10A. MODIFICATION OF CONTRACT/ORDER NO. <b>NNJ04AA01C</b>	10B. DATED (SEE ITEM 13) <b>11/12/03</b>

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS  
 The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing Items 8 and 15, and returning  copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)  
**INCREASE FUNDING BY \$1,111,000.00**

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

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). Per the limitation of funds clause. Date for estimated period of performance agreed to via e-mail on September 20, 2007 between Jennifer Harlan, ARES and Lauren Johnson, CS, NASA, JSC.
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <input type="checkbox"/>
	d. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. description of amendment/modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
 The purpose of this modification is to increase contract funding in the amount of \$1,111,000.00 from \$100,742,279.00 to \$101,853,279.10.

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

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) <b>Lee Ann Audet, Contracting Officer</b>
15B. CONTRACTOR/OFFEROR  <i>(Signature of person authorized to sign)</i>	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY <i>Lee Ann Audet</i> <i>(Signature of Contracting Officer)</i>	16C. DATE SIGNED <b>9/20/07</b>

**B.4 CONTRACT FUNDING (NASA 18-52.232-81) (JUN 1990) (JOHNSON SPACE CENTER)**

- (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 **\$94,717,923**. This allotment is for the Program Integration and Control support services and covers the following estimated period of performance: November 12, 2003 through **November 2, 2007**.
- (b) An additional amount of **\$7,135,356** is obligated under this contract for payment of fee.

(End of clause)

	Previous Funding - Thru Mod 68	Current Funding Mod 69	Cumulative Funding through Mod 69
Cost	\$ 93,606,923.00	\$ 1,111,000.00	\$ 94,717,923.00
Fee	\$ 7,135,356.00	\$ -	\$ 7,135,356.00
Admin. Correction			\$ 0.10
Total Cost & Fee	\$ 100,742,279.00	\$ 1,111,000.00	\$ 101,853,279.10

2. Block 4 - Requisition Purchase Req. No.

PR Number	Closed	Amount
4200222407	(Y)	\$1,111,000
TOTAL		\$1,111,000

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

**ORDER FOR SUPPLIES OR SERVICES**

Page 1 of 7

1. Order No. A-07-637 Rev-1      2. Date Of Order 03/21/2007      **NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO. Certified for National Defense under DPAS (15 CFR 700) DO-C9**

3. Issuing Office:  
NASA Johnson Space Center  
2101 Nasa Parkway  
Houston, TX 77058-3696  
Org./Buyer: B/Lee Audet

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: **Accountable Property**

Order No.: A-07-637, Rev 1

Tel No.: (281) 483-1871      Fax:  
E-mail: lee.a.audet@nasa.gov

5. Contractor:  
Ares Corporation  
16441 Space Center Blvd., Bldg A  
Houston, TX 77058

6. Deliver On Or Before:

F.O.B. Point: Destination

Discount Terms: Net 30 Days

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: A-07-637, Rev 1

Phone:      Fax:  
TIN:      CAGE CODE:

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order Reference: A-07-637, Rev 1

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor (X) is, ( ) is not required. Sign below if required and return to contracting officer.

Name: Melba M. York (Person authorized to sign)  
Signature: *Melba M. York* Date: 3/21/07

10. Name: Lee Audet  
Signature: *Lee Audet* Date: 3/21/07  
CONTRACTING OFFICER

11. Schedule

ITEM NO	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
	NNJ04AA01C/TO B-07-637 Rev 1					
	The purpose of this revision to the Support Activities Task Order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add task 2 - Quality and Flight Equipment Support (RTOP) in accordance with the attached task description as partnered in SPICE. See page 2 for concurrence.					
	The period of performance for this delivery order is from February 1, 2007 through September 30, 2007					

12. For JSC Internal Use Only.  
Requisition No.: NA. Obligations are at the contract level       COMP     PART     PPO

13. Total: \$217,820.00

Resue To:

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED     ACCEPTED     RECEIVED

TO CONFORM TO THE CONTRACT  
ACCEPTANCE WILL BE AT JSC UNLESS  
OTHERWISE NOTED.

BY: \_\_\_\_\_  
Authorized U.S. Government Representative      Date

<b>International Space Station Program Integration &amp; Control Contract Task Order</b>		<b>Task Order Number:</b> A-07-637	<b>Revision:</b> 1
<b>Contractor:</b> ARES Corporation		<b>Contract Number:</b> NNJ04AA01C	
<b>Title:</b> ISS Support Activities			
<b>Type:</b> LOE: <input checked="" type="checkbox"/> IDIQ <input type="checkbox"/>			
<b>Period of Performance</b>			
<b>Estimated Start Date:</b> 02/06/2007		<b>Estimated Completion Date:</b> 09/30/2007	
<b>Approvals</b>			
<b>Title</b>	<b>Point of Contact</b>	<b>Phone</b>	<b>Date Approved</b>
Task Monitor	Dyer, Brian	(281) 244-7380	02/27/2007
TMR Technical Review	Dyer, Brian	(281) 244-7380	02/27/2007
Resource Analyst Technical Review	Powers, Debra	(281) 483-9805	02/27/2007
COTR Technical Review	Dyer, Brian	(281) 244-7380	03/07/2007
Contractor BOE	Linebarger, Marcy	(713) 933-6805	03/14/2007
TMR Final Approval	Dyer, Brian	(281) 244-7380	03/15/2007
Resource Analyst Final Approval	Powers, Debra	(281) 483-9805	03/15/2007
Control Account Manager	Dyer, Brian	(281) 244-7380	03/15/2007
COTR Final Approval	Dyer, Brian	(281) 244-7380	03/15/2007
Contracting Officer	Audet, Lee A	(281) 483-1871	03/21/2007
<b>NOTE:</b> The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.			
<b>Contents:</b>			
Title - Signature Page			
Revision History			
Estimated Resources Summary			
Description of Work			
I Task Description			
II Deliverables			
III Travel and Material Requirements			
BOE			

<b>Program Integration &amp; Control Contract Revision History</b>	<b>Task Order Number:</b> A-07-637	<b>Revision:</b> 1
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<b>Rev No.</b>	<b>Date</b>	<b>Change (+-Hours)</b>	<b>Change (+-\$K)</b>	<b>Summary</b>
1	02/27/2007		+120K	Addition of task 2 - Quality and Flight Equipment Support

<b>Program Integration &amp; Control Contract Estimated Resources Summary</b>				<b>Task Order Number:</b> A-07-637		<b>Revision:</b> 1	
<b>SOW</b>	<b>Title</b>	<b>Rev (Yes)</b>	<b>EP (per yr)</b>	<b>Hours</b>	<b>Travel (\$)</b>	<b>Material (\$)</b>	<b>Rev No.</b>

No Resource Summary Given

\* All training and training-related travel shall be considered an indirect cost, unless specifically approved by the CO/COTR

<b>Program Integration &amp; Control Contract</b> <b>Description of Work</b>	<b>Task Order Number:</b> A-07-637	<b>Revision:</b> 1
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**I TASK DESCRIPTION (Include Contract SOW Reference)**

An ISS Support Activity is work that has been determined by the CO/COTR to meet all of the following requirements

- 1: It is within the scope of the PI&C contract
- 2: It supports the ISS program and/or mission
- 3: It is not paid with ISS program funds

**Task 1 - Aerospace and Flight Mechanics Support (EG)**

Under contract SOW 3.1.1.1 Engineering and Technical Services, the contractor shall provide project management support of Aerospace and Flight Mechanics Division hardware and software systems to ensure the ISSP technical, cost, and schedule requirements are met. :

1. Support to the ANTARES simulation tool:

The support will consist of tasks such as the verification of Simulink models and the development of a process of incorporating these models received from contractors into the EG simulation such as ANTARES.

2. Support for ISS Visiting Vehicles:

Provide engineering support for design reviews and special analyses, such as effects of fuel slosh on the controller.

3. Support to the ISS Task

Perform peer reviews and independent assessments of ISS GN&C analysis results and development of test cases to validate upgrades to programs such as SOMBAT.

**Task 2 - Quality and Flight Equipment Support (NT)**

Under contract SOW 6.3.2 Probabilistic Risk Assessment (PRA), the contractor shall aid in the creation of a human reliability/human error database tool through extensive research, data collection and systematic analysis of that data. Specific models and case studies will be developed by data acquired through interactive research of unique crew and ground support activities, processes, and procedures available at NASA Johnson Space Center in support of the NASA Research & Technology Objectives & Plans (RTOP) activity.

**II DELIVERABLES**

**ITEM**

<b>NO.</b>	<b>DATA/PRODUCT DELIVERABLE</b>	<b>DELIVERY SCHEDULE/FREQUENCY OF SUBMISSION</b>
No Deliverables Given		

**III TRAVEL AND MATERIAL REQUIREMENTS**

**Fully Burdened ODC's**

**Total Cost**

**Fee (on Labor Cost)**

**Total Cost & Fee**

**\$120,000.00**

National Aeronautics and Space Administration  
 Lyndon B. Johnson Space Center  
 Houston, TX 77058

**ORDER FOR SUPPLIES OR SERVICES**

1. Order No.  
 A-07-331 Rev-2

2. Date Of Order  
 06/29/2007

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO.  
 Certified for National Defense under DFAS (15 CFR 700) DO-C9

3. Issuing Office:  
 NASA Johnson Space Center  
 2101 Nasa Parkway  
 Houston, TX 77058-3696  
 Org./Buyer: BJ/Lee Audet

4. Ship To:  
 Transportation Officer, Building 421  
 NASA Johnson Space Center  
 Houston, TX 77058-3696  
 Mark For: **Accountable Property**

Tel No.: (281) 483-1871 Fax:  
 E-mail: lee.a.audet@nasa.gov

Order No.: ~~A-07-637-Rev 1~~ **A-07-331-Rev 2**

5. Contractor:  
 Ares Corporation  
 16441 Space Center Blvd, Bldg A  
 Houston, TX 77058

6. Deliver On Or Before:

F.O.B. Point: Destination

Discount Terms: Net 30 Days

Phone: Fax:  
 TIN: CAGE CODE:

7. BILLING ADDRESS:  
 NASA Johnson Space Center  
 Attn: LF231/Accounts Payable Group  
 Houston, TX 77058-3696  
 Order No: ~~A-07-637-Rev 1~~ **A-07-331-Rev 2**

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order. Reference: ~~A-07-637-Rev 1~~ **A-07-331-Rev 2**

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: Melba M. York (Person authorized to sign)

Signature: *Melba M. York* Date: **9/25/07**

Name: Michelle Isermann

Signature: *Michelle Isermann* Date: **4/29/07**

CONTRACTING OFFICER

ITEM NO.	DESCRIPTION	11. Schedule				
		QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
1	NNJ04AA01C/TO B-07-637 Rev 1 The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add task 2 - Quality and Flight Equipment Support (RTOP) in accordance with the attached task description as partnered in SPICE. See page 2 for concurrence.					

12. For Internal Use Only.

Requisition No.: NA, Obligations are at the contract level  COMP.  PART. PPC:

13. Total

\$0.00

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED  ACCEPTED  RECEIVED

TO CONFORM TO THE CONTRACT, ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY:

Authorized U.S. Government Representative

Date

**NNJ04AA01C/TO A-07-331-Rev 2.** The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add ~~task 2~~ minor changes in WBS 1.3/WBS 1.4. Changes further define or add to the task in the areas of the DM/LEM Trade Study, PRACA Process improvements and the preparation of ISS Program IT Security plans and support of Agency Certification and Accreditation audit activities.

**International Space Station  
Program Integration & Control Contract  
Task Order**

Date Printed: 06/29/2007

Task Order Number:  
A-07-331

Revision:  
2

Contractor: ARES Corporation

Contract Number: NNJ04AA01C

Title: Management Integration and Control

Type: LOE:  IDIQ

**Period of Performance**

Estimated Start Date:  
10/01/2006

Estimated Completion Date:  
09/30/2007

**Approvals**

Title	Point of Contact	Phone	Date Approved
TMR Technical Review	Maca, John	(281) 483-8802	05/16/2007
Resource Analyst Technical Review	Powers, Debra	(281) 483-9805	05/24/2007
COTR Technical Review	Dyer, Brian	(281) 244-7380	06/22/2007
Contractor BOE	Linebarger, Marcy	(713) 933-6805	06/28/2007
TMR Final Approval	Maca, John	(281) 483-8802	06/29/2007
Resource Analyst Final Approval	Powers, Debra	(281) 483-9805	06/29/2007
Control Account Manager	Dyer, Brian	(281) 244-7380	06/29/2007
COTR Final Approval	Dyer, Brian	(281) 244-7380	06/29/2007
Contracting Officer	Isermann, Michelle B	(281) 483-8510	06/29/2007

**NOTE:** The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.

**Contents:**

- Title - Signature Page
- Revision History
- Task Description
- BOE

**Program Integration & Control Contract  
Revision History**

**Task Order Number:**  
A-07-331

**Revision:**  
2

<b>Rev No.</b>	<b>Date</b>	<b>Summary</b>
1	02/14/2007	Adjustment of Training and Material funding to match final proposed costs
2	05/14/2007	Minor changes in WBS 1.3.? WBS 1.4?changes further define or add to the task in the areas of the DM/CM?Trade Study, PRACA process?improvements and the preparation ISS Program IT security plans and support of Agency?Certification and Accreditation?audit activities.

Program Integration & Control Contract Estimated Resources Summary				Task Order Number: A-07-331		Revision: 2	
SOW	Title	Rev (Yes)	Quantity (Ordered)	Units	Travel (\$)	Material (\$)	Rev N
1.1	Program Management (2 domestic trips)	<input type="checkbox"/>	0	0			
1.2	Business Management (13 domestic trips)	<input type="checkbox"/>	0	0			
1.3	Config. Mgmt /Data Int. (8 domestic, 6 international trips)	<input type="checkbox"/>	0	0			
1.4	Program Info. Tech. (2 domestic, 8 international trips)	<input type="checkbox"/>	0	0			
<b>TOTAL RESOURCES</b>							

\* All training and training-related travel shall be considered an indirect cost, unless specifically approved by the CO/COTR

Program Integration & Control Contract Task Description			Task Order Number: A-07-331	Revision: 2	
SOW	Performance Requirement	Workload Indicators	Quantity	Schedule	DRD
1	MANAGEMENT INTEGRATION AND CONTROL				
1.1	PROGRAM MANAGEMENT				
1.1.1	Program Management and Administration	Program Management and Administration	Continuous	Continuous	N/A
1.1.1.1	Planning and Reviews				
1.1.1.1.1	PI&C Plans				
1.1.1.1.1a	Develop PI&C Management Plan	PI&C Management Plan	See DRD	See DRD	A-PM-01
1.1.1.1.1b	Develop PI&C Closeout Plan	PI&C Closeout Plan	See DRD	See DRD	A-PR-02
1.1.1.1.2	Performance Management Reviews (PMRs)				
1.1.1.1.2.a	Conduct PMRs with NASA	PMRs	Once	Monthly	N/A
1.1.1.1.2.f	Provide integrated IMRPs & present at PMR	IMRPs	See DRD	See DRD	A-PM-02
1.1.1.1.3	Coordinate with NASA to make DR deliverables and other contract performance data compatible for MIS use and linkage.	Updates to subset of DR deliverable and contract performance data (PMR), including format changes, as required	Once	Monthly	N/A
1.1.1.1.4	PI&C Certification of Flight Readiness	PI&C CoFR Plan	See DRD	See DRD	A-PM-03
1.1.2	Internal/External Program Review Support	No requirements in current TO	N/A	N/A	N/A
1.2	BUSINESS MANAGEMENT				
1.2.1	RESERVED				
1.2.2	RESERVED				
1.2.3	Resource Management				
1.2.3.1	Financial Management				
1.2.3.1.a	Develop, implement, maintain, and update a contract financial system	Contract financial system	Continuous	Continuous	N/A
1.2.3.1.b	Contractor's financial planning system	Contractor's financial planning system	Continuous	Continuous	N/A
1.2.3.1.c	Financial reporting	NF533 M/Q Cost Reporting	See DRD	See DRD	A-PC-01
1.2.3.2	Performance Management				
1.2.3.2.1	Develop, implement, and maintain a Performance Measurement System (PMS)	PMS	Continuous	Continuous	N/A
1.2.3.2.2	Provide Cost Performance Reports (CPRs)	1. CPR	1. See DRD	See DRD	A-PC-02
1.2.3.2.2		2. CPR Earned Value Methodology Report	2. See DRD		A-PC-05
1.2.3.2.3	Subcontracts performance measurements reports	Subcontracts performance measurements reports	Included in 1.2.3.2.2	Included in 1.2.3.2.2	A-PC-02
1.2.3.2.4	PMS report	Summary CPR report at PMR	Once	Monthly	N/A
1.2.3.3	Organizational Management	Organizational/Workforce Reports	See DRD	See DRD	A-PC-03
1.2.3.4	Contract WBS	Contract WBS and WBS	See DRD	See DRD	A-PC-04

Task Order Report

1.2.5	Scheduling	Dictionary			
1.2.5.1	Schedule Management				
1.2.5.1	a) Develop ISSP schedules and schedule analysis	A-PC-06			
1.2.5.1	b) Prepare and report ISSP schedule metrics	Schedule metrics @ PMR	1	monthly	N/A
1.2.5.1	c) Provide month-end schedule and analysis for inclusion into the Integrated Program Schedule	Schedule and analysis showing progress to date versus planned for the current PI&C Task Orders.	1	Monthly	N/A
1.2.5.1.1	Integrated Program Schedule Management - provide Integrated ISSP resource-loaded and critical path and external interface linked schedules				
1.2.5.1.1.a	Develop ISSP schedules as required	ISSP schedules and charts for the IPSP/IMPR	5-10 schedules	Monthly	A-PC-0
1.2.5.1.1.b	Provide ISSP schedules updates and status reports	IMPR chart review for the IPSP	1	Every other week	A-PC-0
1.2.5.1.1.c	Maintain and update critical path integrated ISSP schedules	Integrated, summary-level critical path ISSP schedules for presentation at the IMPR	One top level	Monthly	A-PC-0
1.2.5.1.1.d	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. Updates to Program Management Information on PP&C Web site  2. Updates to schedule KPPi's in ISSP MIS, as required  3. Update MIS IMPR Chart	1. One  2. One  3. One	1. Monthly  2. Monthly  3. Monthly	A-PC-06
1.2.5.1.1.e	Research Options for Web-based interactive access to IPS	1. Read-only Access Capability Findings  2. Develop and implement interactive Web update capability for matrices	1. One  2. One		N/A
1.2.5.1.2	Provide deliverables to meet requirements, as defined in DRD A-PC-06, to the ISSP for issue identification, schedule status analyses, and special agenda schedule topics. The contractor shall provide these deliverables to the Integrated Program Schedule Panel (IPSP) in support of the ISSP.	1. Issue identification  2. Schedule status analyses  3. Special agenda topics	1. As identified  2. As required  3. Three	1. Weekly  2. Weekly  3. Monthly	N/A
1.2.5.1.3	Obtain, input, assess updates to IPS	1) Electronic Schedule updates from Boeing 10K, CMC, MIC, PI	1) One Each	1) Monthly	N/A

1.2.5.1.3		2) Electronic schedule update from MOD	2) One	2) Weekly	N/A
1.2.5.1.3		3) Electronic schedule update from MSFC REGEN ECLSS detail	3) One	3) Monthly	N/A
1.2.5.1.3		Matrix updates from Program participants	4) One Each	4) Every other week	N/A
1.2.5.10	Incorporate Detail Project Schedules	(e.g. ULC EXPRESS Pallet System, Spares)	As agreed		N/A
1.2.5.2	Scheduling System Support				
1.2.5.2.a	Operate a scheduling system identified in Section J-1, Appendix D, Table 1 in support of the ISSP	Operation and maintenance of the data in the scheduling system	As required		N/A
1.2.5.2.b	Review other contractor 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. Review other contractor schedules by participating in audits of Program Participants schedules	1. 1 audits	1. Monthly	N/A
1.2.5.2.b		2. Resolve schedule process and data issues	2. As identified	2. Monthly	N/A
1.2.5.3	Team Schedule Support	Top level and lower level schedules with analyses for IP Elements, and OM External Carrier teams.		As required	A-PC-06
1.2.5.3.a	Schedule status reports	1. Status reports to IP Elements and OM teams	1. Once	1. Weekly	N/A
1.2.5.4	Common Schedules Database (CSD) Archival Research Support	Research Options to Transition Legacy MSFC CSD Data to JSC	One Study		N/A
1.2.5.5	ISSP Planning Calendar/ Certification of Flight Readiness (CoFR) Review Meeting Matrix				
1.2.5.5.a	Maintain ISSP Planning Calendar on ISS Website	1. Upload ISSP Planning Calendar on ISS website	1. Twice	1. Weekly	A-PC-06
1.2.5.5.a		2. Distribute Hard Copies	2. Once	2. Weekly	A-PC-06
1.2.5.5.b	Provide maintenance of the CoFR Review Meeting Matrix	CoFR Review Meeting Matrix updates	Once	Weekly	A-PC-06
1.2.5.6	Schedule Risk Assessment				
1.2.5.6.a	Perform independent schedule assessments of hardware development and software schedules	Independent schedule assessments	As identified	Monthly	N/A
1.2.5.7	Special Schedule Trade Studies	Special Schedule Trade Studies	As identified	Monthly	N/A
1.2.5.8	Integrated Schedule Analysis	Schedule assessment	One	Monthly	N/A
1.2.5.9	Propose Alternate Report Formats	Revised Report Formats	As identified	Monthly	N/A
1.3	CONFIGURATION MANAGEMENT (CM) / DATA INTEGRATION (DM)				
1.3.1	Configuration Management	ISSP Configuration Management	Continuous	Continuous	N/A
1.3.1.1	Management and Administration	1. Establish and maintain ISSP CM policies, procedures, and requirements and an ISSP CM	1. Continuous	1. Continuous	N/A

1.3.1.1		Infrastructure 2. Updates to SSP 41170, SSP 50010, SSP 50123, and SSP 50172, SSP 50744, SSP 50421, SSP 50706, SSP 50764	2. 1 update for each document	2. Yearly	
1.3.1.1	Create additional CM processes	CM processes development	3 processes	Yearly	N/A
1.3.1.1	Evaluate key customer interface to CM program for improved process effectiveness	Produce a report detailing process improvements with an implementation plan	Once	March 2007	N/A
1.3.1.1.1	Develop and implement a CM Plan	CM Plan	See DRD	See DRD	
1.3.1.1.2	Participate in Technical Interchange Meetings (TIMs) and ISSP Milestone Reviews by providing inputs regarding CM	Participation in TIMs and ISSP Milestone Reviews	5 to 10 meetings	Yearly	A-CM-01 N/A
1.3.1.2	Configuration Status Accounting (CSA) and Verification	CSA requirements maintenance	Continuous	Continuous	N/A
1.3.1.2.1	Participate in ISS hardware and software Functional Configuration Audits (FCA) and Physical Configuration Audits (PCA)	Participation in FCAs and PCAs for all 1st time build configuration items at approximately 90% complete.	6 audits	Yearly	N/A
1.3.1.2.2	Participate in ISS acceptance reviews and readiness reviews	Participation in ISS acceptance reviews and readiness reviews	2 Acceptance Reviews, readiness reviews for 8 flights	Yearly	N/A
1.3.1.2.2	Provide Configuration Status Accounting support to the OCWG	Participate in OCWG	1 meeting	Weekly	N/A
1.3.1.2.3	Conduct CM audits of other ISS Program contracts	CM audits	A minimum of 1 audit for each of the ISS contracts (4)	Completed by May 31, 2007	N/A
1.3.1.2.4	Audit and validate program status accounting systems data	Data audit and validation for COSMOS	1 update	Daily	N/A
1.3.1.2.5	Baseline Maintenance. Monitor policy and procedures to ensure overall maintenance and control of baseline.	Review and evaluation of changes.	80-100 Change Packages	Monthly	N/A
1.3.1.3	Configuration Control				
1.3.1.3.01	Ensure execution of the Change Process	Ensure execution of the Change Process	Continuous	Continuous	N/A
1.3.1.3.01	Provide single point focal ISS program International partner Change Integrator	Assist in tracking, status, and closure of International Partner changes. Assist in managing IP actions, telecons, and IP CMTIMs	Continuous	Continuous	N/A
1.3.1.3.01	Provide a thorough review of all Directive Packages to ensure quality packages prior to submittal for NASA CM signature.	Provide metrics to document rework and cycle time.	80-100 Change Directive Packages	Monthly	N/A
1.3.1.3.02	Maintain CM blank forms/templates	Maintain all CM blank forms/templates	33 blank forms, 10 updates	Yearly	N/A
1.3.1.3.03	Provide CM Secretariats for	CM Secretariats	1. 8 board	1. Weekly	N/A

	all ISS Control Boards and Panels		meetings		
1.3.1.3.03			2. 4 multilateral board meetings	2. Monthly	N/A
1.3.1.3.03			3. 4 Program mgrs Qtrly reviews	3. Yearly	N/A
1.3.1.3.04	Provide meeting support	1. Meeting support	4. 4 SSCB's	4. Yearly	N/A
1.3.1.3.04		2. Multi-lateral meeting support	1. 23 meetings	1. Weekly	N/A
1.3.1.3.04		3. Decision Documents	2. 4 multilateral meetings	2. Monthly	N/A
1.3.1.3.05	Conduct a Change Screening Board (CSB).	CSB	3. 46 documents	3. Yearly	N/A
1.3.1.3.06	Develop a Change Engineer (CE) Handbook	CE Handbook	1 meeting	Weekly	N/A
1.3.1.3.07	Process changes specific to the PI&C contract in accordance with SSP 50123. 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. Process PI&C changes	Once	See DRD	A-CM-02 N/A
1.3.1.3.07		2. Evaluate ISSP changes originating from outside the PI&C contract	1. 15 change packages	1. Monthly	N/A
1.3.1.3.07		3. Provide support for special projects requiring lifecycle CM knowledge. Activities will include project planning, documentation changes, expedited CM process development and facilitation of new ISS requirements development to support expedited processing and ensure traceability of data is available for certification of flight readiness.	2. 85 change packages	2. Monthly	N/A
1.3.1.3.08	Input, maintain, and validate the Configuration Status Management Operations System (COSMOS) database and provide accurate information, reports, and monthly metrics	1. COSMOS database update	3. Continuous	3. Continuous	N/A
1.3.1.3.08		2. Reports and metrics	1. 5-8 changes	1. Monthly	N/A
1.3.1.3.08		3. Coordinate and control user functionality of COSMOS tool.	2. 20 metrics	2. Monthly	N/A
1.3.1.3.08	Process all ISS change directive packages (in addition to PI&C changes processed under 1.3.1.3.7).	Obtain, track, and status directive package signatures. This includes obtaining change signatures, change action tracking, and change request/directive data entry into COSMOS.	3. Continuous	3. Continuous	N/A
1.3.1.4	Reserved.		80-100 Change Directive Packages	Monthly	N/A
1.3.1.5	Software Configuration Management Requirements	Software CM Requirements maintenance in SSP 41170 and	2 documents	Yearly	N/A

		D684-10293 Vol. 1			
1.3.2	Program Data Management and Integration				
1.3.2.1	Data Management	Data Management System	Continuous	Continuous	N/A
1.3.2.1.1	Update and maintain SSP 50573, Program Documentation Tree	1. Maintain working version of SSP 50573	1. One update	1. Weekly	N/A
1.3.2.1.1		2. Release updated document tree within ISS Program	2. Continuous	2. Continuous	N/A
1.3.2.1.2	Update and maintain the ISSP technical documentation baseline	Upload approved documentation to EDMS and capture documentation data in COSMOS	5 documents	Weekly	N/A
1.3.2.1.3	Not required in current TO.				
1.3.2.1.4	Data Requirement (DR) receipt, tracking, monitoring, reporting, validation, evaluation, distribution, status, and storage for ISSP contracts and the IP/P data deliverables incoming to the ISSP	1. DR Receipt, tracking, monitoring, reporting, validation, evaluation, distribution, status, and storage of DRs identified in ISSP contracts	1. 170 deliverables	1. Monthly	N/A
1.3.2.1.4		2. Tracking of IP/P data deliverables identified in SSP 50124, SSP 50126, SSP 50127, SSP 50137, SSP 50407, SSP 50611, SSP 50614, SSP 50617	2. 25 deliverables	2. Monthly	N/A
1.3.2.1.5	Manage and operate the International Partner library	IP Library management and operation, including receipt, logging, and storage of IP data, such as but not limited to, protocols, faxes, BDEALS deliverables, safety data packages, hazard reports, drawings, NAS15-10110 contract deliverables, etc.	300 entries into EDMS	Monthly	N/A
1.3.2.1.6	PI&C Provide an Engineering Release Unit (ERU)	PI&C ERU	5-8 documents/DCNs released	Monthly	N/A
1.3.2.1.7	Operate a Configuration PI&C Management Receipt Desk (CMRD)	PI&C CMRD	300 change paper items	Monthly	N/A
1.3.2.1.7	Operate a CMRD support function to coordinate the ISS Program review of Shuttle and Constellation Program Changes	Provide Shuttle Program and Constellation Program CR review and response coordination	100 changes	Monthly	N/A
1.3.2.1.8	Provide Document Quality Assurance (DQA) for ISSP PI&C documentation, other ISSP documentation not included in another ISSP Contract, and joint ISS/CxP documentation. Lower boards and team documents will only have low level DQA.	DQA reviews and updates	Up to 20 documents	Monthly	N/A
1.3.2.2	Program Technical Data Access				
1.3.2.2.0a	Integrate and maintain the Orbital Replacement Unit (ORU) data and Flight	Maintain ORUDD with ORU & FSE 8 data updates		Twice per quarter	N/A

	Support Equipment (FSE) data in the Orbital Replacement Unit Data Directory (ORUDD)				
1.3.2.2.0b	Define requirements for access to Program data by all ISS users	Program data access report and associated requirements	Once	As required.	A-DI-
1.3.2.2.1	Not required in current task order.				
1.3.2.2.2	Book Coordination				
1.3.2.2.2.a	Provide book coordination functions for Blank Books	Blank Book updates	One	Yearly	N/A
1.3.2.2.2.b	BDEALS/BHSEALS	SSP 50126, SSP 50124, SSP 50127, SSP 50407, SSP 50137, SSP 50611, SSP 50614, SSP 50617, SSP 50352, and SSP 50648 updates	1 update per book	Every 6 months per book (June & December)	N/A
1.3.2.2.2.c	SSP 50622-03	Periodic updates to SSP 50622-03	2 updates	Yearly	N/A
1.3.2.2.3	Respond to requests for resolving data workflow process issues	1. Identification, Investigation, analysis and documentation of the data workflow processes involved and the associated interfaces	8	Yearly	N/A
1.3.2.2.4	Support to ISSP Data Users				
1.3.2.2.4.a	Respond to and resolve inquiries regarding ISSP data	Inquiry response	65	Monthly	N/A
1.3.2.2.4.b	Locate data, identify, and resolve data discrepancies and document data processes	Resolution of data discrepancies	16	Yearly	N/A
1.4	Program Information Technology (IT)				
1.4.1	IT Management				
1.4.1.0a	Employ a methodology which demonstrates consistency with the Software Engineering Institute (SEI) Capability Maturity Model Integrated (CMMI) Capability Level 3, or other comparable industry standard, to sustain any modifications to GFD tools.	Sustained tools employ a methodology equivalent to CMMI Capability Level 3	Continuous	Continuous through May 2007. Per task plan starting in June 2007.	N/A
1.4.1.0b	Develop and maintain unique ISS IT software tools and applications to support the continued development and operation of the ISSP, as defined in this contract	Not required in current Task Order	N/A	N/A	N/A
1.4.1.1	Report all IT delivered or direct costed to this contract in accordance with SSP 50222, ISS Program Capital Investment Process (CIP)	1. IT POP Planning products	1. Once	1. Annually with updates as requested	N/A
1.4.1.1		2. Fiscal Year IT Plan products	2. Once	2. Annually with quarterly updates as required	
1.4.1.2	Develop and implement an IT Security Plan		See DRD	Continuous	A-IT-03

	IT Security Plan				
1.4.1.3	Develop and implement an IT Management Plan	IT Management Plan	See DRD	See DRD	A-IT-1
1.4.1.3.1	Report IT performance metrics	1. IMPR	1. 12	1. Monthly on 1st working Monday of each month, except when 1st workday is a Monday, then 2nd workday of the month	N/A
1.4.1.3.1		2. PMR Level 1	2. 12	2. 3rd Thursday of each month	N/A
1.4.1.3.1		3. Level 2 and Level 3	3. 12	3. 2nd Friday after 1st Monday of each month	N/A
1.4.1.5	Develop and implement IT project plans	Develop and implement project plans to conduct an IT study, IT proposal, or IT development project providing statement of the problem, operational concept, system level requirements, preliminary design, schedule, staffing plan, and cost estimate	3	As requested	A-IT-02
1.4.1.6	Develop and implement an IT Performance Management and Capacity Plan	IT Performance Management and Capacity Plan	Once	Updates as required	N/A
1.4.1.7	Develop and implement an IT Technology Infusion Proposal	IT Technology Infusion Proposal	Two	As requested	N/A
1.4.1.7.1	Conduct and report trade studies on IT technologies, tools, architectures, methods, processes, trends, and organizations	Report or white paper documenting problem, opportunity for the study; items / options studied or evaluated; evaluation method (including criteria or requirements, weighting, and scoring algorithms); detailed results (including individual scores and rational), conclusion and recommendation.	Three	As requested	N/A
1.4.1.7.2	Execute recommendations as defined in trade studies.	Perform critical first steps as documented in the DM/CM Trade Study Report.	Once	Per task plan	N/A
1.4.2	IT Systems Management and Operations				
1.4.2.0a.1	Provide the ISSP customer community with full life cycle system support for ISSP IT systems, applications, web pages, platform systems, services, equipment, etc., as defined in Appendix E and Appendix F, Table 1, Table 2, and Table 3. IT applications will be provided to the contractor in the sustaining phase of the Life Cycle.	1. Full life cycle system support for items defined in Attachment J-1, Appendix E and Appendix F, Table 2.	1. See Attachment J-1, Appendix E and Appendix F, Table 2	1. Continuous	N/A
1.4.2.0a.2		2. Limited life cycle system support for unique ISS	2. Continuous	2. Continuous	

		requirements for the EDMS identified in Attachment J-1, Appendix E			
1.4.2.0a.3		3. EDMS Sustaining.	3.	3.	
1.4.2.0a.3		3.f. Perform business admin functions including access management.	3.f. Continuous	3.f. Continuous	N/A
1.4.2.0a.3		3.a. Support the ISS community by providing EDMS training and anomaly resolution. Define requirements, workflows and document lifecycles, and reports for implementation by the JSC Information Resources Directorate. Define and conduct testing to ensure products meet ISS defined requirements.	3.a. Continuous	3.a. Continuous	N/A
1.4.2.0a.3		3.b. Complete IOMS migration to EDMS task, including retirement plan for IOMS.	3.b. One	3.b. Per task plan	N/A
1.4.2.0a.3		3.c. Provide tier 2 user support function.	3.c. Continuous	3.c. Continuous	N/A
1.4.2.0a.3		3.d. Provide user training on common and specific product features. Hold monthly user forums.	3.d. Once	3.d. Monthly	N/A
1.4.2.0a.3		3.e. Perform business process analyses to identify how Windchill technology can be better utilized to meet ISS requirements.	3.e. Continuous	3.e. Continuous	N/A
1.4.2.0a.4		4.c. Prepare new training materials and conduct training	4.c. Continuous	4.c. Continuous	N/A
1.4.2.0a.4		4.d. Prepare report that defines training strategy and options.	4.d. Once	4.d. March 2007	N/A
1.4.2.0a.4		4.e. Provide vendor consulting services to support migration effort.	4.e. Once	4.e. As requested	N/A
1.4.2.0a.4		4.a. Support EDMS migration activities including requirements and system documentation development, testing, training, and data cleansing/transfer tasks. Participate in migration project life cycle reviews.	4.a. Continuous	4.a. Continuous	N/A
1.4.2.0a.4		4. EDMS Migration	4.	4.	
1.4.2.0a.4		4.b. Implement necessary code changes to re-engineer existing ISS products as required for migration (e.g. reports, workflows, etc.)	4.b. Continuous	4.b. Continuous	N/A
1.4.2.0a.5		5. Continued Development.	5.	5.	
1.4.2.0a.5		5.a. Reserved			
1.4.2.0a.5		5.b. Life cycle support to the Single Sign-on Project in order to ensure applications incorporate user registration and verification, meet strong password authentication, extend current	5.b. One 3pt release per application may be required for SSO interface requirements.	5.b. Annually; per SSO project plan	N/A

		software functionality and maintainability of the tool.			
1.4.2.0a.5		5.c. COSMOS			
1.4.2.0a.5		5.c.i. Perform COSMOS data model and code analysis identifying modifications to improve performance, increase flexibility to incorporate new functionality, and reduce sustaining effort; include ROI for the identified modifications; implement identified modifications pending NASA direction	c.i. Once	c.i. As requested pending review of analysis results	N/A
1.4.2.0a.5		5.d. PRACA			
1.4.2.0a.5		5.d.i. Provide PRACA life cycle support to complete the process improvements of the PRACA Data System	5.d.i. Once	5.d.i. May 2007	N/A
1.4.2.0a.5		5.e. LLDB			
1.4.2.0a.5		5.e.i. Provide lifecycle support to enhance security and functionality	5.e.i. Once	5.e.i. November 2006	N/A
1.4.2.0a.5		5.f. HHRs			
1.4.2.0a.5		5.f.i. Define and implement detailed HHRs Export Control/Proprietary data handling requirements	5.f.i. Once	5.f.i. March 2007	N/A
1.4.2.0a.5		5.g. UTS			
1.4.2.0a.5		5.g.i. Implement necessary code changes to implement new requirements in tracking user id and user profile associated with the SSO ID field in UTS	5.g.i. Per project schedule	5.g.i. Per project schedule	N/A
1.4.2.0a.5		5.g.ii. Enhance UTS to support management processes	5.g.ii. Per project schedule	5.g.ii. Per project schedule	N/A
1.4.2.0a.5		5.d.iv. Provide design and implementation support for integrating the existing IFI database into the PRACA Data System and provide the ability to promote IFI items into PRs	5.d.iv. Once	5.d.iv. September 2007	N/A
1.4.2.0a.5		5.d.v. Provide design and implementation support for MRB signature changes.	5.d.v. Once	5.d.v. October 2007	N/A
1.4.2.0a.6		6.c.i. Support activities that will improve the functionality and maintainability of the ISS web servers.	6.c.i. Continuous per project schedule	6.c.i. Continuous	N/A
1.4.2.0a.6		6.c.ii. Support the distribution and administration of Contribute software tool, as well as the training of Contribute users.	6.c.ii. Continuous per project schedule	6.c.ii. Continuous	N/A
1.4.2.0a.6		6.d. Implement recommendation in CPF Trade Study (delivered in June 2006)	6.d. Once	6.d. March 2007	N/A
1.4.2.0a.6		6.e. Artemis LAN Migration Project			
1.4.2.0a.6		6.e.i. Produce a project plan for	6.e.i. Once	6.e.i. December	A-IT-02

		migrating ISS Artemis applications and data from the mainframe at MSFC to a Artemis LAN implementation. The PI&C Schedules team must be involved and agree with the plan.		2006	
1.4.2.0a.6		6.e.ii. Implement the above project plan.	6.e.ii. Once	6.e.ii. September 2007 (if project plan approved)	N/A
1.4.2.0a.6		6. Support for the design and implementation phases of the following projects:	6.	6.	
1.4.2.0a.6		6.a. Active Directory Migration	6.a. As requested	6.a. As requested	N/A
1.4.2.0a.6		6.b. Provide technical support and expertise to Program Data Access task defined in CM task above (see SOW 1.3.2.2.0b)	6.b. As requested	6.b. As requested	N/A
1.4.2.0a.6		6.c. Web Re-architecture			
1.4.2.0a.7	Develop project plans to support IT security initiatives such as HSPD-12, FISMA, etc.	7. Perform IT security strategic planning	7. As requested	7. Continuous	A-IT-02
1.4.2.0a.7		7.a. Prepare IT Security Certification & Accreditation (C&A) packages for ISS IT systems and support associated C&A audit activities.	Support for one HIGH (SDIL) and one MODERATE (IPF). Up to to 5 LOW catagorized IT systems, as requested.	IPF in May 2007 and SDIL in June 2007. Post-audit support, as required, through September 30, 2007.	N/A
1.4.2.0b	Provide life cycle support methodology consistent with Software Engineering Institute (SEI) Capability Maturity Model Integrated (CMMI) Capability Level 3 and with the Information Technology Infrastructure Library (ITIL), as it compliments the CMMI processes	PI&C Life cycle support operates at the CMMI and ITIL capability levels identified in the Process Improvement Plan, P-IM-116	Continuous	Per project schedule as defined in Process Improvement Plan	N/A
1.4.2.0c	Provide streamlining of the life cycle methodology	Streamline life cycle methodology	Continuous	Continuous	N/A
1.4.2.0d	Address IT security in each phase of the life cycle	Incorporate IT security in the life cycle methodology	Continuous	Continuous	N/A
1.4.2.0e	Implement IT system performance standards	Implementation of IT system performance standards	See Attachment J-1, Appendix E	Continuous	N/A
1.4.2.0f	Provide book coordination of SSP 50013 and SSP 50222	Updates to SSP 50013 and SSP 50222	One update per document	As requested	N/A
1.4.2.0g	Property Custodian	Property management of IT equipment	Attachment J-1, Appendix F, Table 3	Continuous	N/A
1.4.2.1	IT Life Cycle Systems Engineering				
1.4.2.1.01	Review Government-provided policies, architectures, standards, and procedures	Recommended modifications and implementation strategies	Continuous	Continuous	N/A
1.4.2.1.02	Provide a representative to attend recurring	Representative at recurring meetings	1 representative at:		

	Government-sponsored meetings				
1.4.2.1.02					
1.4.2.1.02			A. ISS AIT	A. Bi-weekly	N/A
1.4.2.1.02			B. JSC IT Steering Council	B. Bi-weekly	N/A
1.4.2.1.02			C. Network Access Control Board	C. Weekly	N/A
1.4.2.1.02			D. OCSO Meeting	D. Monthly	N/A
1.4.2.1.02			E. Security Birds of a Feather	E. Monthly	N/A
1.4.2.1.02			F. EDMS Meetings	F. Three per week	N/A
1.4.2.1.02			G. IRD Customer Forum	G. Monthly	N/A
1.4.2.1.02			H. JSC Workstation Group	H. Weekly	N/A
1.4.2.1.02			I. Active Directory Working Group	I. Weekly	N/A
1.4.2.1.02			J. JSC Web Committee	J. Monthly	N/A
1.4.2.1.05	Submit procurement requests to deliver commercial off-the-shelf (COTS) software, hardware, and associated maintenance agreements. Maintenance will be provided by the government for existing COTS. Any additional requirements for the contractor to procure hardware, software, and maintenance would include a CR to increase the cost of the contract to accommodate the procurement activity.	As requested	As requested	As requested	N/A
1.4.2.1.06	Develop, implement, and maintain IT Standard Operating Procedures (SOP)	SOP	Once	Updates as required	N/A
1.4.2.1.07	Develop, implement, and maintain an IT Configuration Management Plan	IT CM Plan	Once	Updates as required	N/A
1.4.2.1.08	Develop IT configuration reports on all equipment and software maintained by and/or operated by the contractor	IT Configurations Reports	Continuous	Continuous	N/A
1.4.2.1.10	IT Sustaining Engineering and Operation				
1.4.2.1.10.1	Provide sustaining engineering for multimedia, computer, and network systems	Sustaining engineering	Attachment J-1, Appendix E and Appendix F, Table 2	Continuous	N/A
1.4.2.1.10.2	Manage third party maintenance and license agreements	Management of third party maintenance and license agreements, including a 5 year planning spreadsheet capturing all expected maintenance purchases.	Attachment J-1, Appendix F, Table 1 and Table 3	Annually per maintenance schedule	N/A
1.4.2.1.10.3	Ensure IT systems are	IT operation per Availability and	Continuous	Continuous	N/A

	functionally and operationally performing at the lowest possible operating cost and in accordance with NASA requirements	Cost Performance metrics			
1.4.2.1.10.4	Minimize disruption to system availability during normal working hours	Schedule outages with the customer in advance of the outage	Per SOP	Continuous	N/A
1.4.2.1.10.5	Establish and conduct a preventive maintenance and operational readiness program	Preventative maintenance and operational readiness program	Continuous	Continuous	N/A
1.4.2.1.10.5.1	Remedial Maintenance	Repair or replacement of failed equipment and restoration to operating condition	Attachment J-1, Apx F, Table 1	Continuous	N/A
1.4.2.1.10.5.2	Maintenance Agreements and License Management	Plans and schedules for maintenance agreement and license management	Attachment J-1, Apx F, Table 1 Attachment J-1, Apx F, Table 3	Annually per maintenance schedule	N/A
1.4.2.1.10.5.3	COTS Maintenance	Patches & version upgrades			
1.4.2.1.10.5.3		a. OS and System patches	a. As required	a. Continuous	N/A
1.4.2.1.10.5.3		b. Emergency patches	b. As required	b. Continuous	N/A
1.4.2.1.10.5.3		c. COTS patches	c. As required	c. Continuous	N/A
1.4.2.1.10.5.3		d. COTS upgrades	d. As required	d. Continuous	N/A
1.4.2.1.10.6	Operate and provide system administration for all systems Attachment J-1, Appendix E	Operation and system administration of IT systems as defined in the SOW	See Attachment J-1, Appendix E	Continuous	N/A
1.4.2.1.10.6.1	Provide Return to Service for IT systems	Return to Service for IT systems	See Attachment J-1, Appendix E	Continuous	N/A
1.4.2.1.10.6.2	System administration functions shall be performed to minimize disruption to system availability	Scheduling of system administration activities	Continuous	Continuous	N/A
1.4.2.1.10.6.3	Contractor system administrators shall acquire IT security training	IT security training for administrators	Per current NPR 2810.1A	Continuous	N/A
1.4.2.1.10.6.4	Provide backup, restore, and archive for IT systems	Backup for IT systems	See Attachment J-1, Appendix E	Continuous	N/A
1.4.2.1.10.7	IT Security Support	1. Advise ISSP customers and users on IT security policies	1. Continuous	1. Continuous	N/A
1.4.2.1.10.7		2. Implement approved firewall and networking solutions	2. Once per request (SR)	2. As required	N/A
1.4.2.1.10.7		3. Monitor production capabilities	3. Continuous	3. Continuous	N/A
1.4.2.1.10.7		4. Respond to requests for firewall and other IT security support	4. Once per request (SR)	4. As required	N/A
1.4.2.1.10.7		5. Provide review, testing and implementation of NASA CIS Benchmarks for Windows, Unix and Oracle platforms.	5. Continuous	5. Continuous	N/A
1.4.2.1.10.7.1	Maintain a knowledge base of security issues, problems, and resolutions	Knowledge base of security issues, problems, and resolutions	Continuous	Continuous	N/A
1.4.2.1.10.7.2	Perform periodic technical assessments, security testing of computer systems, and	1. Reports/results from technical assessments	1. As requested	1. As requested	N/A

	updates for JSC Computer Security Plans				
1.4.2.1.10.7.2		2. Security testing of computer systems per SOP	2. 4	2. Yearly	N/A
1.4.2.1.10.7.2		3. Provide inputs to updates of JSC Computer Security Plans	3. Per NPR 2810.1A	3. Per NPR 2810.1A	N/A
1.4.2.1.10.7.3	Process security-related incidents	1. Identification and analysis	1. Per incident	1. As required per incident	N/A
1.4.2.1.10.7.3		2. Securing computing resources	2. Per incident	2. As required per incident	N/A
1.4.2.1.10.7.3		3. Round the clock response to computer security incidents	3. 15% require after hours response capability	3. As notified by the ISS OSCO or JSC IT Security.	N/A
1.4.2.1.10.7.4	Provide analysis of security incidents relating to incorrectly configured systems	Analysis of security incidents and coordination with system owners per vulnerability scans by JSC IT Security or per contract SOP.	Once	Quarterly	N/A
1.4.2.1.10.7.5	Provide real time incident status reports	Real time incident status reports per SOW 1.4.2.1.10.7	Per incident	As required per incident	N/A
1.4.2.1.10.7.6	Manage interconnection access with International Partners (IPs)	Interconnection Security Agreements (ISA) with:			
1.4.2.1.10.7.6		1) ESA	1) Update	1) Annually	N/A
1.4.2.1.10.7.6		1a) Alenia	1a) Update	1a) Annually	N/A
1.4.2.1.10.7.6		1b) CNES	1b) Update	1b) Annually	N/A
1.4.2.1.10.7.6		1c) DLR	1c) Update	1c) Annually	N/A
1.4.2.1.10.7.6		1d) EADS	1d) Update	1d) Annually	N/A
1.4.2.1.10.7.6		2) ASI	2) Update	2) Annually	N/A
1.4.2.1.10.7.6		3) JAXA	3) Once	3) Annually	N/A
1.4.2.1.10.7.6		4) CSA	4) Once	4) Annually	N/A
1.4.2.1.10.7.7	Provide network and network security liaison support to the ISS Program with the ISS International Partner (IP)	1) Provide liaison with IPs to process requests for access to ISS servers and applications.	1) As requested by IP	1) Continuous	N/A
1.4.2.1.10.7.7		2) Coordinate technical implementation of the IP access between IP IT, NASA IT, ISS IT, and third parties teams.	2) As requested by ISS OCSO	2) Continuous	N/A
1.4.2.1.10.7.7		3) Attend Technical Interchange Meetings (TIM) with IPs	3) As requested by OH2	3) As requested	N/A
1.4.2.1.10.7.7		4) Attend NASA and third parties network and security meetings and seminars	4) As requested by OH2	4) As requested	N/A
1.4.2.1.10.7.7		5) Provide International Partners, IPWAN and IT security related expertise to other NASA organizations.	5) As requested by ISS OCSO	5) As requested	N/A
1.4.2.2	Work Authorization and User Support		Respond to 9000 customer requests for tasks in this subsection (in addition to those with specific quantities)		
1.4.2.2.1	Gather, organize, and disseminate IT information	1. Communication of IT information	1. Continuous	1. Continuous	N/A

	to the customer community including application outage schedules, status, etc.				
1.4.2.2.1		2. Reviewing and coordinating responses to e-mail traffic	2. Continuous	2. Continuous	N/A
1.4.2.2.2	User Requirements/Analysis				
1.4.2.2.2.a	Perform data gathering, entry, and analysis of requests	Data gathering, entry, and analysis of requests	1800 requests (SR, external access requests)	Yearly	N/A
1.4.2.2.2.b	Document and coordinate implementation of IT requirements requested for implementation by Institutional IT providers	Documentation and coordination of IT requirements	70% of requests as required by SR for JSC institutional services	Yearly	N/A
1.4.2.2.2.c	Serve as the primary point of contact for IT services required to support end users	Primary POC for IT Services		Yearly	N/A
1.4.2.2.3	Develop an IT Capital Investment Plan for the ISSP	ISSP IT Capital Investment Plan	Once	Per SSP 50222	N/A
1.4.2.2.4	Loan Pool				
1.4.2.2.4.a	Serve as the primary point of contact for loan pool services	Primary POC for loan pool services	800 loan requests	Yearly	N/A
1.4.2.2.4.b	Develop and maintain user guides/desktop instructions for services that require user self-installation	1. Maintain existing Guides and instructions	1. Once	1. As required	N/A
1.4.2.2.4.b		2. Develop new guides and instructions	2. 1-2 guides	2. As required	N/A
1.4.2.2.4.c	Develop and maintain procedures for appropriate property management of the ISS loan pool products, compliant with NASA Property Management procedures	Standard Operating Procedures (SOPs) for ISS Loan Pool operations	Once.	Updates as required	N/A
1.4.2.2.4.d	Report property losses	Provide reports of property losses	Continuous	Continuous	N/A
1.4.2.2.4.e	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	Standard load	Once per configuration	Continuous	N/A
1.4.2.2.4.f	Provide augment standard load configuration in order to support specific user requirements	Unique updates to standard load	20% of loan pool request	Yearly	N/A
1.4.2.2.5	Ensure that the contractors internal work management and tracking systems interface seamlessly with the Customer Service System	Closed loop accounting for work authorizations	Continuous	Continuous	N/A
1.4.2.2.6	Track, resolve, and report on problems associated with systems, products, and services	Problem Reports	500	Yearly	N/A
1.4.2.2.7	Provide desktop support to ISSP IT not supported by other institutional providers.	1. Desktop support	1. 500	1, Yearly	N/A

	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.				
1.4.2.2.7		2. Customer Satisfaction Survey metric on all IT OPS ASRs servicing an end user	2. Continuous	2. Monthly (reported as Level 2 metric)	N/A
1.4.2.2.8	The contractor shall provide assistance in space utilization, coordination/facilitation, and planning for ISSP physical space requirements at JSC.	Physical space request assessments, coordination, recommendations, tracking, and reporting.	Continuous	Continuous	N/A

<b>Fully Burdened ODC's</b>			
<b>Total Cost</b>			
<b>Fee (on Labor Cost)</b>			
<b>Total Cost &amp; Fee</b>			<b>\$329,172.00</b>

**Fully Burdened ODC's**

**Total Cost**

**Fee (on Labor Cost)**

**Total Cost & Fee**

**\$143,834.00**

**Fully Burdened ODC's**

**Total Cost**

**Fee (on Labor Cost)**

**Total Cost & Fee**

**\$185,338.00**

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

# ORDER FOR SUPPLIES OR SERVICES

1. Order No.  
A-07-332 Rev-1

2. Date Of Order  
06/29/2007

**NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO.**  
Certified for National Defense under DPAS (15 CFR 700) DO-C9

3. Issuing Office:  
NASA Johnson Space Center  
2101 Nasa Parkway  
Houston, TX 77058-3696  
Org./Buyer: BJ/Lee Audet

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: **Accountable Property**

Tel No.: (281) 483-1871 Fax:  
E-mail: lee.a.audet@nasa.gov

Order No.: ~~A-07-637, Rev 1~~ A-07-332-Rev1

5. Contractor:  
Ares Corporation  
16441 Space Center Blvd, Bldg A  
Houston, TX 77058

6. Deliver On Or Before:  
F.O.B. Point: Destination  
Discount Terms: Net 30 Days

Phone: Fax:  
TIN: CAGE CODE:

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: ~~A-07-637, Rev 1~~ A-07-332-Rev1

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order.  
Reference: ~~A-07-637, Rev 1~~ A-07-332-Rev1

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: ~~Meibis~~ M. York (Person authorized to sign)

10. Name: Michelle Isermann

Signature: *Michelle York* Date: 9/25/07

Signature: *Michelle Isermann* Date: 6/29/07

CONTRACTING OFFICER

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
	11. Schedule NNJ04AA01C/TO B-07-637 Rev 1 The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add task 2 - Quality and Flight Equipment Support (RTOP) in accordance with the attached task description as partnered in SPICE. See page 2 for concurrence.					

12. For JSC Internal Use Only:

Requisition No.: NA, Obligations are at the contract level  COMP.  PART. PPC:

13. Total  
\$0.00

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED  ACCEPTED  RECEIVED

TO CONFORM TO THE CONTRACT, ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY:

Authorized U.S. Government Representative

Date

NNJ04AA01C/TO B-07-332-Rev1 The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add that the contractor shall manage RTOP/ECO documents in support of the COTS effort in accordance with the attached task description as partnered in SPICE.

**International Space Station  
Program Integration & Control Contract  
Task Order**

Date Printed: 06/29/07

Task Order Number:  
A-07-332

Revision:  
1

Contractor: ARES Corporation

Contract Number: NNJ04AA01C

Title: System Analysis and Integration

Type: LOE:  IDIQ

Estimated Start Date:  
10/01/2006

**Period of Performance**

Estimated Completion Date:  
09/30/2007

**Approvals**

Title	Point of Contact	Phone	Date Approved
TMR Technical Review	Dyer, Brian	(281) 244-7380	06/21/2007
Resource Analyst Technical Review	Powers, Debra	(281) 483-9805	06/21/2007
COTR Technical Review	Dyer, Brian	(281) 244-7380	06/21/2007
Contractor BOE	Linebarger, Marcy	(713) 933-6805	06/28/2007
TMR Final Approval	Dyer, Brian	(281) 244-7380	06/29/2007
Resource Analyst Final Approval	Powers, Debra	(281) 483-9805	06/29/2007
COTR Final Approval	Dyer, Brian	(281) 244-7380	06/29/2007
Contracting Officer	Isermann, Michelle B	(281) 483-8510	06/29/2007

**NOTE:** The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.

**Contents:**

- Title - Signature Page
- Revision History
- Task Description
- BOE

Program Integration & Control Contract Revision History			Task Order Number: A-07-332	Revision: 1
Rev No.	Date	Summary		
1	06/21/2007	The contractor shall manage IRD/ICD documents in support of the COTS effort		

Program Integration & Control Contract Estimated Resources Summary				Task Order Number: A-07-332		Revision: 1	
SOW	Title	Rev (Yes)	Quantity (Ordered)	Units	Travel (\$)	Material (\$)	Rev 2
2.2.1	Program Requirements and Interfaces	<input type="checkbox"/>	0	0			
2.2.2	System Performance Analysis and Integration	<input type="checkbox"/>	0	0			
2.2.3	Assembly and Configuration Definition/Analysis	<input type="checkbox"/>	0	0			
2.2.6	Strategic Analysis and Integration	<input type="checkbox"/>	0	0			
<b>TOTAL RESOURCES</b>							

\* All training and training-related travel shall be considered an indirect cost, unless specifically approved by the CO/COTR

Program Integration & Control Contract Task Description		Task Order Number: A-07-332	Revision: 1		
SOW	Performance Requirement	Workload Indicators	Quantity	Schedule	DRD
2	SYSTEM ENGINEERING, ANALYSIS, AND INTEGRATION				
2.1	RESERVED				
2.2	System Analysis and Integration				
2.2.1	Program Requirements and Interfaces				
2.2.1.1	ISS Specifications and ICDs Maintenance				
2.2.1.1.a	Provide book coordination functions for ISS Specifications, Interface Control Documents (ICDs), and Interface Requirements Documents (IRDs)	Updates to Specs, IRDs, ICDs	See Appendix H - revised	See DRD	A-SI-01 A-SI-02 A-SI-03
2.2.1.1.b	Maintain the contents of the Master File for all Specifications and ICDs/Interface Requirements Documents (IRDs)	Update Master File	1 update	Monthly	N/A
2.2.1.1.c	Maintain tracking logs of Specifications, CRs and ICD/IRD Revisions and History	Tracking Logs	1 update	Monthly	N/A
2.2.1.1.d	Maintain, update and produce Requirements Traceability and Management (RTM) Reports	RTM reports	See DRD	See DRD	A-SI-04
2.2.1.1.e	Identify and track non-incorporated CRs to all retired, or no longer actively maintained, ISS specifications and ICDs	Identification and tracking of non-incorporated CRs	1 CRs	Weekly	N/A
2.2.1.1.f	Review all program CRs to assess impacts to supported documents.	CR Evaluations	18 CRs	Weekly	N/A
2.2.1.2	Coordination and review of ISS Specifications and ICDs				
2.2.1.2.a	Provide technical review Specifications and ICDs during Milestone Reviews	Comments to Specifications and ICDs	3 reviews at 20 comments per review.	Yearly	N/A
2.2.1.2.b	Provide technical review and coordination of Preliminary Interface Notices (PIRNs) and Document Change Notices (DCNs)	Comments to PIRNs and DCNs	30	Monthly	N/A

2.2.1.3	ICWG					
2.2.1.3.1	Maintain and update Hardware Interfaces Tracking System (HITS) Microsoft Access database					
2.2.1.3.1.a	Track and provide ICD metrics reports	ICD Metrics reports	1		Monthly	N/A
2.2.1.3.1.b	Track and provide Element Manager Open PIRNs reports	Element Manager Open PIRNs reports	8		Weekly	N/A
2.2.1.3.1.c	Track and provide reports identifying TBDs	Reports identifying TBDs	1		Monthly	N/A
2.2.1.3.1.d	Track and provide Open Issues reports	Open Issues reports	1		Monthly	N/A
2.2.1.3.2	Provide administrative support for Milestone Reviews	Administrative support for Milestone Reviews	2		Yearly	N/A
2.2.1.3.3	Prepare, distribute, maintain and track Interface Memorandums	Interface Memorandums	9		Monthly	N/A
2.2.1.3.4	PIRN and DCN Development and Maintenance					
2.2.1.3.4.a	Prepare, distribute, process, maintain, and track Preliminary Interface Revision Notices (PIRNs)	ICD PIRNs	7		Monthly	N/A
2.2.1.3.4.b	Prepare, distribute, process, maintain, and track Document Change Notices (DCNs)	IRD DCNs	2		Monthly	N/A
2.2.2	System Performance Analysis and Integration	Recommendations to ISSP management and assistance in development of strategic requirements	Continuous		Continuous	A-SI-05
2.2.2.1	Mission Analysis and Integration					
2.2.2.1.1	Attitude Requirements					
2.2.2.1.1.a	Develop, coordinate and obtain ISSP approval of the flight attitude requirements for the ISS operations	Flight attitude requirements	One update		Quarterly	A-SI-05
2.2.2.1.1.b	Input and maintain approved attitude requirements in the Space Station Certification Baseline Document (SSP 50699-03)	Flight attitude requirements updates in Cert Baseline (SSP 50699-03)	Twice		Yearly	
2.2.2.1.2	Develop and coordinate the ISS altitude strategy	1. Altitude strategy assessment 2. Update Altitude Strategy in OSD 3. Provide inputs to Mission Integration team 4. VAC Statement Preparation	1. Once 2. Once 3. 1 per Increment 4. 1 per Flight		1. Quarterly 2. Annually 3. Increment-18 months	A-SI-06
2.2.2.1.3	Integrate rendezvous, proximity, and other special operations requirements and	1. Requirements and constraints for joint operations between ISS and all ISS Visiting Vehicles 2. Development of the Space	1. 1-2 design reviews and 75 biweekly teleconferences		4. L-2 months 1. Yearly 2. L-5 months 3. Monthly	A-SI-05

	constraints related to attitudes and system configurations for joint operations between the ISS and all ISS Visiting Vehicles	Shuttle/ISS Proximity Operations Timelines 3. Baseplate deliveries	2. 1 per Flight 3. Once		
2.2.2.1.3.1	Integrate rendezvous, proximity, and other special operations requirements and constraints related to attitudes and system configurations for joint operations between the ISS and the Crew Exploration Vehicle (CEV)	It is assumed that resources for these studies will be provided by an equivalent amount of work reduction in other items within this Task Order	As required	As required	A-SI-
2.2.2.1.3.2	Integrate rendezvous, proximity, and other special operations requirements and constraints related to attitudes and system configurations for joint operations between the ISS and the Commercial Orbital Transfer Services (COTS) vehicles.	It is assumed that resources for these studies will be provided by an equivalent amount of work reductions in other items within this Task Order	As required	As required	A-SI-0
2.2.2.1.4	Provide predictions for the ISS solar beta angle	Predictions for ISS solar beta angle	Once	Quarterly	A-SI-05
2.2.2.1.5	Develop, track, and maintain the strategic allocation of Vehicle technical resources	Strategic allocation of Vehicle technical resources	Once	Quarterly	A-SI-05
2.2.2.1.5.1	Coordinate projected water delivery and usage rates with ISSP suppliers and users of water	Projections for water delivery and usage rates	Once per increment	Increment -18 months	A-SI-05
2.2.2.1.6	Applications and Data Systems	Updates to applications and data systems	1 update for each of 4 applications and data systems.	Yearly	N/A
2.2.2.2	Mission Requirements and Support				
2.2.2.2.1	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	Strategic mission requirements, concepts, constraints, and resource allocations to Mission Integration Team and MOD	One initial delivery per Shuttle flight One update per Shuttle flight at Flight Operations Review	Launch - 18 months Launch - 6 months	N/A
2.2.2.2.2	Review of Operations Products				
2.2.2.2.2.a	Review the ISS operations plans and procedures to ensure that all ISSP strategic technical constraints are satisfied	Comments to ISS operations plan and procedures	Once per Shuttle flight at FOR	Launch - 6 months	N/A
2.2.2.2.2.b	Review crew procedures	Comments to crew procedures	Once per Shuttle	Launch - 6	N/A

	that are related to systems activation or rechannelization, or to environment interactions to ensure that all strategic technical constraints are satisfied		flight at FOR	months	
2.2.2.2.c	Review flight rules to ensure that all strategic technical constraints are satisfied	Comments to Flight Rules and review of ISS Flight Rule CRs	1. Once per Shuttle flight at FOR 2. Review of two ISS Flight Rule CRs	1. Launch - 6 months 2. Weekly	N/A
2.2.2.2.3	Stage Integration Reviews (SIRs)				
2.2.2.2.3.a	Coordinate the planning for and conduct the ISS SIRs as defined in SSP 50200-1	SIR planning and coordination	Once per SIR for 1 SIR	Yearly at Launch - 18 months	N/A
2.2.2.2.3.b	Report to ISSP Management issues and closure plans identified during SIRs	SIR issues reports with closure plans per ISSP SIR schedule	1. Once per SIR for 1 SIR 2. Updated status of all SIRs open work	1. Yearly 2. Quarterly	N/A
2.2.2.2.4	Provide technical support as needed to Mission Operations Directorate and to the ISSP through assessment of strategic ISS impacts during resolution of significant in-flight anomalies	Assessments of strategic ISS impacts resulting from anomalies	2	Yearly	A-SI-05
2.2.2.3	Provide overall system analysis and integration of the ISS and associated interfaces				
2.2.2.3.1	Integrate ISS operational procedures and hardware thermal performance data to ensure component survivability from launch to its activation on the ISS	LTA Analysis, which is a thermal assessment of assembly, deployment timeline and assumptions for external hardware in Shuttle Payload bay that is deployed on ISS (complexity and scope varies per flight)	One per Shuttle flight	Launch - 6 months	N/A
2.2.2.3.2	Provide recommendations to ISSP management in the development and prioritization of tasks performed by NASA institutional resources for the Shuttle/ISS Induced Loads and Plume Heating analyses	1. Recommendations regarding Shuttle/ISS Induced Loads 2. Recommendations regarding Plume Heating analyses	1. 1-2 recommendations 2. 1-2 recommendations	1. Yearly 2. Yearly	N/A
2.2.2.3.3	Develop and provide strategic assessments of ISS Thermal System Performance (TSP) throughout assembly phases and other significant ISS operations	Strategic assessments of ISS Thermal System Performance development.	Once per increment	Launch - 18 months	A-SI-05
2.2.2.3.4	Develop and provide heat load allocations to the ISS end-user community, based upon active heat	Heat load allocations development.	Once per increment	Launch - 18 months	A-SI-05

	rejection margin analysis					
2.2.2.3.5	Develop and provide power allocations to the ISS end-user community, based upon Integrated Energy Balance margin analysis	Power allocations for IDR development		Once per increment	Launch - 18 months	A-SI
2.2.2.3.6	Provide systems integration support for assembly, off-nominal situations, and strategic operations that involve the Electrical Power Subsystem.					
2.2.3	Assembly and Configuration Definition/Analysis					
2.2.3.1	Assembly Sequence Analysis and Definition					
2.2.3.1.01	Develop and maintain the Integrated Flight Schedule (IFS)	IFS		Two	Monthly	N/A
2.2.3.1.02	Develop and maintain the ISSP Crew Rotation Plan assessments	Crew Rotation Plan assessments		1. Two	1. Yearly	N/A
		1. SFP Development		2. Two - Three	2. Yearly	
		2. Special studies				
2.2.3.1.03	Develop and maintain the SCROALE (Schedule of Crew Rotation, On-orbit Assembly, Logistics, and EVA). Develop and maintain a summary Flight Program Figure that is an overview of the detailed SCROALE.	SCROALE/Flight Program figure		1. Two	1. Yearly	N/A
		1. SFP Development		2. Two	2. Yearly	
		2. Trade studies of assembly sequence options		3. Two	3. Yearly	
		3. Assembly Matrix updates				
2.2.3.1.04	Maintain and update the Reference Assembly Sequence Overview	Reference Assembly Sequence Overview		Two	Monthly	N/A
2.2.3.1.05	SFP Development	SFP		1. One	1. Yearly	N/A
		1. MIM (or equivalent) update		2. Three	2. Yearly	
		2. Assembly Sequence Overviews / Interim Assembly Sequence Trade Studies				
2.2.3.1.06	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	Assembly Sequence manifest, configuration and flight sequence issue/action resolution		1. 4 major issues	1. Yearly	N/A
		1. Major Issue resolution requiring more than a month to resolve		2. 6 minor issues	2. Yearly	
		2. Minor Issue resolution requiring less than a month to resolve				
2.2.3.1.07	Assess proposed tactical and strategic mission updates and identify issues and/or impacts to the SFP	Strategic and tactical assessments	8		Yearly	N/A
2.2.3.1.08	Shall integrate the inputs and provide the ISSP approved Flight Overview	Flight Overview Guidelines are developed to support MOD Operations Baselines per the ISSP		Not to exceed 10 flights	Yearly	N/A

	Guidelines to the Mission Operations Directorate	SIR schedule or to support Strategic Flight Plan development			
2.2.3.1.09	Provide the integration and coordination of strategic ISSP/SSP flight inputs to the Space Shuttle Program (SSP)	Strategic ISSP/SSP flight inputs to the Space Shuttle Program 1. CAWG inputs 2. FAWG inputs	1. 1 meeting 2. 1 meeting	1. Monthly 2. Monthly	N/A
2.2.3.1.10	Represent the Assembly and Configuration Team as a technical expert at boards and panels	Technical representative for Assembly & Configuration team 1. RIP 2. FPWG 3. IMT 4. PICB 5. JOP 6. Videoconferences/Telecons 7. VIPER 8. SSCB 9. MIOCB 10. Logistics & Maintenance End-to-End 11. SWG 12. RICP/MIP 13. VCB 14. Vehicle Configuration JTWG 15. Monthly CAD Users Group 16. CWG 17. AWG 18. Saber Panel	1. 3-4 meetings 2. 1-4 meetings 3. 4-8 meetings 4. 2-4 meetings 5. 1-3 meetings 6. 2-7 meetings 7. 2-4 meetings 8. 2 meetings 9. 1-2 meetings 10. 2-4 meetings 11. 1 meeting 12. 1-2 meetings 13. 1-2 meetings 14. 1-2 meetings 15. 1 meeting 16. 1-2 meetings 17. 2-4 meetings 18. 1-2 meetings	1. Monthly 2. Monthly 3. Monthly 4. Monthly 5. Quarterly 6. Monthly 7. Monthly 8. Annually 9. Monthly 10. Monthly 11. Monthly 12. Monthly 13. Monthly 14. Monthly 15. Monthly 16. Monthly 17. Monthly 18. Monthly	N/A
2.2.3.1.11	Provide technical inputs and review assessments for other ISSP documents or reviews.	Technical inputs to ISS documents and reviews. Documents include: IDRDS, GGR&C, SPIP (Volume 2), and Flight Data File Review (FDR). 1. Technical Coordination Meeting 2. Change Request Evaluations	1. 1-2 inputs 2. 15 inputs	1. Monthly 2. Monthly	N/A
2.2.3.2	External Configuration Analysis and Definition				
2.2.3.2.01	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	Review of maturing configuration data to maintain technical understanding of on-orbit vehicle assembly flows, hardware configuration, and configuration constraints	2 times	Month	N/A
2.2.3.2.02	Assess, integrate, and coordinate requirements associated to the ISS external vehicles configuration, including evaluating change requests that impact the external configuration for flight,	ISS external vehicle configuration requirements development 1. Review data for maturing hardware 2. Participate in design reviews	1. 2 times 2. 3 reviews	1. Monthly 2. Yearly	N/A

	intermediate, and/or stage configurations				
2.2.3.2.03	Maintain and update the SSP 50504, ISS Configuration Document and Assembly Matrix	1. SSP 50504 updates 2. Major Assembly Matrix update for Blue Book development 3. Minor Assembly Matrix update as flights have major Flight Overview changes	1. One 2. One 3. Two	1. Yearly 2. Yearly 3. Yearly	N/A
2.2.3.2.04	Maintain and coordinate the revision of SSP 30219, ISS Reference Coordinate Systems Document that documents the ISS reference coordinate systems for major elements and robotically handled items	SSP 30129 updates	One	Yearly	N/A
2.2.3.2.05	CAD Model Development Support				
2.2.3.2.05.a	Participate in CAD Model User Technical Interchange Meetings (TIMs) and Measurement Technical Interchange Meetings (TIMs). Provide inputs necessary to get the necessary validated and as-built CAD models	Participate in CAD Model TIMs and provide technical inputs per flight	One TIM	Launch - 12 months	N/A
2.2.3.2.05.b	Ensure that the external physical configuration data needed by the ISSP/SSP users is provided	Physical configuration data from CAD models is available to ISSP/SSP users	2 times	Yearly	N/A
2.2.3.2.06	Develop and gain concurrence of external configuration protocols with the International Partners and any other affected teams	IP External Configuration protocols	One	Yearly	N/A
2.2.3.2.07	Develop and review the mission-specific ISS/SSP On-Orbit Interface Control Document (ICD), Section 3, Physical Configuration for each Shuttle flight.	ISS/SSP On-orbit ICD, Section 3, Physical Configuration	Initial: One Shuttle flight Update: Four Shuttle flights	Initial: Baseline at Launch - 12 months Update: As required for configuration changes	N/A
2.2.3.2.08	Develop and distribute Vehicle Configuration Joint Working Group (JTWG) mission-specific vehicle configuration data sources letters to the ISSP/SSP community	JTWG mission specific configuration data sources letters	Initial: One per Shuttle flight Update: One per Shuttle flight	Initial: Launch - 9 months Update: Launch - 4 months	N/A
2.2.3.2.09	Track the location of external configuration items	Current and planned external configuration items location tracking 1. Major update with MIM/ISS Configuration Document update 2. FOR FDF review update 3. Post flight 4. Post stage update to reflect actual configuration	1. One 2. One update for each of 5 flights 3. One update for each of 5 flights 4. One update for each Stage EVAs	1. Yearly 2. Yearly 3. Yearly 4. Yearly	N/A
2.3.2.10	Maintain and utilize the	ExcATT web-based reports	1. One	1. Yearly	N/A

	External Configuration Analysis and Tracking Tool (ExCATT) and provide web-based reports accessible by the ISSP	<ol style="list-style-type: none"> <li>1. Major update with MIM/ISS Configuration Document update</li> <li>2. Update for assembly matrix (non-config doc version)</li> <li>3. FOR FDF review update</li> <li>4. COFR report</li> <li>5. Post flight</li> <li>6. Post stage</li> </ol>	<ol style="list-style-type: none"> <li>2. One</li> <li>3. One update for each of 3 Shuttle flights</li> <li>4. One for each flight</li> <li>5. One update for each of 3 Shuttle flights</li> <li>6. One update for 6 Stage EVAs</li> </ol>	<ol style="list-style-type: none"> <li>2. Yearly</li> <li>3. Yearly</li> <li>4. 2 weeks prior to SORR</li> <li>5. Landing plus 2 weeks</li> <li>6. EVA plus 2 weeks</li> </ol>	
2.2.3.2.11	Develop revisions of the On-orbit Assembly Modeling and Mass Properties Data Book	Mass Properties Data Book includes the flight, intermediate, stage, and Orbiter tile repair configurations thru 10A stage	See DRD	See DRD	A-SI-0
2.2.3.2.12	Convert launch and return mass properties provided by the ISS Vehicle Sustaining Engineering team to on-orbit mass properties for the development of the Blue Book	On-orbit mass properties for Blue Book	Two	Yearly	N/A
2.2.3.2.13	Review ISS Vehicle Sustaining Engineering team Launch - 30 days delivery of pre-flight on-orbit ISSP mass properties prior to every ISS flight docking, undocking and redocking. Coordinate and resolve issues due to mass properties differences between the Launch - 30 days data delivery and the Blue Book	Review Launch - 30 days mass properties and resolve disconnects with Blue Book	For each flight as follows: 2 Soyuz, 3-4 Progress, and 3 Shuttle	Launch - 30 days	N/A
2.2.3.2.14	Perform ISS clearance and external stowage analysis using approved 3D CAD models	ISS clearance and external stowage analysis	10	Yearly	N/A
2.2.3.2.15	Perform clearance analysis for docking vehicles assessing the clearance of dynamic docking envelopes and verifying docking requirements	Docking Vehicles clearance analysis	1	Yearly	N/A
2.2.3.2.16	Develop and deliver simplified 3D CAD models to the RSC-E in .igs and .step formats	Simplified 3D CAD models development and delivery to RSC-E for non-Russian Segment on-orbit configuration hardware	4 flights	Yearly	N/A
2.2.3.2.17	Perform 3D CAD model analysis to determine stowage of new or relocated external configuration items and determine any impact to follow-on assembly or	3D CAD model external configuration item stowage analysis	2	Yearly	N/A

	flight activities					
2.2.3.2.18	Provide electronic dimensioned and non-dimensioned hidden line or shaded drawings to support the development of ISS documentation	Dimensioned and non-dimensioned hidden line or shaded drawings	3		Yearly	N/A
2.2.3.2.19	Collect and track mass properties of the cargo elements and ORUs for flights scheduled in the strategic timeframe	Cargo elements and ORU mass properties  1. Major updates (MIM, or equivalent, update)  2. Minor updates (capture design maturity)	1. 1		1. Yearly	N/A
			2. 1		2. Monthly	
2.2.3.2.20	Provide launch vehicle ascent and descent weight assessments to support manifest assessments in the strategic timeframe	Launch vehicle ascent and descent weight assessments  1. Major assessments for MIM updates  2. Minor updates for design reviews and BDEALS deliveries	1. 1		1. Yearly	N/A
			2. 6		2. Yearly	
2.2.3.3	Internal Volume Configuration (IVC)					
2.2.3.3.01	Provide and maintain criteria for evaluating and prioritizing ISS internal volume demands in accordance with SSP 50261-01 (Generic Ground Rules and Constraints), Section 3.12, IVC Constraints & Ground Rules.	Input to SSP 50261-01 to include criteria for evaluation and prioritization of ISS internal volume demands	1		Yearly	N/A
2.2.3.3.02	Document and maintain the planned ISS IVA topology in SSP 50564	Updated ISS Interior Volume Configuration topologies  1. Baseline updated in SSP 50564 associated with MIM updates or major interim assembly sequence releases  2. Updates to working version based on latest program planning data, approved CRs, and hardware changes to support trade studies, hardware development, and IVA systems integration	1. 1		1. Yearly	N/A
			2. 1		2. Monthly	
2.2.3.3.03	Develop and maintain a unified 3D CAD model of	ISS integrated interior 3D CAD model consisting of all modules,	2 per ISS flight as per DRD		See DRD	A-SI-07

Task Order Report

	the Station's interior racks, and significant GFE for a particular ISS stage				
2.2.3.3.04	Graphically analyze the acceptability of the ISS planned configurations based on the documented pass/fail criteria	Reports in a predefined format of the graphic analysis of the ISS planned configuration based on evaluation of the ISS interior 3D CAD models, including VAC statement preparation	2 per ISS flight	1 at Launch - 9 months 1 at Launch - 3 months	A-SI-
2.2.3.3.05	Provide and maintain an IVC verification plan	Update IVC stage verification plan	2	Yearly	N/A
2.2.3.3.06	Develop major situation unique analyses, as required, to provide inputs to ISSP planning and issue resolution. This shall include significant integration analyses, major hardware design support, and presentation to ISS Boards and Review Panels.	Major situation unique analyses	3	Yearly	N/A
2.2.3.3.07	Develop minor situation unique analyses, as required, to provide inputs to ISSP planning and issue resolution. This shall include developing updated IVA topologies, relevant 3D CAD models, and reports on IVA issue resolution	Minor situation unique analyses	6	Yearly	N/A
2.2.3.3.08	Maintain the IVCWG website to record and communicate IVC activities to the NASA community	Update IVCWG website	2	Monthly	N/A
2.2.3.3.09	Participate in hardware design reviews to ensure identification and resolution of potential issues regarding design features that, if not resolved, would result in GGR&C IVC exceptions.	Identification of potential protrusions into ISS operational envelopes, that would require an exception to the GGR&Cs section 3.12, documented as RIDs in formal design reviews	2 hardware reviews	Yearly	N/A
2.2.3.3.10	Manage the IVCWG	Chair the Internal Volume Configuration Working Group (IVCWG) and document the IVC Program processes.	1	Monthly	N/A
2.2.3.3.11	Provide technical inputs and review for Payload Protrusion PIRNS and other ISSP documents or reviews.	Technical inputs to ISS documents and reviews. Documents include: IDRDs, Payload Protrusion PIRNs, and hardware ICDs	1. 3 2. 6 3. 3	1. Yearly 2. Yearly 3. Yearly	N/A
		1. IDRD inputs: Table 4.3 Accommodations Tables and Appendix D Topologies 2. Payload Protrusion PIRN reviews			

		Hardware ICDs and Associated TCMs			
2.2.6	Strategic Analysis and Integration				
2.2.6.1	Develop and provide strategic studies.	Special studies	Five	Yearly	A-SI-0
2.2.6.2	Maintain and update SSP 50112, ISS Operations Summary Document (OSD) and provide inputs to Increment Definition and Requirements Document to establish strategic allocations of resources for operations planning.	Updates to SSP 50112	Once	Yearly	A-SI-0
2.2.6.3	Develop and provide launch vehicle ascent and descent strategic mass and volume allocations.	Launch vehicle ascent and descent strategic mass and volume allocations.	One report for each non Russian flight.	Launch -24 months	N/A
2.2.6.4	Perform the ISS strategic resupply / logistics (traffic model) analyses	ISS strategic resupply / logistics (traffic model) analyses	Once	Quarterly	A-SI-05
2.2.6.5	Applications and Data Systems	Updates to applications and data systems	twice	Yearly	N/A

Fully Burdened ODC's

Total Cost

Fee (on Labor Cost)

Total Cost & Fee

\$202,432.00

**Fully Burdened ODC's**

**Total Cost**

Fee (on Labor Cost)

**Total Cost & Fee**

**\$202,432.00**

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

**ORDER FOR SUPPLIES OR SERVICES**

1. Order No. **A-07-333 Rev-1**      2. Date Of Order **06/29/2007**

**NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO. Certified for National Defense under DPAS (15 CFR 700) DO-C9**

3. Issuing Office:  
NASA Johnson Space Center  
2101 Nasa Parkway  
Houston, TX 77058-3696  
Org./Buyer: BJ/Lee Audet

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: **Accountable Property**

Order No.: ~~A-07-637~~, Rev **A-07-333-Rev1**

Tel No.: (281) 483-1871      Fax:  
E-mail: [lee.a.audet@nasa.gov](mailto:lee.a.audet@nasa.gov)

5. Contractor:  
Ares Corporation  
16441 Space Center Blvd, Bldg A  
Houston, TX 77058

6. Deliver On Or Before:

Attention: Marcy Linebarger

Phone:      Fax:  
TIN:      CAGE CODE:

F.O.B. Point: Destination

Discount Terms: Net 30 Days

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No.: ~~A-07-637~~, Rev **A-07-333-Rev1**

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order.  
Reference: ~~A-07-637~~, Rev **A-07-333-Rev1**

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: Melba M. York (Person authorized to sign)  
Signature: *Melba M. York* Date: **9/25/07**

10. Name: Michelle Isermann  
Signature: *Michelle Isermann* Date: **6/29/07**  
CONTRACTING OFFICER

11. Schedule

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
	NNJ04AA01C/TO B-07-637 Rev 1 The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the statement of work (SOW) to add task 2 - Quality and Flight Equipment Support (RTOP) in accordance with the attached task description as partnered in SPICE. See page 2 for concurrence. The estimated					

12. For JSC Internal Use Only:  
Requisition No.: NA, Obligations are at the contract level       COMP.  PART. PPC:

13. Total  
\$0.00

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED       ACCEPTED       RECEIVED

TO CONFORM TO THE CONTRACT.  
ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY: \_\_\_\_\_

JSC Form 1429 (Rev November 10, 2004) (MS Word August 1995)

Authorized U.S. Government Representative \_\_\_\_\_ Date \_\_\_\_\_

**NNJ04AA01C/TO A-07-333-Rev1: The purpose of this revision to the Support Activities task order for the International Space Station (ISS) Program Integration and Control Contract is to modify the Statement of work (SOW) in accordance with the attached task description as partnered in SPICE. The estimated**

**International Space Station  
Program Integration & Control Contract  
Task Order**

**Task Order Number:**  
A-07-333

**Date Printed:** 06/29/2

**Revision:**  
1

**Contractor:** ARES Corporation

**Contract Number:** NNJ04AA01C

**Title:** Safety and Mission Assurance

**Type:** LOE:  IDIQ

**Estimated Start Date:**  
10/01/2006

**Period of Performance**

**Estimated Completion Date:**  
09/30/2007

**Approvals**

Title	Point of Contact	Phone	Date Approved
TMR Technical Review	Dyer, Brian	(281) 244-7380	06/20/2007
Resource Analyst Technical Review	Powers, Debra	(281) 483-9805	06/21/2007
COTR Technical Review	Dyer, Brian	(281) 244-7380	06/21/2007
Contractor BOE	Linebarger, Marcy	(713) 933-6805	06/28/2007
TMR Final Approval	Dyer, Brian	(281) 244-7380	06/28/2007
Resource Analyst Final Approval	Powers, Debra	(281) 483-9805	06/29/2007
COTR Final Approval	Dyer, Brian	(281) 244-7380	06/29/2007
Contracting Officer	Isermann, Michelle B	(281) 483-8510	06/29/2007

**NOTE:** The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.

**Contents:**

- Title - Signature Page
- Revision History
- Task Description
- BOE

**Program Integration & Control Contract  
Revision History**

**Task Order Number:**  
A-07-333

**Revision:**  
1

Rev No.	Date	Summary
1	06/20/2007	<p>1. Contractor shall accelerate the completion of subsystem notebooks in order to facilitate the 10A PRA model completion by end of FY08. This acceleration includes updating the models, coordinating external review (and updating as required), completing documentation, and presenting monthly status at SMAP. This also includes development of an additional methodology for common cause failures.</p> <p>2. In accordance with ISS Change Directive 10261 R.1, the contractor shall support the following COTS/CEV S&amp;MA integration activities for the remainder of FY07; 2 SRP reviews, 2 special topic meetings, 2 CDRs, and 5 document reviews</p>

Program Integration & Control Contract Estimated Resources Summary					Task Order Number: A-07-333	Revision: 1	
SOW	Title	Rev (Yes)	Quantity (Ordered)	Units	Travel (\$)	Material (\$)	Rev. No
6.0	S&MA (8 domestic, 13 international trips)	<input type="checkbox"/>	0	0			
<b>TOTAL RESOURCES:</b>							

\* All training and training-related travel shall be considered an indirect cost, unless specifically approved by the CO/COTR

<b>Program Integration &amp; Control Contract</b>		<b>Task Order Number:</b>		<b>Revision:</b>	
<b>Task Description</b>		A-07-333		1	
<b>SOW</b>	<b>Performance Requirement</b>	<b>Workload Indicators</b>	<b>Quantity</b>	<b>Schedule</b>	<b>DRDs</b>
0.0	See attached Excel file				

Fully Burdened ODC's

Total Cost

Fee (on Labor Cost)

Total Cost & Fee

\$54,041.00

Fully Burdened ODC's

Total Cost

Fee (on Labor Cost)

Total Cost & Fee

**\$132,049.00**

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

**ORDER FOR SUPPLIES OR SERVICES**

1. Order No. A-07-631 Rev-1      2. Date Of Order 08/22/2007      **NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO. Certified for National Defense under DPAS (15 CFR 700) DC-C9**

3. Issuing Office:  
NASA Johnson Space Center  
2101 Nasa Parkway  
Houston, TX 77058-3696  
Org./Buyer: BJ/Lee Audet  
  
Tel No.: (281) 483-1871      Fax:  
E-mail: lee.a.audet@nasa.gov

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: Accountable Property  
  
Order No.: A-07-631, Rev 1

5. Contractor:  
Ares Corporation  
16441 Space Center Blvd, Bldg A  
Houston, TX 77058  
  
Attention: Marcy Linebarger  
  
Phone:      Fax:  
TIN: CAGE CODE:

6. Deliver On Or Before:  
  
F.O.B. Point: Destination  
  
Discount Terms: Net 30 Days  
7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: A-07-631, Rev 1

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order. Reference: A-07-631, Rev 1  
 DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.  
  
Name: Melba M. York (Person authorized to sign)  
Signature: *Melba M. York* Date: 8/27/07

10. Name: Lee Audet  
Signature: *Lee Audet* Date: 8/27/07  
CONTRACTING OFFICER

11. Schedule

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
	<p>NNJ04AA01C/TO B-07-631 Rev 1 The purpose of this revision is to provide support to NASA OH for ISSP Budget Support, Assessments, and Cost Estimating in the budget analysis, risk identification, actual spending and presentation to Management of critical concerns and opportunities for ISS in accordance with the attached task description as partnered in SPICE. See page 2 for concurrence.</p> <p>The period of performance for this delivery order is from February 1, 2007 through September 30, 2007</p>					

12. For JSC Internal Use Only:  
Requisition No.: NA, Obligations are at the contract level       COMP.  PART. PPC:  
Issue To:  
13. Total \$943,182.00

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED       ACCEPTED       RECEIVED

TO CONFORM TO THE CONTRACT. ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.  
BY: \_\_\_\_\_  
Authorized U.S. Government Representative      Date

Fully Burdened ODC's

Total Cost

Fee (on Labor Cost)

Total Cost & Fee

**\$186,090.00**

<b>International Space Station Program Integration &amp; Control Contract Task Order</b>		<b>Task Order Number:</b> A-07-631	<b>Revision:</b> 1
<b>Contractor:</b> ARES Corporation		<b>Contract Number:</b> NNJ04AA01C	
<b>Title:</b> ISSP Budget Support/Assessments			
<b>Type:</b> LOE: <input checked="" type="checkbox"/> IDIQ <input type="checkbox"/>			
<b>Period of Performance</b>			
<b>Estimated Start Date:</b> 10/01/2006		<b>Estimated Completion Date:</b> 09/30/2007	
<b>Approvals</b>			
<b>Title</b>	<b>Point of Contact</b>	<b>Phone</b>	<b>Date Approved</b>
Task Monitor	Maca, John	(281) 483-8802	08/14/2007
TMR Technical Review	Maca, John	(281) 483-8802	08/14/2007
Resource Analyst Technical Review	Simmons, Debra	(281) 483-9805	08/14/2007
COTR Technical Review	Dyer, Brian	(281) 244-7380	08/14/2007
Contractor BOE	Harlan, Jennifer	(713) 933-6873	08/16/2007
TMR Final Approval	Maca, John	(281) 483-8802	08/21/2007
Resource Analyst Final Approval	Simmons, Debra	(281) 483-9805	08/22/2007
Control Account Manager	Dyer, Brian	(281) 244-7380	08/22/2007
COTR Final Approval	Dyer, Brian	(281) 244-7380	08/22/2007
Contracting Officer	Audet, Lee A	(281) 483-1871	08/22/2007
<p><b>NOTE:</b> The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.</p>			
<p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>Title - Signature Page</li> <li>Revision History</li> <li>Estimated Resources Summary</li> <li>Description of Work <ul style="list-style-type: none"> <li>I Task Description</li> <li>II Deliverables</li> <li>III Travel and Material Requirements</li> </ul> </li> <li>BOE</li> </ul>			

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

## ORDER FOR SUPPLIES OR SERVICES

Page 1 of 1

1. Order No.  
A-07-633 Rev-1

2. Date Of Order  
12/07/2006

**NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER NO.**  
Certified for National Defense under DPAS (15 CFR 700) DO-C9

3. Issuing Office:  
NASA Johnson Space Center  
2101 Nasa Parkway  
Houston, TX 77058-3696  
Org./Buyer: BG/Stacy Holden

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: **Accountable Property**  
  
Order No.: A-07-633

Tel No.: (281) 244-8260 Fax:  
E-mail: stacy.m.holden@nasa.gov

5. Contractor:  
Ares Corporation  
16441 Space Center Blvd Bldg A  
Houston, TX 77058  
  
Attention: Marcy Linebarger

6. Deliver On Or Before:  
  
F.O.B. Point: Destination  
  
Discount Terms: Net 30 Days

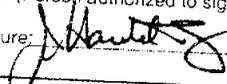
Phone: Fax:  
TIN: CAGE CODE:

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: A-07-633

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified in this order. Reference: A-07-633

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and issued subject to the terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: (Person authorized to sign) J. Harold Taylor  
Signature:  Date: 12/21/06

10. Name: Stacy Holden  
Signature:  Date: 12-7-06  
CONTRACTING OFFICER

ITEM NO	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED

12. For JSC Internal Use Only:  
Requisition No.: NA. Obligations are at the contract level  COMP.  PART PPC:  
Reissue To:

13. Total  
\$2,856,362.00

14. Quantities in "Quantity Accepted" Column Have Been  
 INSPECTED  ACCEPTED  RECEIVED

TO CONFORM TO THE CONTRACT ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY:

Authorized U.S. Government Representative \_\_\_\_\_ Date \_\_\_\_\_

**International Space Station  
Program Integration & Control Contract  
Task Order**

**Task Order Number:**  
A-07-633

**Date Printed:** 12/07/2006

**Revision:**  
1

**Contractor:** ARES Corporation

**Contract Number:** NNJ04AA01C

**Title:** Engineering and Technical Services Support

**Type:** LOE:  IDIQ

**Period of Performance**

**Estimated Start Date:**  
10/01/2007

**Estimated Completion Date:**  
09/30/2008

**Approvals**

Title	Point of Contact	Phone	Date Approved
TMR Technical Review	Orosco, Henry <i>Army General</i>	(281) 244-7821	11/14/2006
Resource Analyst Technical Review	Carruthers, Peggy	(281) 483-6373	11/17/2006
COTR Technical Review	Dyer, Brian	(281) 244-7380	11/17/2006
Contractor BOE	Linebarger, Marcy	(713) 933-6805	11/21/2006
TMR Final Approval	Orosco, Henry	(281) 244-7821	11/28/2006
Resource Analyst Final Approval	Carruthers, Peggy	(281) 483-6373	12/01/2006
Control Account Manager	Hartman, Dan	(281) 244-7048	12/05/2006
COTR Final Approval	Dyer, Brian	(281) 244-7380	12/05/2006
Contracting Officer	Holden, Stacy M	(281) 244-8260	12/07/2006

**NOTE:** The concurrences above were evaluated in accordance with JSC Procurement Instruction Subpart 1804.72, Review and Approval of Contractual Instruments. They are based upon a determination of the reasonableness of the proposed resources, which are in accordance with the Statement of Work and Task Order. Each evaluator is responsible for reviewing, among other things, the proposed skill mix, labor categories, schedules, deliverables, materials, travel, and costs. In addition, the Basis of Estimate has been thoroughly vetted with the respective parties and has been determined reasonable and in the best interest of the Government by the Contracting Officer.

**Contents:**

- Title - Signature Page
- Revision History
- Estimated Resources Summary
- Description of Work
  - I Task Description
  - II Deliverables
  - III Travel and Material Requirements
- BOE

<b>Program Integration &amp; Control Contract</b>				<b>Task Order Number:</b>	<b>Revision:</b>
<b>Revision History</b>				A-07-633	1
<b>Rev No.</b>	<b>Date</b>	<b>Change (+-Hours)</b>	<b>Change (+-\$K)</b>	<b>Summary</b>	
1	11/14/2006		375,000		

Program Integration & Control Contract Estimated Resources Summary				Task Order Number: A-07-633		Revision: 1	
SOW	Title	Rev (Yes)	EP (per yr)	Hours	Travel (\$)	Material (\$)	Rev No.
3.1.1.1	Engineering and Technical Services	☐					
<b>TOTAL RESOURCES</b>							

\* All training and training-related travel shall be considered an indirect cost, unless specifically approved by the CO/COTR

<b>Program Integration &amp; Control Contract</b> <b>Description of Work</b>	<b>Task Order Number:</b> A-07-633	<b>Revision:</b> 1
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**I TASK DESCRIPTION (Include Contract SOW Reference)**

Under contract SOW 3.1.1.1 Engineering and Technical Services, the contractor shall perform the following tasks:  
1.0 Vehicle Office Support

The contractor shall maintain the OB-owned web pages by soliciting and implementing revisions from content owners. The contractor shall provide a point of contact for interfacing with the ISS web development team for updates to the design of OB-owned web pages.

1.1 Vehicle Systems Integration Office

1.1.1 The contractor shall provide Engineering Services to the Vehicle Office in accordance with SOW 3.1.1.1.2.2, Engineering Evaluation and Integration. The contractor shall support the Vehicle Office by coordinating or, as designated, leading the resolution of Vehicle system and system integration issues. This task includes representing the Vehicle Office in ISS decision forums, and providing oversight of preparation of flight products. The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.2.

- a. Coordinate or lead the resolution of Vehicle system integration issues through participation in issue resolution meetings or teleconferences, review or preparation of presentation material for ISS Program management, and communication of status and recommendations from the issue resolution team to the Program.
- b. Represent the Vehicle Office in ISS boards, panels, and working groups. Coordinate with appropriate technical teams and management the technical and resource position of the Vehicle Office as it relates to topics represented at these forums.
- c. Support design and integration reviews or audits to identify issues with hardware under development as it relates to impacts to the Vehicle hardware. Coordinate or lead resolution of identified issues.

1.1.2 Under contract SOW 3.1.1.1.2.5 Project Management, the contractor shall support the Vehicle Systems Integration Office by performing project management, project engineer, and integration tasks associated with ISS systems development and sustaining efforts. This task will include serving as the facilitator and focal point for issues and concerns relating to the assigned systems integration tasks.

The contractor shall support the tasks identified below in support of the Vehicle Systems Integration Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.5.

- a. Evaluate, negotiate, and document requirements between hardware provider and ISS requirement stakeholders.
- b. Evaluate and track hardware development issues and schedules with the provider.
- c. Evaluate development designs through the Systems Requirements Review (SRR), Preliminary Design Review (PDR), Critical Design Review (CDR), and System Acceptance Review (SAR) process.
- d. Monitor, track and negotiate changes to system work plans, schedules and cost within delegated authority.
- e. Identify and assess threats to key milestones completion and corresponding program impacts.
- f. Represent the Vehicle Office for assigned development projects and systems integration tasks at ISS reviews and meetings and present results of impact assessments.
- g. Prepare Interdivisional Technical Agreement (ITA) status report addressing technical, cost and schedule issues associated risks.
- h. Negotiate and resolve issues for projects that cross multiple ISS systems.

i. The contractor shall provide project management support of Aerospace and Flight Mechanics Division hardware and software systems to ensure the ISSP technical, cost, and schedule requirements are met.

1.1.5 Under SOW 3.1.1.1.2.5 Project Management Support, support the Vehicle Systems Integration Office and the System Teams by assisting with the coordination of schedules, metrics, and risks associated with vehicle systems. The tools used should be available to all team members. The contractor will work one-on-one with system managers and their teams and should be able to identify where there are gaps in existing scheduling functions and develop tools to bridge those planning gaps. The contractor shall

- a. Discern key project and sustaining task milestones from system manager planning and major meetings.
- b. Develop and maintain system work flow plans and schedules.
- c. Incorporate individual project schedules into an integrated system management schedule.

## 1.2 Element Integration Office

1.2.1 Under SOW 3.1.1.1.2.5 Project Management Support, support the Element Integration Office as an Element Integration Engineer for assigned Elements. The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.5.

- a. Evaluate change requests for applicability and impact to the elements managed by the Element Integration Team. Perform impact assessments of the change requests against baselined requirements and identify potential impacts to affected subsystems.
- b. Support the verification and NASA acceptance of assigned Elements.
- c. Coordinate the OMRSD process for assigned Elements.
- d. Provide leadership for the closure of requirements for flight through the CoFR process, assessing the status for a given flight and coordinating with the responsible technical teams to ensure closure of all issues.

1.2.2 The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2, SOW 3.1.1.1.5, SOW 3.1.1.2.3, and SOW 3.1.1.2.5.

- a. Under SOW 3.1.1.1.2 CoFR Process Support, support the Vehicle Office by coordinating, and as designated, leading, the development and update of the Vehicle Offices' CoFR plans and processes. Task shall include
- b. Assisting in the definition of and documentation of the Vehicle Office CoFR Implementation Plan.
- c. Coordinate and support the SORR development and presentation for the IP flights and USOS flights as necessary.

d. Under SOW 3.1.1.1.5 Office Metrics, support the Vehicle Office and the Vehicle Element Integration Office by developing and preparing flight readiness metrics.

e. Under SOW 3.1.1.1.2.3 Integrated Test and Verification Support, the contractor shall coordinate the OMRSD process for assigned elements and input the OMRSDs into the system. Provide support to the subsystems when entering requirements into the system. Identify all mandatory evaluators, schedule required meetings, track the evaluations and action items dispositions and consolidate the ISS inputs.

f. Under SOW 3.1.1.1.2.5 Project Management Support, support the Vehicle Element Integration Office as an Element Integration Engineer for assigned Elements.

1.2.3 Under SOW 3.1.1.1.2.3 Integrated Test and Verification (IT&V) Support, support the Vehicle Office as a Test and Verification Engineer, providing assessments and recommendations regarding environmental testing of hardware items and assemblies. The contractor shall review test reports and procedures, Space Station Operations Data Book (SSODB) short sheets, and hardware certification records to ensure the certification records are accurate and complete. The contractor shall represent the Vehicle Office in Program forums and lead resolution of certification and assigned test and verification issues.

In addition, the contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.3.

- a. Manage the development, coordination and approval of Bilateral Verification Plans between NASA and the International Partners.
- b. Review and provide recommendations on the verification approaches and Verification Logic proposed by the hardware provider(s).
- c. Assess and provide recommendations on proposed verification and risk mitigation tests performed at KSC.
- d. Review test planning documents and provide recommendations on the criticality and classification of the proposed test objectives and requirements for risk mitigation tests.
- e. Review and provide recommendation to hardware provider proposals for: test requirements, test procedures, test readiness review, test discrepancies and final test reports.
- f. Review and comment on ISS program change request related to the test and verification area.
- g. Represent the test & verification team during the Multi Element Integrated testing (MEIT), Integrated Systems Test (IST), and Hardware Software Integrated Test (HSI). The contractor shall have the technical expertise required and be able to make on-the-spot decisions regarding test discrepancies and configuration variances.
- h. Review test reports and procedures for Vehicle hardware items and integrated tests to understand the demonstrated capability and limitations of the hardware.
- i. Review ISS hardware certification records for accuracy and completeness as demonstrated by test, analysis, or exception/waiver.
- j. Represent Vehicle Office as Core team lead for SSODB short sheet review and approval.
- k. Coordinate with multiple disciplines to understand certification issues and communicate them to Vehicle Office Management.

1.2.4 Under contract SOW 3.1.1.1.1 Technical Integration Support, the contractor shall provide Technical Integration Support to the Vehicle Office. The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of 3.1.1.1.1.

- a. Support the verification and sell-off of the International Partner (IP/Participant hardware via verification Closure Notices/Qualification Reviews or equivalents, Acceptance reviews and CoFR. Tasks shall include:
  - i. Conduct Functional Configuration Audit (FCA) or equivalent pre-audit checklist reviews at review minus (R-60) and review minus fourteen (R-14) day review readiness assessments and daily audit status reviews for the assigned USOS and IP/IP participant elements. Checklists and reviews shall be conducted in accordance with the FCA process. Each element will have the FCA process tailored based on needs and agreements.
  - ii. Prepare audit readiness recommendations for NASA element integration manager.
  - iii. Gather materials required for review documentation in the form of notebooks that will aid each individual team to close out their verification activities.
  - iv. Input and Maintain data in program-supported tracking database.
  - v. Participate in the preparation of in-briefs and out-briefs for program management.
  - vi. Aid in the facilitation and implementation of review process.
- b. Provide process definition and documentation for the conduct of Qualification (or equivalent) and Acceptance review meetings for assigned USOS, International Partner (IP), and IP/Participant Elements. Tailor processes used for US ISS Pressurized and Unpressurized Element reviews to those to be used for IP/P elements. Customize process flows for each element based on lessons learned, complexity of element systems, needs and international agreements.
- c. Investigate and report status of all open NASA action items and Verification Closure Notices (VCNs) via the Open Paper Management Tool (OPMT) for assigned USOS, International Partner (IP), and IP/Participant Elements through the following review processes: Qualification Reviews or equivalents, pre-ARB, ARB and CoFR. Provide a summary

report of open items for each scheduled review. Conduct daily status meetings during reviews to ensure consistent processes are being implemented. Document issues as action items into OPMT.

- d. Coordinate the OMRSD process for assigned Elements and input the OMRSDs into the system. Provide support to the subsystems when entering the requirements into the system. Identify all mandatory evaluators, schedule required meetings, track the evaluations and action item dispositions, and consolidate the ISS inputs.
- e. Support the Vehicle Office by serving as the Vehicle Office Point of Contact (POC) for change request (CR) evaluations, TCM notices and Directive closures. Tasks shall include
  - i. Represent the Vehicle Office to the Configuration Management coordination reviews.
  - ii. Maintain a CR Mandatory Evaluation tracking system, maintain files on-line of all activity regarding CRs, comment EA evaluations and completions of CRs by the OB office. Maintain records and databases of CRs and other documentation for the Vehicle Office.
  - iii. Identify appropriate Vehicle evaluators, distribute evaluation packages for internal review, and monitor evaluation due dates.
  - iv. Consolidate all completed evaluations, comments and issues, submit them to Vehicle Management for approval and submit them to NASA and Boeing Change Management Receipt Desks.
  - v. Provide regular status to the Vehicle Office Management regarding CR processing metrics.
- f. Support the Test and Verification (T&V) element manager in the coordinating the ISS subsystems? review of changes and requirements related to the test and verification area. The contractor shall coordinate and schedule the meeting and teleconference required to support T&V issue resolution and requirements reviews.
- g. Develop and maintain the distribution list for the specific element T&V team. The contractor shall generate, distribute, and maintain T&V meeting agendas and minutes.
- h. Coordinate the OMRSD process and review for the T&V items. Identify all mandatory evaluators, schedule required meetings, track the evaluations and action items dispositions, and consolidate the ISS inputs.
- i. Support the T&V element manager in the review and closure of the element specific VCNs.
- j. Track Space Station Operations Data Book (SSODB) short sheet and hardware certification records.

1.2.5 Under contract SOW 3.1.1.1.2.1, 3.1.1.1.2.2 and 3.1.1.1.2.3, the contractor shall support the Internal Active Thermal Control (IATC) subsystem manager for the technical oversight of the Node 2/3 thermal design, integration, test and verification. The support shall include resolution of design issues associated with the integration of Government Furnished Equipment (GFE) provided to Alenia, resolution of issues associated with the Boeing developed thermal control system software, and support for test and verification activities at Alenia and the Kennedy Space Center (KSC). The support shall also include operations activities (e.g. NSTS integration, and 10A and 20A flight support and anomaly resolution).

1.2.6 The contractor shall provide Engineering Services to the Vehicle Office in accordance with SOW 3.1.1.1.2.4, Cable and Fluid Assessment. The contractor shall support the Vehicle Office by providing leadership of the verification of ISS fluid line and electrical cable on-orbit constraints. The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.2.4.

- a. Lead effort to define and implement on-orbit constraints testing necessary to complete ISS line/cable verifications for USOS and IP/P elements. Participate in test planning and performance.
- b. Provide leadership for the closure of requirements for flight through the COFR process.
- c. Review VCNs for the ISS line/cable on-orbit constraints and provide recommendations to the Vehicle Office management. Coordinate issues and open work with the responsible technical teams.
- d. Coordinate or lead the resolution of Vehicle line/cable on-orbit constraints issues through participation in issue resolution meetings or teleconferences, review or preparation of presentation material for ISS Program management,

and communication of status and recommendations from the issue resolution team to the Program.

1.2.7 The contractor shall provide Engineering Services to the Vehicle Office in accordance with SOW 3.1.1.1.2.3, Integrated Test and Verification. The contractor shall support the Vehicle Office by coordinating or, as designated, leading the resolution of leak test issues. This task includes representing the Vehicle Office in ISS decision forums, providing oversight of preparation of flight products.

The contractor shall perform the tasks identified below to support the Vehicle Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.3.

- a. Support the Test and Verification Team in the definition of ISS unique leak test requirements for the parts (e.g. Q seal), subcomponents (e.g. flex hoses, tanks, pumps), systems (e.g. thermal control systems, ECLSS), and Element (e.g. Node 2, Node 3, CAM).
- b. Define the acceptable test methods for leak testing, and review and concur with the test objectives and minimum configuration.
- c. Represent the T&V team at QD SPRT meetings.
- d. Manage the development, coordination and approval of Bilateral Verification Plans between NASA and the International Partners.
- e. Provide assessments and recommendations regarding proposed Element leak tests performed at KSC.
- f. Review test planning documents and provide recommendations on the criticality and classification of the proposed test objectives and requirements for risk mitigation tests.
- g. Review and provide recommendation to hardware provider proposals for: test requirements, test procedures, test readiness review, test discrepancies and final test reports.

### 1.3 Logistics and Maintenance Office

1.3.1 Under contract SOW 3.1.1.1.1 Technical Integration Support, the contractor shall support the teams and meetings of the Logistics and Maintenance Office of the Vehicle Office. Tasks shall include support to the Logistics and Maintenance Control Panel, the Maintenance and Resupply Team, and the Logistics Engineering Operations Working Group.

The contractor shall perform the tasks identified below in support of the Logistics and Maintenance Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.1.

- a. Schedule meetings and telecons for US and IP/P Logistics & Maintenance conferences. Conferences include weekly meetings on Logistics & Maintenance Integration, Logistics Engineering and On-Orbit Maintenance Operations.
- b. As needed, coordinate conference rooms, telecon numbers, distribution of presentation materials, and reproduction.
- c. Distribute agendas and other Logistics and Maintenance information and post information on web sites as needed.
- d. Track action items, develop minutes and protocols.
- e. Perform strategic assessments of ISS Vehicle performance and functionality given varying input assumptions, i.e. Assembly Sequence, number of Shuttle flights, pre-positioning achieved, post-Shuttle flight rate, etc.
- f. Perform assessments to determine the sensitivity of current maintenance strategies to the potential programmatic variables
- g. Identify vehicle/system performance risks & recommended strategies to mitigate risks
- h. Perform vehicle/system performance risk versus cost assessments
- i. Perform trade studies as required to support strategic maintenance planning

- j. Analyze spares requirements for the shuttle retirement and recommend the quantities of ORUs for each subsystem to support station through 2015.
- k. Provide an estimated cost for the procurements of spare ORU's for budgetary purposes.
- l. Assist with the technical evaluation of proposals from the contractor to determine the feasibility of cost and schedule.

#### 1.4 On-Orbit Engineering Office

1.4.1 Under contract SOW 3.1.1.1.1 Technical Integration Support, the contractor shall support the teams and meetings of the ISS Mission Evaluation Room (MER). The primary task is to develop meeting minutes for the ISS MER anomaly resolution meetings. During Shuttle missions, this support could result in the need for round the clock staffing. Individual Shuttle mission support requirements will be coordinated in advance with the On-Orbit Engineering Office.

The contractor shall perform the tasks identified below in support of the On-Orbit Engineering Office. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.1.

- a. Develop and distribute minutes of the MER anomaly resolution meetings.
- b. Develop and distribute MER Daily Notes.
- c. Develop and distribute minutes from the daily tagup meetings with the subsystem teams.
- d. Support planning meetings.
- e. Assist with Work Instruction development and revisions.
- f. Assist with engineering report development.

#### 1.5 Book Coordination Support

1.5.1 Under contract SOW 3.1.1.1.2.7 Book Coordination Support, the contractor shall provide book coordination support to the Vehicle Office for the following:

- a. SSP 50200-10, Station Program Implementation Plan, Volume 10: Sustaining Engineering (SE). This task includes supporting reviews and baselining of SE plans under development (Node 2, Node 3, JEM, Columbus, and Cupola) and updates to the main SE document, including the CSA appendix.
- b. The prime item development specifications (PIDs) which flow from SSP 41162, Segment Specification for the United States On-Orbit Segment (USOS)
- c. The interface control documents (ICDs) within the USOS.

#### 1.6 Expanded Crew Capability (ECC) Integration

1.6.1 The contractor shall provide Engineering Services to the Vehicle Office in accordance with SOW 3.1.1.1.2.1, Issue Resolution, and SOW 3.1.1.1.2.2, Engineering Evaluation and Integration. The contractor shall support the Vehicle Office in performing ECC Integration. The contractor shall coordinate or, as designated, lead the resolution of ECC integration issues. This task includes representing the Vehicle Office in ISS decision forums, and providing oversight of the preparation of flight products. The contractor shall perform the tasks identified below to support the Vehicle Office and ECC Integration. Additional tasks (not listed) may be required within the scope of SOW 3.1.1.1.2.1 and 3.1.1.1.2.2.

- a. Coordinate or lead the resolution of ECC integration issues with stakeholders through participation in meetings, teleconferences, reviews, and other communications.
- b. Communicate status and recommendation to the ECC Team and to ISS Management.

- c. Participate in overall ISS ECC policy, schedule, and budget development.
- d. Represent the ECC Integration in ISS boards, panels, and working groups. Represent ISS ECC Integration at JSC, other NASA Centers, and to International Partner forums. Coordinate the technical and resource position of the Vehicle Office with appropriate technical teams and management.
- e. Support design, development, and integration reviews of ECC-related systems and hardware to identify issues with hardware under development as it relates to impacts to Vehicle hardware and ECC goals. Coordinate or lead resolution of identified issues.

**II DELIVERABLES**

ITEM NO.	DATA/PRODUCT DELIVERABLE	DELIVERY SCHEDULE/FREQUENCY OF SUBMISSION
1.	As required in task description.	As required in task description.

**III TRAVEL AND MATERIAL REQUIREMENTS**

Travel: 13 domestic trips, 14 international trips.

**Fully Burdened ODC's**

**Total Cost**

**Fee (on Labor Cost)**

**Total Cost & Fee**

**\$375,000.00**

**Fully Burdened ODC's**

**Total Cost**

**Fee (on Labor Cost)**

**Total Cost & Fee**

**\$375,000.00**

**ORDER FOR SUPPLIES OR SERVICES**

1. Order No. <b>A-08-648</b>	2. Date Of Order <b>See Block 10</b>	NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER Certified for National Defense under DPAS (15 CFR 700) DO-C9
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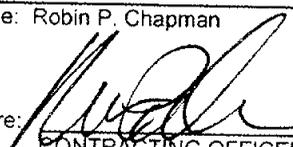
3. Issuing Office NASA Johnson Space Center Attn: BG\Robin P. Chapman, Contracting Officer Houston, TX 77058-3696  Tel. No.: (281) 483-8501 FAX: (281) 483-2370 E-Mail <a href="mailto:robin.p.chapman@nasa.gov">robin.p.chapman@nasa.gov</a>	4. Ship To: Transportation Officer, Building 421 NASA Johnson Space Center Houston, TX 77058-3696 Mark For: Accountable Property
---	--

5. Contractor  Ares Corporation 16441 Space Center Blvd , Bldg A Houston, TX 77058  Attention: Marcy Linebarger  Phone: 713-933-6804 Fax: 281-488-4970 TIN: 94-3161428 CAGE CODE: 1BYL8	6. Deliver On Or Before:  <b>September 30, 2008</b>
7. BILLING ADDRESS: NASA Johnson Space Center Attn: LF231/Accounts Payable Group Houston, TX 77058-3696 Order No: A-07-637, Rev 1	

8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not required. Sign below if required and return to contracting officer.  Name: _____ Signature: _____ Date: _____	10. Name: Robin P. Chapman  Signature:  Date: <u>1/28/09</u> CONTRACTING OFFICER
--	--

11. SCHEDULE						
ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>INFORMATION TECHNOLOGY STUDY (LOE)</b>  Labor  Non-labor Resources  Fee					

2. For Jsc Internal Use Only: Requisition No _____ <input type="checkbox"/> COMP <input type="checkbox"/> PART. PPC: _____ Reissue To: _____	13. Total  <b>\$290,551</b>
--	-----------------------------------

14. Quantities in "Quantity Accepted" Column Have Been:

INSPECTED  ACCEPTED  RECEIVED

TO CONFORM TO THE CONTRACT. ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED BY: \_\_\_\_\_

Authorized U.S. Government Representative

Date \_\_\_\_\_

**1.0 TITLE OF EFFORT:** Information Technology Security Study

**2.0 TASK DESCRIPTION:** The contractor shall provide an IT security study for the ISS Program Planning and Control Office. The study will support continuous monitoring phase activities within the ISS environment and components.

**2.1 STATEMENT OF WORK REFERENCE:** 3.1.1.1.3 - Special Studies

## **2.2 REQUIREMENTS**

### **2.2.1 Information Technology Security Study**

The contractor shall provide a study of Identity Management (IdM) and Access Control processes, procedures, tool for the User Tracking System (UTS). The study shall include processes, procedures, and tools associated with the IT Security Process Improvement Working Group (PIWG) and the Certification and Accreditation (C&A) of ISS IT systems.

This study shall address:

- a. Software Development and Integration Laboratory (SDIL) C&A documentation and provide recommendations relative to updating this documentation to meet the NIST SP 800-53 Rev. 1 security controls;
- b. Integrate Joint Station LAN (JSL) and On-Board ISS Avionics components (previously in SPOA0004) into the SDIL Security Plan (SPOA0003) and C&A Package;
- c. SDIL C&A Continuous Monitoring Phase documentation and process flows;
- d. SDIL implementation of mitigating controls for satisfactory resolution of POA&M items.

**3.0 PERIOD OF PERFORMANCE:** Effective date through September 30, 2008

**4.0 DELIVERABLES:** The contractor shall provide an IT security study status report on September 30, 2008.

**5.0 ESTIMATED COST**

**Program Integration Information Technology Support**

**Labor and Non-Labor Resources:**

<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Manager			
IT Professional III			
IT Professional II			
IT Professional I			

**Total Labor**

**Non-Labor Resources**

Travel

Training

Total NLR

**Subtotal**

**Fee**

**Total Estimated Cost**

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. **A-08-641R3**  
2. Date Of Order  
**See Block 10**

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER  
Certified for National Defense under DPAS (15 CFR 700) DO-C9

3. Issuing Office  
NASA Johnson Space Center  
Attn: BG\Lauren N. Johnson, Contract Specialist  
Houston, TX 77058-3696  
Tel. No.: (281) 483-2780 FAX: (281) 483-2370  
E-Mail [lauren.n.johnson@nasa.gov](mailto:lauren.n.johnson@nasa.gov)

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: Accountable Property

5. Contractor  
Ares Corporation  
16441 Space Center Blvd, Bldg A  
Houston, TX 77058  
Attention: Marcy Linebarger  
Phone: 713-933-6804 Fax: 281-488-4970  
TIN: \_\_\_\_\_ CODE \_\_\_\_\_

6. Deliver On Or Before:  
**September 30, 2008**

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: NNJ04AA01C

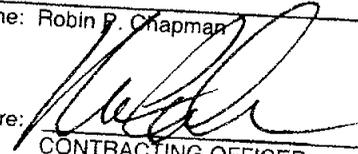
8. Type Of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

10. Name: **Robin P. Chapman**

Name: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Signature:  Date: **2/14/08**  
CONTRACTING OFFICER

## 11. SCHEDULE

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>ISSP BUDGET SUPPORT/ ASSESSMENTS</b>					
	Estimated Labor					
	Travel					
	Materials					
	Fee					

2. For Jsc Internal Use Only:

Requisition No.:

COMP

PART

PPC

13. Total

\$1,073,211

14. Quantities in "Quantity Accepted" Column Have Been:

INSPECTED

ACCEPTED

RECEIVED

BY: \_\_\_\_\_

TO CONFORM TO THE CONTRACT.  
ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED

Authorized U.S. Government Representative

Date

**1.0 TITLE OF EFFORT:** ISSP Budget Support/ Assessments

**2.0 TASK DESCRIPTION:**

**3.0 STATEMENT OF WORK REFERENCE:** SOW 1.2.4 ISSP Budget Support /Assessments

**4.0 REQUIREMENTS:**

**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 Program Planning and Control (PP&C) managers and resource analysts and provide reports.
- (c) The contractor shall maintain tracking of all approved purchase requests for the ISS Program Office.
- (d) The contractor shall maintain tracking of funding requirements for the ISS Program Office.
- (e) The contractor shall track monthly cost actuals for the Boeing ISS USOS Acceptance and Sustaining Engineering Contract NAS 15-10000 in IFM database.
- (f) The contractor shall support the Contract Resource Analyst for NASA 15-10000 and the Contracting Officer's Technical Representative (COTR) with data analysis and presentations, as required.

**1.2.4.2 ISSP Reserves/Changes Management Database Support**

The contractor shall use the SPICE 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.
- (c) The contractor shall provide ad-hoc product support to the Resources Management Office.
- (d) The contractor shall answer queries from NASA PP&C managers and Resource analysts and provide reports.

#### 4.2 Assessments and Cost Estimating Support

The contractor shall support the ISSP Assessments, Cost Estimating, and Schedules (ACES) Office in integrating content and formats of all assessments and analyses prior to delivery of all final ACES products.

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

(b) The contractor shall support the ACES Office in performing and integrating ad hoc parametric cost estimates, including but not limited to the preparation and documentation of individual cost estimates, the technical evaluation of contractor proposals, and the integration of component estimates to produce consolidated estimates and associated reports.

(c) The contractor shall support the ACES Office in the maintenance of analytic models associated with the development of parametric cost estimates and related assessments.

#### 5.0 DELIVERABLES

6.0 PERIOD OF PERFORMANCE: October 1, 2007 – September 30, 2008

#### 7.0 Travel

Trips	Destination	Travelers	Days	Purpose
1	Mt. Laurel, NJ	2	7	PRICE System H Training
1	El Segundo, CA	2	7	Galorath's SEER H Training
2	Daytona Beach, F	2	2	NASA PM Challenge
2	GSFC	2	2	ELC CDR
2	KSC	1	1	ELC CDR
2	KSC	1	1	COTS (1) PDR and (1) CDR

**7.0 ESTIMATED COST:**

**ISSP Budget Support/ Assessments**

**Labor and Non-Labor Resources:** R2

<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Manager I			
Business Specialist II			
Business Specialist I			
Business Specialist			

**Total Labor**

**Non-Labor Resources**

Travel  
Material

Total NLR

**Subtotal**

**Fee**

**Total Estimated Cost**

National Aeronautics and Space Administration  
 Lyndon B. Johnson Space Center  
 Houston, TX 77058

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. **A-08-341 R2**  
 2. Date Of Order **See Block 10**

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER  
 Certified for National Defense under DPAS (15 CFR 700) DO-C9

Issuing Office  
 NASA Johnson Space Center  
 Attn: BG/Robin P. Chapman, Contracting Officer  
 Houston, TX 77058-3696  
 Tel. No.: (281) 483-8501 FAX: (281) 483-2370  
 E-Mail [robin.p.chapman@nasa.gov](mailto:robin.p.chapman@nasa.gov)

4. Ship To:  
 Transportation Officer, Building 421  
 NASA Johnson Space Center  
 Houston, TX 77058-3696  
 Mark For: Accountable Property

5. Contractor  
 Ares Corporation  
 16441 Space Center Blvd , Bldg A  
 Houston, TX 77058  
 Attention: Marcy Linebarger  
 Phone: 713-933-6804 Fax: 281-488-4970  
 TIN: \_\_\_\_\_ CAGE CODE: \_\_\_\_\_

6. Deliver On Or Before:  
 August 31, 2008

7. BILLING ADDRESS:  
 NASA Johnson Space Center  
 Attn: LF231/Accounts Payable Group  
 Houston, TX 77058-3696  
 Order No: NNJ04AA01C

8. Type of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:  
 DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.  
 Name: \_\_\_\_\_  
 Signature: *Neelash Jyork* Date: 2/1/08

10. Name: Robin P. Chapman  
 Signature: *[Signature]* Date: 2/7/08  
 CONTRACTING OFFICER

## 11. SCHEDULE

ITEM NO	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>MANAGEMENT INTEGRATION &amp; CONTROL</b> Estimated Labor Non-Labor Resources Fee					

2. For Jsc Internal Use Only:  
 Requisition No.: \_\_\_\_\_  
 Reissue To: \_\_\_\_\_  
 COMP.  PART. PPC: \_\_\_\_\_  
 13. Total **\$5,584,576**

14. Quantities In "Quantity Accepted" Column Have Been:  
 INSPECTED  ACCEPTED  RECEIVED  
 TO CONFORM TO THE CONTRACT.  
 ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED BY: \_\_\_\_\_

Authorized U.S. Government Representative \_\_\_\_\_ Date \_\_\_\_\_

**1.0 TITLE OF EFFORT:** Management Integration & Control

**2.0 TASK DESCRIPTION:**

The 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.

**2.1 STATEMENT OF WORK REFERENCE:** 1.0 Management Integration & Control

**2.2 REQUIREMENTS / DELIVERABLES / SCHEDULE:**

SOW	Performance Requirement	Workload Indicators	Quantity	Schedule
1	<b>MANAGEMENT INTEGRATION AND CONTROL</b>			
1.1	<b>PROGRAM MANAGEMENT</b>			
1.1.1	Program Management and Administration	Program Management and Administration	Continuous	Continuous
1.1.1.1	Planning and Reviews			
1.1.1.1.1	PI&C Plans			
1.1.1.1.1a	Develop PI&C Management Plan	PI&C Management Plan	See DRD	See DRD
1.1.1.1.1b	Develop PI&C Closeout Plan	PI&C Closeout Plan	See DRD	See DRD
1.1.1.1.2	Performance Management Reviews (PMRs)			
1.1.1.1.2.a	Conduct PMRs with NASA	PMRs	Once	Monthly
1.1.1.1.2.f	Provide integrated IMRPs & present at PMR	IMRPs	See DRD	See DRD
1.1.1.1.3	Coordinate with NASA to make DR deliverables and other contract performance data compatible for MIS use and linkage.	Updates to subset of DR deliverable and contract performance data (PMR), including format changes, as required	Once	Monthly
1.1.1.1.4	PI&C Certification of Flight	PI&C CoFR Plan	See DRD	See DRD

	Readiness			
1.1.2	Internal/External Program Review Support			
<b>1.2</b>	<b>BUSINESS MANAGEMENT</b>			
1.2.3	Resource Management			
1.2.3.1	Financial Management			
1.2.3.1.a	Develop, implement, maintain, and update a contract financial system	Contract financial system	Continuous	Continuous
1.2.3.1.b	Contractor's financial planning system	Contractor's financial planning system	Continuous	Continuous
1.2.3.1.c	Financial reporting	NF533 M/Q Cost Reporting	See DRD	See DRD
1.2.3.2	Performance Management			
1.2.3.2.1	Develop, implement, and maintain a Performance Measurement System (PMS)	PMS	Continuous	Continuous
1.2.3.2.2	Provide Cost Performance Reports (CPRs)	1. CPR	1. See DRD	See DRD
1.2.3.2.2		2. CPR Earned Value Methodology Report	2. See DRD	
1.2.3.2.3	Subcontracts performance measurements reports	Subcontracts performance measurements reports	Included in 1.2.3.2.2	Included in 1.2.3.2.2
1.2.3.2.4	PMS report	Summary CPR report at PMR	Once	Monthly
1.2.3.3	Organizational Management	Organizational/Workforce Reports	See DRD	See DRD
1.2.3.4	Contract WBS	Contract WBS and WBS Dictionary	See DRD	See DRD
1.2.5	Scheduling			
1.2.5.1	Schedule Management			
1.2.5.1	Develop PI&C contract schedules and provide month-end schedule and analysis for inclusion into the Integrated Program Schedule	- Updates to TOs, contract mods - Monthly reviews and Updates	1	monthly
1.2.5.1	Prepare and report ISS Program schedule metrics	Schedule metrics @ PMR	1	Monthly
1.2.5.1	Develop and provide Integrated ISS Program budget-loaded, summary and intermediate level detail schedules and logic links to lower level detail schedules.	Schedule and analysis showing progress to date versus planned for the current PI&C Task Orders.		Monthly

1.2.5.1.1	Integrated Program Schedule Management	Provide Integrated ISSP resource-loaded and critical path and external interface linked schedules from all ISSP contractors and performing organizations into a single master ISSP schedule.		
1.2.5.1.1.a	Develop ISSP schedules as required	1. ISS Program schedules and charts for the IPSP, IMPR, EWS, ISS Organizational projects (e.g. ELC/HAB HW), ISS CRs with development tasks. 2. Develop high level EVM schedules (1 pagers).		Monthly
1.2.5.1.1.b	Provide ISSP schedules updates and status reports	IPSP reviews schedule updates and special topic charts including charts for IMPR/EWS emphasis.  Projects, incl. ISS CRs are statused / reviewed in PP&C/ACES.		Every other week for IMPR and EWS. As required As required
1.2.5.1.1.c	Maintain and update ISS critical HW/SW deliveries, activities & tasks integrated with ISS Program flight schedules.	Integrated, summary level and intermediate level detail schedules for program management. IMPR	One top level and one intermediate level	Weekly
1.2.5.1.1.d	Maintain and update the Integrated Program Schedule and the Key Program Performance Indicators (KPPIs) for the ISSP Management Information System (MIS) and PP&C website.	Updates to Program Management Information on PP&C Web site and IPS Schedules to ISSP MIS.	One set of updates	Monthly, weekly, bi-weekly (as agreed with program participants).
1.2.5.1.1.e	Support assessment of new scheduling tools and the assessment/development of new scheduling processes/products as required.	Schedule tool & process assessments/implementation		
1.2.5.1.2	Provide support to the Integrated Program Schedule Panel (IPSP).	Meeting planning, issue identification, schedule status analyses, special agenda topics	Once	Weekly
1.2.5.1.3	Obtain, input, assess updates to IPS	1) Electronic Schedule updates from Boeing 10K,	1) One each	1) Monthly

		CMC, MIC, PI  2) Electronic schedule update from MOD  3) Electronic schedule update from MSFC REGEN ECLSS detail  4) Matrix updates from Program participants	2) One  3) One  4) One each	2) Weekly  3) Monthly  4) Every other week
1.2.5.10	Incorporate Detail Project Schedules - Collect and incorporate detailed project schedules into the IPS, with concurrence from NASA.	Incorporate detail project schedules		
1.2.5.2	Scheduling System Support			
1.2.5.2.a	Operate a scheduling system identified in Section J-1, Appendix D, Table 1 in support of the ISS Program	Operation and maintenance of the data in the scheduling system		
1.2.5.2.b	Review other contractor 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. Review other contractor schedules by participating in audits of Program Participants schedules		Monthly
1.2.5.2.b		2. Resolve schedule process and data issues	2. As identified	2. Monthly
1.2.5.3	Team Schedule Support	Top level and lower level schedules with analyses (e.g. IP Elements, and ISS projects).		
1.2.5.4	Common Schedules Database (CSD) Archival Research Support	Not required during this performance period.		
1.2.5.5	Maintain ISS Program Planning Calendar and post on ISS Website	Update and upload ISS Program Planning Calendar on ISS website and distribute hard copies	Twice	Weekly
1.2.5.5	Provide maintenance of the CoFR Review Meeting	Participate in meetings, provide updates and post to	Once	Weekly

	Matrix	website		
1.2.5.6	Perform independent schedule assessments of HW and SW development, Integrated Assessments including schedule risk/cost analysis and critical path analyses.	Independent integrated schedule assessments	As identified	As required
1.2.5.7	Special Schedule Trade Studies	Perform special schedule trade studies.		
1.2.5.8	Integrated Schedule Analysis	Perform schedule analysis which can be integrated into the overall program assessment.		
1.2.5.9	Propose Alternate Report Formats	Develop and propose alternate report formats for NASA review and concurrence		
<b>1.3</b>	<b>CONFIGURATION MANAGEMENT (CM) / DATA INTEGRATION (DM)</b>			
1.3.1	Configuration Management	ISSP Configuration Management	Continuous	Continuous
1.3.1.1	Management and Administration	1. Establish and maintain ISSP CM policies, procedures, and requirements and an ISSP CM infrastructure	Continuous	Continuous
1.3.1.1		2. Updates to SSP 41170, SSP 50010, SSP 50123, and SSP 50172, SSP 50744, SSP 50421, SSP 50706, SSP 50764	Update as required	Yearly
1.3.1.1	Create additional CM processes	CM processes development	3 processes	Yearly
1.3.1.1	Evaluate key customer interface to CM program for improved process effectiveness	Produce a report detailing process improvements with an implementation plan	Once	March 2007
1.3.1.1.1	Develop and implement a CM Plan	Maintain and update a CM Plan	Update as required.	See DRD
1.3.1.1.2	Participate in Technical Interchange Meetings (TIMs) and ISSP Milestone Reviews by providing inputs regarding CM	Participation in TIMs and ISSP Milestone Reviews	5 to 10 meetings	Yearly
1.3.1.2	Configuration Status Accounting (CSA) and Verification	CSA requirements maintenance	Continuous	Continuous

1.3.1.2.1	Participate in ISS hardware and software Functional Configuration Audits (FCA) and Physical Configuration Audits (PCA)	Participation in FCAs and PCAs for all 1st time build configuration items at approximately 90% complete.	6 audits	Yearly
1.3.1.2.2	Participate in ISS Acceptance Reviews and Flight Readiness Reviews	Participate in ISS Acceptance Reviews and Flight Readiness Reviews	2 Acceptance Reviews and 8 Flight Readiness Reviews	Yearly
1.3.1.2.2	Provide Configuration Status Accounting support to the OCWG	Participate in OCWG	1 meeting	Weekly
1.3.1.2.3	Conduct CM audits of other ISS Program contracts	CM audits	A minimum of 1 audit for each of the ISS contracts (4)	Completed by May 31, 2007
1.3.1.2.4	Audit and validate program status accounting systems data	Data audit and validation for COSMOS	1 update	Daily
1.3.1.2.5	Baseline Maintenance. Monitor policy and procedures to ensure overall maintenance and control of baseline.	Review and evaluation of changes.	50-70 Change Packages	Monthly
1.3.1.3	Configuration Control			
1.3.1.3.01	Ensure execution of the Change Process	Ensure execution of the Change Process	Continuous	Continuous
1.3.1.3.01	Provide single point focal ISS program International partner Change Integrator	Assist in tracking, status, and closure of International Partner changes. Assist in managing IP actions, telecons, and IP CMTIMs	Continuous	Continuous
1.3.1.3.01	Provide a thorough review of all Directive Packages to ensure quality packages prior to submittal for NASA CM signature.	Provide metrics on PI&C and all contracts to document rework scoring.	50-70 Change Directive Packages	Monthly
1.3.1.3.02	Maintain CM blank forms/templates	Maintain all CM blank forms/templates	33 blank forms, 10 updates	Yearly
1.3.1.3.03	Provide CM Secretariats for all ISS Control Boards and Panels	CM Secretariats	1. 8 board meetings	1. Weekly
1.3.1.3.03			2. 6 multilateral board meetings	2. Monthly
1.3.1.3.03			3. 4 Program Manager Reviews	3. Quarterly
1.3.1.3.03			4. 4 SSCB's	4. Yearly, as required (currently

				supported by OX)
1.3.1.3.04	Provide meeting support	1. Meeting support	1. 23 meetings	1. Weekly
1.3.1.3.04		2. Multi-lateral meeting support	2. 6 multilateral meetings	2. Monthly
1.3.1.3.04		3. Decision Documents	3. 46 documents	3. Yearly
1.3.1.3.05	Conduct a Change Screening Board (CSB).	CSB	1 meeting	Weekly
1.3.1.3.06	Maintain the Change Engineer (CE) Handbook	CE Handbook, SSP 50706	Once	See DRD
1.3.1.3.07	Process changes specific to the PI&C contract in accordance with SSP 50123. 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. Process PI&C changes	1. 15 change packages	1. Monthly
1.3.1.3.07		2. Evaluate ISSP changes originating from outside the PI&C contract	2. 85 change packages	2. Monthly
1.3.1.3.07		3. Provide support for special projects requiring lifecycle CM knowledge. Activities will include project planning, documentation changes, expedited CM process development and facilitation of new ISS requirements development to support expedited processing and ensure traceability of data is available for certification of flight readiness.	3. Continuous	3. Continuous
1.3.1.3.08	Input, maintain, and validate the data in the Configuration Status Management Operations System (COSMOS) database daily and provide accurate information, reports, and monthly metrics	1. COSMOS database update	1. 50-70 changes	1. Monthly
1.3.1.3.08		2. Reports and metrics	2. 20 metrics	2. Monthly
1.3.1.3.08		3. Coordinate and control user functionality of COSMOS tool.	3. Continuous	3. Continuous
1.3.1.3.08	Process all ISS change	Obtain, track, and status	50-70 Change	Monthly

	directive packages (in addition to PI&C changes processed under 1.3.1.3.7).	directive package signatures. This includes obtaining change signatures, change action tracking, and change request/directive data entry into COSMOS.	Directive Packages (Directive Desk)	
1.3.1.4	Reserved.			
1.3.1.5	Software Configuration Management Requirements	Software CM Requirements maintenance in SSP 41170 and D684-10293 Vol. 1	2 documents	Yearly
1.3.2	Program Data Management and Integration			
1.3.2.1	Data Management	Data Management System	Continuous	Continuous
1.3.2.1.1	Update and maintain SSP 50573, Program Documentation Tree	1. Maintain working version of SSP 50573	1. One update	1. Weekly
1.3.2.1.1		2. Release updated document tree within ISS Program	2. Continuous	2. Continuous
1.3.2.1.2	Update and maintain the ISSP technical documentation baseline	Upload approved documentation to EDMS and capture documentation data in COSMOS	5 documents	Weekly
1.3.2.1.3	Not required in current TO.			
1.3.2.1.4	Data Requirement (DR) receipt, tracking, monitoring, reporting, validation, evaluation, distribution, status, and storage for ISSP contracts and the IP/P data deliverables incoming to the ISSP	1. DR Receipt, tracking, monitoring, reporting, validation, evaluation, distribution, status, and storage of DRs identified in ISSP contracts	1. 170 deliverables	1. Monthly
1.3.2.1.4		2. Tracking of IP/P data deliverables identified in SSP 50124, SSP 50126, SSP 50127, SSP 50137, SSP 50407, SSP 50611, SSP 50614, SSP 50617	2. 25 deliverables	2. Monthly
1.3.2.1.5	Manage and operate the International Partner library	IP Library management and operation, including receipt, logging, and storage of IP data, such as but not limited to, protocols, faxes, BDEALS deliverables, safety data packages, hazard reports, drawings, NAS15-10110 (RSA contract) deliverables, etc.	300 entries into EDMS	Monthly
1.3.2.1.6	PI&C Provide an Engineering Release Unit (ERU)	PI&C ERU	5-8 documents/DCNs released	Monthly

1.3.2.1.7	Operate a Configuration PI&C Management Receipt Desk (CMRD)	PI&C CMRD	300 change paper items	Monthly
1.3.2.1.7	Operate a CMRD support function to coordinate the ISS Program review of Shuttle and Constellation Program Changes	Provide Shuttle Program and Constellation Program CR review and response coordination	90 changes	Monthly
1.3.2.1.8	Provide Document Quality Assurance (DQA) for ISSP PI&C documentation, other ISSP documentation not included in another ISSP Contract, and joint ISS/CxP documentation. Lower boards and team documents will only have low level DQA.	DQA reviews and updates	Up to 20 documents	Monthly
1.3.2.2	Program Technical Data Access			
1.3.2.2.0a	Integrate and maintain the Orbital Replacement Unit (ORU) data and Flight Support Equipment (FSE) data in the Orbital Replacement Unit Data Directory (ORUDD)	Maintain ORUDD with ORU & FSE data updates	8	Twice per quarter
1.3.2.2.0b	Define requirements for access to Program data by all ISS users	Program data access report and associated requirements	Once	
1.3.2.2.1	Not required in current task order.			
1.3.2.2.2	Book Coordination			
1.3.2.2.2.a	Provide book coordination functions for Blank Books	Blank Book updates	One	Yearly
1.3.2.2.2.b	BDEALS/BHSEALS	SSP 50126, SSP 50124, SSP 50127, SSP 50407, SSP 50137, SSP 50611, SSP 50614, SSP 50617 and SSP 50352 updates	1 update per book, as required	Every 6 months per book (June & December)
1.3.2.2.2.c	SSP 50622-03	Periodic updates to SSP 50622-03	2 updates	Yearly
1.3.2.2.3	Respond to requests for resolving data workflow process issues	1. Identification, Investigation, analysis and documentation of the data workflow processes involved and the associated interfaces	8	Yearly
1.3.2.2.4	Support to ISSP Data Users			

1.3.2.2.4.a	Respond to and resolve inquiries regarding ISSP data	Inquiry response including special EDMS issues, Critical First Steps (CFS) and migration tasks	65	Monthly
1.3.2.2.4.b	Locate data, identify, and resolve data discrepancies and document data processes	Resolution of data discrepancies	16	Yearly

### 3.0 Travel:

# People	Duration	Location	Purpose
1	2 Days	San Francisco	Export Control
3	3 Days	Albuquerque NM	Reachback - Prism Architecture
2	3 Days	Daytona Beach	NASA PM Challenge

1	5 Days	Houston	PertMaster
2	3 Days	Daytona Beach	NASA PM Challenge
1	3 Days	GSFC	ELC CDR Quarterly (2)
1	3 Days	Los Angeles	COTS (1) PDR and (1) CDR
5	1 Day	KSC	Boeing Schedule Audit

2	5 Days	Jacksonville, FL	GEIA Meeting
1	5 Days	Manchester, NH	GEIA Meeting
1	5 Days	Pittsburg, PA	GEIA Meeting
2	3 Days	Daytona Beach	CM PM Challenge
2	3 Days	Italy	CM Board Support (Multilateral Vehicle Control Board)
2	3 Days	MSFC, Huntsville, FL	Passive FRAM Acceptance Review
1	2 Days	MSFC, Huntsville, FL	WRS PCA
2	3 Days	GSFC, MD	ELC Acceptance Reviews
2	2 Days	Long Beach, CA	PTC Windchill Conference
1	2 Days	MSFC, Huntsville, FL	Battery FSE Installation Kit PCA
1	5 Days	Kourou, French Guiana	MS&MAP
4	5 Days	Japan	International Configuration Management Team (ICMT) Meeting
2	3 Days	Germany	ASCB

**4.0 PERIOD OF PERFORMANCE:** October 1, 2007 – August 31, 2008

**5.0 ESTIMATED COST:**

**Management Integration & Control**

R2

**Labor and Non-Labor Resources:**

<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Program Manager			
Program Manager (Off-Site Manager			
Manager I			
Supervisor			
Analyst III			
Analyst II			
Analyst I			
Secretary			
Clerk			
Business Specialist II			
Business Specialist I			
Business Specialist			
<b>Total Labor</b>			
<b>Non-Labor Resources</b>			
Travel			
Training			
Materials			
<b>Total NLR</b>			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

# ORDER FOR SUPPLIES OR SERVICES

1. Order No.

A-08-342 R2

2. Date Of Order

See Block 10

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER  
 Certified for National Defense under DPAS (15 CFR 700) DO-C9

Issuing Office

NASA Johnson Space Center  
 Attn: BGI/Robin P. Chapman, Contracting Officer  
 Houston, TX 77058-3696

Tel. No.: (281) 483-8501 FAX: (281) 483-2370  
 E-Mail [robin.p.chapman@nasa.gov](mailto:robin.p.chapman@nasa.gov)

4. Ship To:

Transportation Officer, Building 421  
 NASA Johnson Space Center  
 Houston, TX 77058-3696  
 Mark For: Accountable Property

5. Contractor

Ares Corporation  
 16441 Space Center Blvd, Bldg A  
 Houston, TX 77058

Attention: Marcy Linebarger

Phone: 713-933-6804 Fax: 281-488-4970  
 TIN:

6. Deliver On Or Before:

August 31, 2008

7. BILLING ADDRESS:

NASA Johnson Space Center  
 Attn: LF231/Accounts Payable Group  
 Houston, TX 77058-3696  
 Order No: NNJ04AA01C

8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

10. Name: Robin P. Chapman

Name:

Signature:

*Robin P. Chapman* Date: 2/1/08

Signature:

*Robin P. Chapman*  
 CONTRACTING OFFICER

Date: 2/7/08

11. SCHEDULE

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>SYSTEM ANALYSIS &amp; INTEGRATION</b>					
	Estimated Labor					
	Trave					
	Materials					
	Fee					

2. For Jsc Internal Use Only:

Requisition No.:

COMP.

PART.

PPC

Reissue To:

13. Total

\$6,581,991

14. Quantities in "Quantity Accepted" Column Have Been:

INSPECTED  ACCEPTED  RECEIVED  
 TO CONFROM TO THE CONTRACT.

ACCPEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY:

Authorized U.S. Government Representative

Date

**1.0 TITLE OF EFFORT:** System Analysis & Integration

**2.0 TASK DESCRIPTION:**

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.

**2.1 STATEMENT OF WORK REFERENCE:** Section 2.0 – Systems Engineering, Analysis and Integration

**2.2 REQUIREMENTS, DELIVERABLES, SCHEDULE:**

	Performance Requirement	Workload Indicators	Quantity	Schedule
2	SYSTEM ENGINEERING, ANALYSIS, AND INTEGRATION			
2.1	RESERVED			
2.2	System Analysis and Integration			
2.2.1	Program Requirements and Interfaces			
2.2.1.1	ISS Specifications and ICDs Maintenance			
2.2.1.1.a	Provide book coordination functions for ISS Specifications, Interface Control Documents (ICDs), and Interface Requirements Documents (IRDs)	Updates to Specs, IRDs, ICDs	See Appendix H - revised	See DRD
2.2.1.1.b	Maintain the contents of the Master File for all Specifications and ICDs/Interface Requirements Documents (IRDs)	Update Master File	1 update	Monthly
2.2.1.1.c	Maintain tracking logs of Specifications, CRs and ICD/IRD Revisions and History	Tracking Logs	1 update	Monthly
2.2.1.1.d	Maintain, update and produce Requirements Traceability and Management (RTM) Reports	RTM reports	See DRD	See DRD
2.2.1.1.e	Identify and track non-incorporated CRs to all retired, or no longer actively maintained, ISS specifications and ICDs	Identification and tracking of non-incorporated CRs	4 CRs	Weekly
2.2.1.1.f	Review all program CRs to	CR Evaluations	15 CRs	Weekly

	assess impacts to supported documents.			
2.2.1.2	Coordination and review of ISS Specifications and ICDs			
2.2.1.2.a	Provide technical review Specifications and ICDs during Milestone Reviews	Comments to Specifications and ICDs	3 reviews at 20 comments per review.	Yearly
2.2.1.2.b	Provide technical review and coordination of Preliminary Interface Notices (PIRNs) and Document Change Notices (DCNs)	Comments to PIRNs and DCNs	60	Monthly
2.2.1.3	ICWG			
2.2.1.3.1	Maintain and update Hardware Interfaces Tracking System (HITS) Microsoft Access database			
2.2.1.3.1.a	Track and provide ICD metrics reports	ICD Metrics reports	1	Monthly
2.2.1.3.1.b	Track and provide Element Manager Open PIRNs reports	Element Manager Open PIRNs reports	8	Weekly
2.2.1.3.1.c	Track and provide reports identifying TBDs	Reports identifying TBDs	1	Monthly
2.2.1.3.1.d	Track and provide Open Issues reports	Open Issues reports	1	Monthly
2.2.1.3.2	Provide administrative support for Milestone Reviews	Administrative support for Milestone Reviews	3	Yearly
2.2.1.3.3	Prepare, distribute, maintain and track Interface Memorandums	Interface Memorandums	16	Monthly
2.2.1.3.4	PIRN and DCN Development and Maintenance			
2.2.1.3.4.a	Prepare, distribute, process, maintain, and track Preliminary Interface Revision Notices (PIRNs)	ICD PIRNs	5	Monthly
2.2.1.3.4.b	Prepare, distribute, process, maintain, and track Document Change Notices (DCNs)	IRD DCNs	3	Monthly
2.2.2	System Performance Analysis and Integration	Recommendations to ISSP management and assistance in development of strategic requirements	Twice	Monthly
2.2.2.1	Mission Analysis and Integration			
2.2.2.1.1	Attitude Requirements			
2.2.2.1.1.a	Develop, coordinate and obtain ISSP approval of the flight	Flight attitude requirements	Nine	Yearly

	attitude requirements for the ISS operations			
2.2.2.1.1.b	Input and maintain approved attitude requirements in the Space Station Certification Baseline Document (SSP 50699-03)	Flight attitude requirements updates in Cert Baseline (SSP 50699-03)	Once	Yearly
2.2.2.1.2	Develop and coordinate the ISS attitude strategy	<ol style="list-style-type: none"> <li>1. Attitude strategy assessment</li> <li>2. Update Attitude Strategy in OSD</li> <li>3. Provide inputs to Mission Integration team</li> <li>4. VAC Statement Preparation</li> </ol>	<ol style="list-style-type: none"> <li>1. Once</li> <li>2. Once</li> <li>3. 1 per Increment</li> <li>4. 1 per Flight</li> </ol>	<ol style="list-style-type: none"> <li>1. Quarterly</li> <li>2. Annually</li> <li>3. Increment-18 months</li> <li>4. L-2 months</li> </ol>
2.2.2.1.3	Integrate rendezvous, proximity, and other special operations requirements and constraints related to attitudes and system configurations for joint operations between the ISS and all ISS Visiting Vehicles	<ol style="list-style-type: none"> <li>1. Requirements and constraints for joint operations between ISS and all ISS Visiting Vehicles</li> <li>2. Development of the Space Shuttle/ISS Proximity Operations Timelines</li> <li>3. Baseplate deliveries</li> </ol>	<ol style="list-style-type: none"> <li>1. 1-2 design reviews and 75 biweekly teleconferences</li> <li>2. 1 per Flight</li> <li>3. Once</li> </ol>	<ol style="list-style-type: none"> <li>1. Yearly</li> <li>2. L-5 months</li> <li>3. Monthly</li> </ol>
2.2.2.1.3.1	Integrate rendezvous, proximity, and other special operations requirements and constraints related to attitudes and system configurations for joint operations between the ISS and the Crew Exploration Vehicle (CEV)	Requirements and constraints development for joint operations between ISS and CEV	4 assessments/major reviews	Yearly
2.2.2.1.3.2	Integrate rendezvous, proximity, and other special operations requirements and constraints related to attitudes and system configurations for joint operations between the ISS and the Commercial Orbital Transfer Services (COTS) vehicles.	Requirements and constraints development for joint operations between ISS and COTS.	8 assessments/major reviews	Yearly
2.2.2.1.3.3	Comply with US requirements for information security to assess analyses analysis and data incorporating the classified capabilities of the US national technical means, wherever necessary to complete the assigned special operations	Assessments/meeting support requiring such information security, which includes but are not limited to, planning, analysis, and scientific observation of the end-of-life de-orbit of the ISS.	Once	Monthly

	assessments.			
2.2.2.1.4	Provide predictions for the ISS solar beta angle	Predictions for ISS solar beta angle	Once	Quarterly
2.2.2.1.5	Develop, track, and maintain the strategic allocation of Vehicle technical resources	Strategic allocation of Vehicle technical resources	Once	Quarterly
2.2.2.1.5.1	Coordinate projected water delivery and usage rates with ISSP suppliers and users of water	Projections for water delivery and usage rates	Once per increment	Increment -18 months
2.2.2.1.6	Applications and Data Systems	Updates to applications and data systems	1 update for each of 4 applications and data systems.	Yearly
2.2.2.2	Mission Requirements and Support			
2.2.2.2.1	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	Strategic mission requirements, concepts, constraints, and resource allocations to Mission Integration Team and MOD	One initial delivery per Shuttle flight One update per Shuttle flight at Flight Operations Review	Launch - 18 months Launch - 6 months
2.2.2.2.2	Review of Operations Products			
2.2.2.2.2.a	Review the ISS operations plans and procedures to ensure that all ISSP strategic technical constraints are satisfied	Comments to ISS operations plan and procedures	Once per Shuttle flight at FOR	Launch - 6 months
2.2.2.2.2.b	Review crew procedures that are related to systems activation or rechannelization, or to environment interactions to ensure that all strategic technical constraints are satisfied	Comments to crew procedures	Once per Shuttle flight at FOR	Launch - 6 months
2.2.2.2.2.c	Flight Rule Change Request (CR) coordination, technical reviews, and tracking for OM3	1. Review ISS Program Flight Rule CRs, assign and perform technical reviews.  2. Provide weekly CR tracking to VIPER Working Group	1. 100 Flight Rule CR reviews  2. Once	1. Monthly  2. Weekly
2.2.2.2.3	Report to ISSP Management the closure of the ISS Stage Integration Reviews (SIRs) as	Close SIR issues as a result of formal review of assembly and operations plans for each flight and all	Once	Weekly

	defined in SSP 50200-1.	pertinent ICDs. Provide weekly status reports to ISSP Management		
2.2.2.2.4	Provide technical support as needed to Mission Operations Directorate and to the ISSP through assessment of strategic ISS impacts during resolution of significant in-flight anomalies	Assessments of strategic ISS impacts resulting from anomalies	7 anomalies	Yearly
2.2.2.3	Provide overall system analysis and integration of the ISS and associated interfaces			
2.2.2.3.1	Integrate ISS operational procedures and hardware thermal performance data to ensure component survivability from launch to its activation on the ISS	LTA Analysis, which is a thermal assessment of assembly, deployment timeline and assumptions for external hardware in Shuttle Payload bay that is deployed on ISS (complexity and scope varies per flight)	One per Shuttle flight	Launch - 6 months
2.2.2.3.2	Provide recommendations to ISSP management in the development and prioritization of tasks performed by NASA institutional resources for the Shuttle/ISS Induced Loads and Plume Heating analyses	1. Recommendations regarding Shuttle/ISS Induced Loads 2. Recommendations regarding Plume Heating analyses	1. 1-2 recommendations 2. 1-2 recommendations	1. Yearly 2. Yearly
2.2.2.3.3	Develop and provide strategic assessments of ISS Thermal System Performance (TSP) throughout assembly phases and other significant ISS operations	Strategic assessments of ISS Thermal System Performance development.	Once per increment	Launch - 18 months
2.2.2.3.4	Develop and provide heat load allocations to the ISS end-user community, based upon active heat rejection margin analysis	Heat load allocations development.	Once per increment	Launch - 18 months
2.2.2.3.5	Develop and provide power allocations to the ISS end-user community, based upon Integrated Energy Balance margin analysis	Power allocations for IDR Development and SCEPTER Tool Maintenance.	Once per increment	Launch - 18 months
2.2.2.3.6	Provide systems integration support for assembly, off-nominal situations, and strategic operations that involve the Electrical Power Subsystem.	Provide technical support for Plasma SPRT, Solar Array Constraints WG, Bilateral Electrical WE, and VAC analysis.	Eight	Monthly

		Perform Electrical Power Subsystem special studies in support of nominal, off-nominal, and assembly situations		
2.2.2.4	ISS Program Change Request coordination, technical reviews, and tracking for OM3.	1. Review ISS program CRs, assign and perform technical reviews.  2. Provide weekly CR tracking to VIPER Working Group	1. 50 CR reviews  2. Once	1. Monthly  2. Weekly
2.2.3	Strategic Planning, Assembly & Configuration Engineering			
2.2.3.1	Strategic Planning & Integration (SPI)			
2.2.3.1.01	Develop and maintain the Integrated Flight Schedule (IFS) and Reference Assembly Sequence Overview	1. IFS  2. ASOV	1. Fourteen  2. Fourteen	1. Yearly  2. Yearly
2.2.3.1.02	Perform ISSP Crew Rotation Plan assessments	Crew Rotation Plan assessments  1. Major Study requiring more than 1 month to assess  2. Minor Study requiring less than 1 month to assess	1. Two  2. Two	1. Yearly  2. Yearly
2.2.3.1.03	Develop and maintain the SCROALE (Schedule of Crew Rotation, On-orbit Assembly, Logistics, and EVA).	1. SCROALE for the development of the MIM  2. SCROALE for the annual traffic model report.	1. One  2. One	1. Yearly  2. Yearly
2.2.3.1.04	Develop and maintain Flight Program Figure	Flight Program Figure ( FPF)	Twelve	Yearly
2.2.3.1.05	Strategic Flight Plan Development	MIM (or equivalent) update	One	Yearly

2.2.3.1.06	Provide Mission Overviews for Program Mission Integration Office	Mission Overviews are developed to support flight transition from strategic to tactical timeframes	One	At L-18 months for each ISS shuttle flight mission
2.2.3.1.07	Assess proposed tactical and strategic mission updates and identify issues and/or impacts to the SFP	Strategic and tactical assessments	6	Yearly
2.2.3.1.08	Participate in the OM2 Working Group and provide the integration and coordination of strategic ISSP/SSP flight inputs to the Space Shuttle Program (SSP) & International Space Station Program (ISSP) Boards/Panels	Strategic ISS/SSP flight inputs to the Space Shuttle Program	4-5 meetings	Monthly
2.2.3.1.09	Represent the Strategic Planning & Integration Team as a technical expert at boards and panels	<p>Technical representative for Strategic Planning &amp; Integration Team</p> <ol style="list-style-type: none"> <li>1. RIP</li> <li>2. FPWG</li> <li>3. IMT</li> <li>4. PICB</li> <li>5. JOP</li> <li>6. Videoconferences/Telecons</li> <li>7. SSCB</li> <li>8. MIOCB</li> <li>9. Logistics &amp; Maintenance End-to-End</li> <li>10. SWG</li> <li>11. VCB</li> <li>12. AWG</li> <li>13. TIMs</li> <li>14. FAWG</li> <li>15. CTWG</li> </ol>	<ol style="list-style-type: none"> <li>1. 3-4 meetings</li> <li>2. 1-4 meetings</li> <li>3. 1 meeting</li> <li>4. 2-4 meetings</li> <li>5. 1-3 meetings</li> <li>6. 8-12 meetings</li> <li>7. 4 meetings</li> <li>8. 1-2 meetings</li> <li>9. 1 meetings</li> <li>10. 1 meeting</li> <li>11. 1-2 meetings</li> <li>12. 4 meetings</li> <li>13. 2-4 meetings</li> <li>14. 1 meeting</li> <li>15. 4 meetings</li> </ol>	<ol style="list-style-type: none"> <li>1. Monthly</li> <li>2. Monthly</li> <li>3. Monthly</li> <li>4. Monthly</li> <li>5. Quarterly</li> <li>6. Monthly</li> <li>7. Annually</li> <li>8. Monthly</li> <li>9. Monthly</li> <li>10. Monthly</li> <li>11. Monthly</li> <li>12. Monthly</li> <li>13. Annually</li> <li>14. Monthly</li> <li>15. Monthly</li> </ol>
2.2.3.1.10	Provide technical inputs and review assessments for other ISSP documents or reviews.	Technical inputs to ISS documents and reviews. Documents include: IDRDs, GGR&C, SPIP (Volume 2), and Flight Data File Review (FDR). Technical Coordination Meeting and Change Request Evaluations	30 inputs	Monthly

2.2.3.1.11	Develop and Provide strategic studies	<p>Special Studies</p> <ol style="list-style-type: none"> <li>1. Major Strategic Study requiring more than 2 months to asses.</li> <li>2. Minor Strategic Study requiring less than 1 month and greater than 1 week to asses.</li> <li>3. Quick Strategic Study requiring one week or less to assess.</li> </ol>	<ol style="list-style-type: none"> <li>1. Two</li> <li>2. Twenty-five</li> <li>3. Thirty-five</li> </ol>	<ol style="list-style-type: none"> <li>1. Yearly</li> <li>2. Yearly</li> <li>3. Yearly</li> </ol>
2.2.3.1.12	Maintain and update SSP 50112 "Operations Summary Document: (OSD) to establish strategic allocations of resources for operations planning.	Update the Operations Summary Document (SSP 50112)	Once	Yearly
2.2.3.1.13	Perform the Annual Traffic Model Report	ISS strategic resupply / logistics (traffic model) analyses	Once	Yearly
2.2.3.1.14	Develop the Semi-Annual Traffic Model Assumptions Document	ISS strategic resupply/logistics (traffic model) assumptions document	Two	Yearly
2.2.3.1.15	Applications and Data Systems	<p>Updates to applications and data systems</p> <ol style="list-style-type: none"> <li>1. SPI action item tracking database</li> <li>2. Traffic model spreadsheets</li> <li>3. SPEARMAN</li> <li>4. CR tracking database</li> <li>5. SCROALE</li> </ol>	Three	Yearly
2.2.3.1.16	Develop Groundrules and Constraints for the ATV, HTV, and 6 Crew Operations related	GGR&C updates	Four	Yearly

	to vehicle traffic, crew time, and crew rotation.	<ol style="list-style-type: none"> <li>1. Visiting Vehicle traffic (ATV and HTV)</li> <li>2. Crew time</li> <li>3. Crew rotation</li> <li>4. 6-Crew</li> </ol>		
2.2.3.2	Configuration Analysis, Modeling and Mass Properties (CAMMP)			
2.2.3.2.01	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	Review of maturing configuration data to maintain technical understanding of on-orbit vehicle assembly flows, hardware configuration, and configuration constraints	3 times	Month
2.2.3.2.02	Assess, integrate, and coordinate requirements associated to the ISS external vehicles configuration, that impact the external configuration for flight, intermediate, and/or stage configurations	ISS external vehicle configuration requirements development <ol style="list-style-type: none"> <li>1. Review data for maturing hardware</li> <li>2. Participate in design reviews</li> </ol>	1. 2 times 2. 3 reviews	1. Monthly 2. Yearly
2.2.3.2.03	Maintain and update the SSP 50504, ISS Configuration Document and Assembly Matrix	<ol style="list-style-type: none"> <li>1. SSP 50504 updates</li> <li>2. Assembly Matrix update for SSP 50504 (to assembly complete)</li> <li>3. Assembly Matrix update for Blue Book development (covers 18 month Blue Book timeframe)</li> </ol>	1. One 2. One 3. Two	1. Yearly 2. Yearly 3. Yearly
2.2.3.2.04	Maintain and coordinate the revision of SSP 30219, ISS Reference Coordinate Systems Document that documents the ISS reference coordinate systems for major elements and robotically handled items	SSP 30219 updates	One	Yearly
2.2.3.2.05	CAD Model Development			

	Support			
2.2.3.2.05.a	Participate in CAD Model User Technical Interchange Meetings (TIMs) and Measurement Technical Interchange Meetings (TIMs). Provide inputs necessary to get the necessary validated and as-built CAD models	Participate in CAD Model TIMs and provide technical inputs per flight	One TIM	Monthly
2.2.3.2.05.b	Ensure that the external physical configuration data needed by the ISSP/SSP users is provided	Physical configuration data from CAD models is available to ISSP/SSP users	One	Monthly
2.2.3.2.06	Develop and gain concurrence of external configuration protocols with the International Partners and any other affected teams	IP External Configuration protocols	One	Yearly
2.2.3.2.07	Develop and review the mission-specific ISS/SSP On-Orbit Interface Control Document (ICD), Section 3, Physical Configuration for each Shuttle flight.	ISS/SSP On-orbit ICD, Section 3, and Physical Configuration	Initial: One per Shuttle flight Update: Average Four Shuttle flights	Initial: Baselined at Launch - 10 months
2.2.3.2.08	Develop and distribute Vehicle Configuration Joint Working Group (JTWG) mission-specific vehicle configuration data sources letters to the ISSP/SSP community	JTWG mission specific configuration data sources letters	Initial: One per Shuttle flight Update: One per Shuttle flight	Initial: Launch - 9 months Update: Launch - 4 months
2.2.3.2.09	Maintain and utilize the External Configuration Analysis and Tracking Tool (ExCATT) and provide web-based reports accessible by the ISSP	Current and planned external configuration items location tracking and reporting. ExCATT web-based reports 1. COFR report 2. Pre-flight plan 3. Post flight	1. One per ISS flight (Shuttle and visiting vehicles) 2. One update per Shuttle flight 3. One update for each Shuttle flights	1. L-1 month 2. L-1 week 3. Landing + 3 weeks
2.2.3.2.10	Develop revisions of the On-orbit Assembly Modeling and Mass Properties Data Book	Mass Properties Data Book includes the mass and aerodynamic properties for each ISS flight and corresponding intermediate stage configurations for and 18 month span of time.	See DRD	See DRD
2.2.3.2.11	Review ISS Vehicle Sustaining Engineering team Launch - 30 days delivery of pre-flight on-orbit ISSP mass properties prior to every ISS flight docking, undocking and redocking. Coordinate and resolve issues	Reconcile discrepancies as required between ISS vehicle Sustaining Engineering Launch - 30 days mass properties and Blue Book	For each flight as follows: 2 Soyuz, 3-4 Progress, and 3 Shuttle	Launch - 30 days

	due to mass properties differences between the Launch - 30 days data delivery and the Blue Book			
2.2.3.2.12	Perform ISS configuration, clearance external stowage and mass property analysis using approved 3D CAD models	ISS configuration, clearance external stowage, and mass property analysis to include visiting vehicle docking clearance.	Four	Monthly
2.2.3.2.13	Develop and deliver simplified 3D CAD models to the IP's in .igs and .step formats	Simplified 3D CAD models development and delivery to IP's for non-Russian Segment on-orbit configuration hardware	Four	Yearly
2.2.3.2.14	Provide electronic dimensioned and non-dimensioned hidden line or shaded drawings to support the development of ISS documentation	Dimensioned and non-dimensioned hidden line or shaded drawings	Four	Yearly
2.2.3.2.15	Maintain the CAMMP team website to record and communicate CAMMP activities to the NASA community. Provide launch vehicle ascent and descent weight assessments to support manifest assessments in the strategic timeframe	Update CAMMP team website	Approximately twice per week	Monthly
2.2.3.2.16	Participate in the OM2 Working Group	Document the CAMMP Program processes.	One	Weekly
2.2.3.2.17	Provide technical inputs and review for ISSP documents or reviews	Change Request (CR) review	Twenty	Monthly
2.2.3.2.18	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 (MER), working with the Vehicle Sustaining Engineering team on a temporary basis to resolve	Anomaly Resolution Support to the MER	For each flight as follows: 2 Soyuz, 3-4 Progress, and 3 Shuttle	Yearly

	mission or life-critical issues.			
2.2.3.3	Internal Volume Configuration (IVC)			
2.2.3.3.01	Provide and maintain criteria for evaluating and prioritizing ISS internal volume demands in accordance with SSP 50261-01 (Generic Ground Rules and Constraints), Section 3.12, IVC Constraints & Ground Rules.	Input to SSP 50261-01 to include criteria for evaluation and prioritization of ISS internal volume demands	One	Yearly
2.2.3.3.02	Document and maintain the planned ISS IVA topology in SSP 50564	Updated ISS Interior Volume Configuration topologies  1. Baselined updated in SSP 50564 associated with MIM updates or major interim assembly sequence releases  2. Updates to working version based on latest program plannign data, approved CRs, and hardware changes to support trade studies, hardware development, and IVA systems integration	1. One  2. One	1. Yearly  2. Monthly
2.2.3.3.03	Develop and maintain a unified 3D CAD model of the Station's interior	ISS integrated interior 3D CAD model consisting of all modules, racks, and significant GFE for a particular ISS stage	Two per ISS flight as per DRD	See DRD
2.2.3.3.04	Graphically analyze the acceptability of the ISS planned configurations based on the documented pass/fail criteria	Reports in a predefined format of the graphic analysis of the ISS planned configuration based on evaluation of the ISS interior 3D CAD models, including VAC statement preparation	Two per ISS flight	One at Launch - 9 months One at Launch - 3 months
2.2.3.3.05	Develop major situation unique analyses, as required, to provide inputs to ISSP planning and issue resolution. This shall include developing updated IVA topologies, relevant 3D CAD models, reports on IVA issue	Major and minor situation unique analyses	Ten	Yearly

	resolution, significant integration analysis, major hardware design support, and presentation to ISS Boards and Review Panels.			
2.2.3.3.06	Maintain the IVCWG website to record and communicate IVC activities to the NASA community	Update IVCWG website	Two	Monthly
2.2.3.3.07	Participate in hardware design reviews to ensure identification and resolution of potential issues regarding design features that, if not resolved, would result in GGR&C IVC exceptions.	Identification of potential protrusions into ISS operational envelopes, that would require an exception to the GGR&Cs section 3.12, documented as RIDs in formal design reviews	Two hardware reviews	Yearly
2.2.3.3.08	Participate in the OM2 Working Group	Document the IVC Program processes.	One	Weekly
2.2.3.3.09	Provide technical inputs and review for Payload Protrusion PIRNS and other ISSP documents or reviews.	<p>Technical inputs to ISS documents and reviews. Documents include: IDRDs, Payload Protrusion PIRNs, and hardware ICDs</p> <p>1. IDRD inputs: Table 4.3 Accommodations Tables and Appendix D Topologies</p> <p>2. Payload Protrusion PIRN reviews</p> <p>3. Hardware ICDs and Associated TCMs</p> <p>4. Change Request (CR) review</p>	<p>1. Three</p> <p>2. Six</p> <p>3. Three</p> <p>4. Monthly</p>	<p>1. Yearly</p> <p>2. Yearly</p> <p>3. Yearly</p> <p>4. Monthly</p>

**3.0 PERIOD OF PERFORMANCE:** October 1, 2007 – August 31, 2008

**4.0 Travel:**

<b>Trips</b>	<b>Destination</b>	<b>Travelers</b>	<b>Days</b>	<b>For</b>
3	Russia	2	7	MLM, DCM TIM
2	California	1	3	CEV ICCA PDR JPL
2	Denver	1	3	CEV Pre CDR TIM
1	Russia	3	3	DC2 Requirements TIM
1	Russia	3	2	DC1 relo TIM
1	Russia	5	2	DC2 Integration TIM

**5.0 ESTIMATED COST:**

<b>Labor and Non-Labor Resources: R2</b>			
<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Manager			
Technical Professional IV			
Technical Professional III			
Technical Professional II			
Technical Professional I			
Secretary			
Data/Doc Mgt Specialist			
<b>Total Labor</b>			
<b>Non-Labor Resources</b>			
Travel			
Material			
Total NLR			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. <b>A-08-343 R2</b>	2. Date Of Order <b>See Block 10.</b>	NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER Certified for National Defense under DPAS (15 CFR 700) DO-C9
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**Issuing Office**  
NASA Johnson Space Center  
Attn: BG\Robin P. Chapman, Contracting Officer  
Houston, TX 77058-3696  
  
Tel. No.: (281) 483-8501 FAX: (281) 483-2370  
E-Mail [robin.p.chapman@nasa.gov](mailto:robin.p.chapman@nasa.gov)

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: Accountable Property

5. Contractor  
  
Ares Corporation  
16441 Space Center Blvd , Bldg A  
Houston, TX 77058  
  
Attention: Marcy Linebarger  
  
Phone: 713-933-6804 Fax: 281-488-4970  
TIN:

6. Deliver On Or Before:  
  
**August 31, 2008**

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: NNJ04AA01C

8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: \_\_\_\_\_  
Signature: *Mella K. York* Date: 2/1/08

10. Name: Robin P. Chapman  
Signature: *[Signature]* Date: 2/7/08  
CONTRACTING OFFICER

11. SCHEDULE						
ITEM NO	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>SAFETY &amp; MISSION ASSURANCE - (IDIQ)</b>  Estimated Labor  Travel  Fee					

2. For Jsc Internal Use Only:

Requisition No.: \_\_\_\_\_  COMP.  PART. PPC

Reissue To: \_\_\_\_\_

13. Total  
**\$2,789,352**

14. Quantities In "Quantity Accepted" Column Have Been:

INSPECTED  ACCEPTED  RECEIVED

TO CONFROM TO THE CONTRACT, ACCPETANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY: \_\_\_\_\_  
Authorized U.S. Government Representative

Date: \_\_\_\_\_

**1.0 TITLE OF EFFORT:** Safety & Mission Assurance

**2.0 TASK DESCRIPTION:**

The contractor shall provide safety and mission assurance management and administration including mission assurance and risk management, quality management audit and surveillance, safety and health, International partner S&MA integration, program risk assessment, safety, quality assurance and operations safety.

**2.1 STATEMENT OF WORK REFERENCE:** Section 6.0 – Safety & Mission Assurance

**2.2 REQUIREMENTS, DELIVERABLES, SCHEDULE:**

SOW	Performance Requirement	Workload Indicators	Quantity	Schedule
6	<b>SAFETY AND MISSION ASSURANCE (S&amp;MA)</b>	(SEE BOE FOR RESOURCE DETAIL ALLOCATIONS)		
6.1	<b>S&amp;MA MANAGEMENT AND ADMINISTRATION</b>			
6.1.1	<b>Mission Assurance and Risk Management Plan</b>	Mission Assurance and Risk Management (MA&RM) Plan	See DRD	Yearly
6.1.2	<b>Quality Management System</b>	Develop and implement a QMS compliant with AS9100, including documentation control, corrective action system, development of PI&C Quality Management Plan, work instructions and process flows, quality record systems, etc.	See DRD	Ongoing
6.1.3	<b>Audit/Surveillance</b>	Documentation of Audit meetings, response to audit/surveillance findings and action tracking	1 audit	Yearly
6.1.4	<b>Safety and Health</b>	1. Update Safety and Health Plan.	One update	Yearly
		2. Provide Monthly Safety & Health Metrics.	12 metrics packages	1 per month
		3. Submit Annual Safety & Health Self Evaluation Report.	One update	Yearly
		4. Participate in NASA close call and mishap reporting system.	as required	Ongoing
		5. Perform Safety Walkthroughs.	12 walkthroughs	1 per month
		6. Provide Management of call tree and fire wardens.	Initial: once Updates: As changes occur in personnel	At contract start

6.1.5	Lessons Learned	Participate in lessons learned process as needed	as required	Ongoing
6.2	IP/VV S&MA INTEGRATION			
6.2.1	IP/VV Technical Integration	Provide S&MA support to the ISS IP/VV community.		
6.2.1.1	Safety Reviews	1. Provide coordination and support of Safety Reviews, SRP, SRP splinter meetings, OSB reviews, resolution of SRP and WG issues and actions, evaluation of FMEA/CILs, R&M for MLM failure investigations, CoFR support to SMAP and SMARR.	Specific reviews identified in BOE	Ongoing
6.2.1.2	Technical Integration Meetings (TIMs), including chairmanship of selected teams	Participate in TIMs, including chairmanship of selected teams.	Specific TIMs identified in BOE	
6.2.1.3	Milestone Reviews	Provide coordination and support of milestone reviews. Includes: PDR, CDR, QR, etc.; generation, tracking, and closure of RIDs.	Specific TIMs identified in BOE	
6.2.1.4	ISSP Change Requests	Evaluate Technical Change Memorandums (TCMs), Change Requests (CRs), provide recommendations	Specific TCMs/CRs identified in BOE	See Below
6.2.1.5	IP Requirements and Processes	Participate in the development of requirements and processes and negotiation with the IP/VV community. Participate in LPM, Tiger teams, joint telecons, videocons, etc. to develop requirements and processes.	Specifics identified in BOE	See Below
6.2.1.6	ISS working groups	Represent S&MA in working groups to support the development of CE documents, and to ensure CE documents are compliant with S&MA requirements.	Specifics identified in BOE	See Below
6.2.1.7	Weekly Telecons	Participate in and support weekly US/IP/VV telecons.	Specifics identified in BOE	See Below
6.2.1.8	CoFR support	Provide CoFR related support to the SMAP and SMARR. Including presentations.	Specifics identified in BOE	See Below
6.2.1.9	Document Updates	SSP 50191, NASA/ESA Bilateral S&PA Requirements	1 update every 2 years	1 every 2 years

		JPD 315, Limited Life Item Tracking and Control	1 update every 2 years	1 every 2 years
6.2.2	IP Coordination Support	Provide telecon and TIM support for JARSWG and other IP/VV working groups/meetings		
		1. Book coordination for SSP 50146	1 update every 2 years	1 every 2 years
		2. Prepare Agendas and minutes for JARSWG telecons.	40 telecons/yr	1 per week (~)
		3. Prepare agenda and protocols for JARSWG TIMs.	2 JARSWG TIMS (1 in Moscow and 1 in Houston)	2 per year
		4. Provide administrative coordination for SRP, PSRP, and MS&MAP Meetings. Coordinate letter of invitation, logistics, and interpreters.	2 TIMs per year 2 SRPs per year	4 per year
		5. Coordinate translation support from TTI for all Russian faxes.	200 Russian faxes	4 faxes per week
		6. Maintain archive folders for all JARSWG/IP received and sent correspondence.	1000 translations	20 weekly
		7. Unplanned Management Requests	~2 hours per week	~80 hours per year
6.2.3	COFR	8. Administrative Duties	Yearly training	1 per year
		Provide support for CoFR; including presentation development, administrative support, and status integration. Document maintenance.	14 flights per year	1 per flight
6.3	PROGRAM RISK			
6.3.1	Management of Risk Processt	Provide specialized risk management process facilitation to the ISSP community. Coordinate ISS risk in support of the PRAB and CoFR by reviewing team inputs, resolving discrepancies, and preparing metrics and charts for the PRAB and CoFR. Additional emphasis will be given to the Program S&MA internal risk process. Provide tailored training for improvement. Ensure that the risk management process is consistent with program risk management requirements.		

6.3.1.1	Book Updates for JPD 306 and NPR 8000.4 Risk Management Procedures and Guidelines	Establishment of the Program Risk Management System (PRMS) and SSP 50175, ISS Risk Management Plan. Review and provide inputs to NPR 8000.4 Risk Management Procedures and Guidelines	2 updates	per year
6.3.1.2	Provide risk management support across the program	Facilitate general risk management across the program; assist organizations with identification of risks, and completion of their risk assessment	3 hrs per week	per week
6.3.1.3	CoFR Document	Provide Inputs to the CoFR document in the Risk Management Section	1	per year
6.3.1.4	Risk Management Training	Provide training for consistent implementation of risk management principle across the ISS community.	4 Classes; 40 one-on-one training sessions	per year
6.3.1.5	Risk Facilitation - PRAB	Coordinate ISS risks in support of the PRAB by reviewing team inputs, resolving discrepancies, and preparing metrics and charts for the PRAB.	6 PRABs	1 every 2 months
6.3.1.6	ISS Risk Management Working Group Meetings	Support and participate in ISS Risk Management Working Group Meetings.	12 meetings	1 per month
6.3.1.7	Integrated Risk Management Activities	Coordinate risk integration and transfer with and provide support to Integrated Risk Management activities.	12	per month
6.3.1.8	Integrated Risk Product Activities	Develop, coordinate and support integration of ISS qualitative and quantitative risk analysis within ISS Program Office.	6	per month
6.3.1.9	Manage IRMA enhancements and requirements	Identify, track and integrate IRMA enhancements/issues and requirements.	30	per month
6.3.1.10	Unplanned Management Activities	Support management requests that are not part of standard deliverables and processes.	12	per year

6.3.1.11	Risk Facilitation - CoFR/SORR	Coordinate ISS risks in support of CoFR/SORR by reviewing team inputs, resolving discrepancies, preparing risk data by flight, and ensuring complete risk acceptance rationale for CoFR/SORR.	12 Flights per year	1 per flight
6.3.2	<b>Probabilistic Risk Assessment (PRA)</b>	Perform PRA risk trade studies for the ISSP community. Develop and optimize ISS PRA models. Perform Bayesian update of ISSP MADS data for ISS PRA failure database. Provide tailored training for improvement. Supporting working groups and tiger teams. Ensure that the PRA process is consistent with program risk management requirements. Incorporate uncertainty evaluation techniques. Integrate with existing reliability (PRA) modeling.	1 model, 1 Bayesian update, 8 trade studies	per year
6.3.2.1	Risk Trade Studies	As risk-related issues are identified within the ISSP, PRA risk trade studies will provide information to permit better-informed decisions to be made by ISSP management concerning these issues.	8 risk trades studies	per year
6.3.2.2	Develop PRA models	Update existing ISS stage PRA models, one 15A model to be updated in FY08; complete internal documentation within 15A PRA model; perform Bayesian update of MADS data for ISS PRA failure database	1 model; 1 Bayesian update	per year
6.3.2.3	Prepare reports	Generate presentations on ISS PRA activities for dissemination of information outside of ISS S&MA; Complete subsystem notebooks documentation for 10A PRA model; Develop integration and results reports.	3 presentations; 1 set 15A notebooks; 2 PRA reports	per year

6.3.2.4	Working groups and Tiger Teams	1. Support ISS PRA working groups and tiger teams. Assist project planning, budgeting, and expenditure tracking; prepare weekly status reports; Conduct briefings to NASA customer, including monthly status; Support and participate in tiger team meetings for PRA of Bioastronautics Risk (BR).	48 tag-ups 4 project planning and budgeting exercises 4 briefings 12 (monthly) status briefings 40 meetings	per year
6.2.3.5	Develop PRA methodologies	Methodologies for modeling HRA (Human Reliability and Common Cause) will be incorporated into the PRA model.	1 methodology development	per year
6.2.3.6	PRA data development	Develop data consistent with MADS database	1 file	per year
6.2.3.7	Develop additional PRA system models	Develop PRA system models for the following: SSRMS, EVA, Crew Systems, Docking (STS, Progress, Soyuz, ATV, HTV, CEV, COTS)	9 system PRA models	per year
<b>6.4</b>	<b>ISS SAFETY PROGRAM</b>	Perform hazard analyses and close VTLs for assembly complete hazard reports; Stowage Hazard Report ISS-STO-801, Internal Volume Hazard Report ISS-IVA-0202, Drag Through Hazard Report ISS-NTN-001	14 flights	3 HR VTLs/closures per flight
<b>6.5</b>	<b>RESERVED</b>			
<b>6.6</b>	<b>QUALITY ASSURANCE</b>			
<b>6.6.1</b>	<b>Problem Reporting System Maintenance</b>	Maintain the ISS PRACA Database System. Implement and maintain an improved PDS. Provide support to QA personnel and SPRTs during PR resolution/closure process		
6.6.1.1	PR resolution/closure process	Provide support to QA personnel and SPRTs during PR resolution/closure process through daily PR review and updates. Participate in bi-weekly QA working group meetings and weekly SPRT meetings	70 meetings; daily review/update	per year

6.6.1.2	PDS System	PDS Upgrade: compile list of requested enhancements from users, prioritize with OE Quality Manager and coordinate implementation with ARES PI&C IT SW group. At a minimum, includes flexible signature functionality, new CoFR report, and additional metrics reports. May include proprietary data directory structure to accommodate IP processing of PRs..	4 releases	per year
6.6.1.3	Administrative support to the PDS system	Provide user support, training, custom queries/reports	As required	Ongoing
6.6.1.4	PRACA Metrics development	Develop meaningful metrics for CoFR and process management.	As required	Ongoing
6.6.1.5	Evaluation/test of Cx PRACA prototype	Test administrative functions and search capabilities once ISS data is imported; Evaluate potential for use as a replacement for ISS PDS	As required	Ongoing

6.7	<b>OPERATIONS SAFETY</b>	<p>Represent S&amp;MA at strategic and tactical planning meetings including launch package teams (LPT), stowage integration working group (SIWG), internal volume configuration working group (IVCWG), and the Assembly Working Group (AWG) meetings. Evaluate products for those teams and provide an S&amp;MA status or S&amp;MA position when required. Evaluate change requests relating to these areas and present recommendations to the S&amp;MA change panel. Attend Daily Space Station Reviews (DSSR) and SSPCBs, as required to support management, LPTs, and to perform pre-flight tactical integration responsibilities. Participate and present at Mission Integration Office (MIO) and Safety and Mission Assurance (S&amp;MA) milestone reviews or technical interchange meetings when required, including daily participation in the open paper tracking for each flight. Conduct issue resolution conferences and participate in special teams as necessary. Provide technical briefings or status to S&amp;MA management upon request</p>		
6.7.1	<b>Documentation Verification</b>	<p>Evaluate, monitor, and respond to the S&amp;MA Manifest Priorities List for each flight (PBMA); Assess all line items on the flight manifest to determine status of safety and reliability certification/readiness; track flight open paper</p>	84 manifest drops	6 manifest drops per flight (14) and as required for unplanned on-orbit activities
6.7.2	<b>Mission Integration and Operations Planning</b>	<p>Stowage Flight Readiness Activities - generate Stowage 1-pagers for every flight in support of SMSRs, while evaluating the stowage OC risk acceptance rationale and the OC stowage CoFR presentations.</p>	5 per flight	per flight, 14 flights

6.7.3	<b>Strategic and Tactical Planning</b>	Identify, provide closure recommendation and present safety issues and status to appropriate ISSP boards and panels.	As Required	Ongoing
6.7.4	<b>IMT Support</b>	Inform NE IMT reps of manifest and IDRD evaluations and other pertinent launch package activities or other pertinent technical issues.	48	per week
6.7.5	<b>LPM Representation</b>	Provide LPM S&MA related requirements. Attend LPM meetings, evaluate flight plans and objectives, and provide meeting notes to S&MA team members	As Required	Ongoing
6.7.5	<b>CR Evaluation</b>	Coordinate and facilitate S&MA review of Change requests:	As Required	Ongoing
6.7.6	<b>DSSR Representation</b>	Evaluate agenda and prepare for topics; Work actions and requests for information and coordinate information with S&MA teams; Work special assignments as requested by OE customer	As Required	Ongoing

**3.0 PERIOD OF PERFORMANCE:** October 1, 2007 – August 31, 2008

**4.0 Travel**

Trips	Destination	Travelers	Days	Purpose
1	KSC	1	5	Risk Mgm Conf
1	Tsukuba, Japa	1	8	HTV TIM
1	Tsukuba, Japa	1	8	HTV TIM
1	Paris, France	1	7	ATV QR-2 Closeout
3	Moscow, Russi	1	8	ECLSS/Env/Waste T
2	California	1	5	COTS TIM
4	KSC	1	4	Risk / PRA/RM Conf
2	New Orleans	1	5	PRA/RM Conference
2	Albuquerque	1	5	PRA/RM Conference
2	Washington DC	1	5	PRA/RM Training
2	Colorado	1	5	PRA/RM Training
2	San Diego	1	5	PRA/RM Training
2	Las Vegas	1	5	PRA/RM Training
2	Japan	1	5	JAXA TIM
1	NASA Hqs	1	3	Risk coord with Hqs

**5.0 ESTIMATED COST:**

<b>Labor and Non-Labor Resources:</b>		<b>R2</b>	
<b>Direct Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Manager I			
Technical Professional IV			
Technical Professional III			
Technical Professional II			
Technical Professional I			
Analyst III			
Analyst II			
Analyst I			
<b>Total Labor</b>			
<b>Non-Labor Resources</b>			
Travel			
Total NLR			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

National Aeronautics and Space Administration  
 Lyndon B. Johnson Space Center  
 Houston, TX 77058

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. **A-08-344 R1**  
 2. Date Of Order  
 See Block 10.

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER  
 Certified for National Defense under DPAS (15 CFR 700) DO-C9

Issuing Office  
 NASA Johnson Space Center  
 Attn: BGI Robin P. Chapman, Contracting Officer  
 Houston, TX 77058-3696  
 Tel. No.: (281) 483-8501 FAX: (281) 483-2370  
 E-Mail [robin.p.chapman@nasa.gov](mailto:robin.p.chapman@nasa.gov)

4. Ship To:  
 Transportation Officer, Building 421  
 NASA Johnson Space Center  
 Houston, TX 77058-3696  
 Mark For: Accountable Property

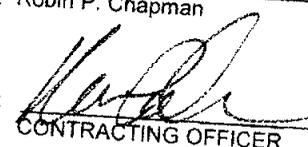
5. Contractor  
 Ares Corporation  
 16441 Space Center Blvd, Bldg A  
 Houston, TX 77058  
 Attention: Marcy Linebarger  
 Phone: 713-933-6804 Fax: 281-488-4970  
 TIN:

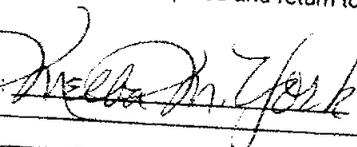
6. Deliver On Or Before:  
 August 31, 2008

7. BILLING ADDRESS:  
 NASA Johnson Space Center  
 Attn: LF231/Accounts Payable Group  
 Houston, TX 77058-3696  
 Order No: NNJ04AA01C

8. Type Of Order:  
 PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:  
 DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

10. Name: Robin P. Chapman  
 Name: \_\_\_\_\_  
 Signature:  Date: 2/7/08  
 CONTRACTING OFFICER

Name: \_\_\_\_\_  
 Signature:  Date: 2/1/08

## 11. SCHEDULE

ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>ISS INFORMATION TECHNOLOGY SUPPORT</b> Estimated Labor Travel Fee					

2. For Jsc Internal Use Only:  
 Requisition No.: \_\_\_\_\_  
 Reissue To: \_\_\_\_\_  
 COMP.  PART  PPC

13. Total  
 \$6,777,039

14. Quantities In "Quantity Accepted" Column Have Been:  
 INSPECTED  ACCEPTED  RECEIVED  
 TO CONFORM TO THE CONTRACT, ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED  
 BY: \_\_\_\_\_

**1.0 TITLE OF EFFORT:** ISS Information Technology Support

**2.0 TASK DESCRIPTION:**

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.

**2.1 STATEMENT OF WORK REFERENCE:** 1.4 Program Information Technology.

**2.2 REQUIREMENTS / DELIVERABLES / SCHEDULE:**

	Performance Requirement	Workload Indicators	Quantity	Schedule
1.4	Program Information Technology (IT)			
1.4.1	IT Management			
1.4.1.0a	Employ a methodology which demonstrates consistency with the Software Engineering Institute (SEI) Capability Maturity Model Integrated (CMMI) Capability Level 2, or other comparable industry standard, to sustain any modifications to GFD tools.	Sustained tools employ a methodology equivalent to CMMI Capability Level 2	Continuous	Continuous
1.4.1.0a		Incorporate process improvement changes as recommended by the Process Improvement Working Groups (PIWGs)	Continuous	Continuous
1.4.1.0b	Develop and maintain unique ISS IT software tools and applications to support the continued development and operation of the ISSP, as defined in this contract	Not required in current Task Order	N/A	N/A
1.4.1.1	Report all IT delivered or direct costed to this contract in accordance with SSP 50222, ISS	1. IT POP Planning products	1. Once	1. Annually with updates as requested

	Program Capital Investment Process (CIP)			
1.4.1.1		2. Fiscal Year IT Plan products	2. Once	2. Annually with quarterly updates as required
1.4.1.2	Develop and implement an IT Security Plan	IT Security Plan	See DRD	Continuous
1.4.1.3	Develop and implement an IT Management Plan	IT Management Plan	See DRD	See DRD
1.4.1.3.1	Report IT performance metrics	1. IMPR	1. 12	1. Monthly on 1st working Monday of each month, except when 1st workday is a Monday, then 2nd workday of the month
1.4.1.3.1		2. PMR Level 1	2. 12	2. 3rd Thursday of each month
1.4.1.3.1		3. Level 2 and Level 3	3. 12	3. 2nd Friday after 1st Monday of each month
1.4.1.5	Develop and implement IT project plans	Develop and implement project plans to conduct an IT study, IT proposal, or IT development project providing statement of the problem, operational concept, system level requirements, preliminary design, schedule, staffing plan, and cost estimate	As required	As requested
1.4.1.6	Maintain the IT Performance Management and Capacity Plan	IT Performance Management and Capacity Plan	Once	Updates as required
1.4.1.7	Develop and implement an IT Technology Infusion Proposal	IT Technology Infusion Proposal	Two	As requested
1.4.1.7.1	Conduct and report trade studies on IT technologies, tools, architectures, methods, processes, trends, and organizations	Report or white paper documenting problem, opportunity for the study; items / options studied or evaluated; evaluation method (including criteria or requirements, weighting, and scoring algorithms); detailed results (including individual scores and rational), conclusion and	Three	As requested

		recommendation.		
1.4.1.7.2	Execute recommendations as defined in trade studies.	Perform critical first steps as documented in the DM/CM Trade Study Report.	Once	Per task plan
1.4.2	IT Systems Management and Operations			
1.4.2.0a.1	Provide the ISSP customer community with full life cycle system support for ISSP IT systems, applications, web pages, platform systems, services, equipment, etc., as defined in Appendix E and Appendix F, Table 1, Table 2, and Table 3. IT applications will be provided to the contractor in the sustaining phase of the Life Cycle.	1. Full life cycle system support for items defined in Attachment J-1, Appendix E and Appendix F, Table 2.	1. See Attachment J-1, Appendix E and Appendix F, Table 2. Provide an average of four 4-point releases per application.	1. Continuous
1.4.2.0a.2		2. Limited life cycle system support for unique ISS requirements for the EDMS identified in Attachment J-1, Appendix E	2. Continuous	2. Continuous
1.4.2.0a.3		3. EDMS Sustaining.	3.	3.
1.4.2.0a.3		3.a. Perform business admin functions including access management.	3.a. Continuous	3.a. Continuous
1.4.2.0a.3		3.b. Support the ISS community by providing EDMS training and anomaly resolution. Define requirements, workflows and document lifecycles, and reports for implementation by the JSC Information Resources Directorate. Define and conduct testing to ensure products meet ISS defined requirements.	3.b. Continuous	3.b. Continuous
1.4.2.0a.3		3.c. Provide tier 2 user support function.	3.c. Continuous	3.c. Continuous
1.4.2.0a.3		3.d. Provide user training on common and specific product features. Hold periodic user forums.	3.d. Once	3.d. As requested
1.4.2.0a.4		4. EDMS Migration	4.	4.

1.4.2.0a.4		4.a. Support DMI data cleansing activities. Support requirements, design, development and deployment integrated product teams(IPTs) Perform Testing - User Acceptance and Performance. Develop products as defined in project plan.	4.a. Continuous	4.a. As defined in Project Plan
1.4.2.0a.4		4.b. Identify changes to re-engineer existing ISS products as required for migration (e.g. reports, workflows, etc.)	4.b. Continuous	4.b. Continuous
1.4.2.0a.4		4.c. Prepare new training plan/materials and conduct training	4.c. Continuous	4.c. Continuous
1.4.2.0a.5		5. Continued Development.	5.	5.
1.4.2.0a.5		5.a. Reserved		
1.4.2.0a.5		5.b. Single Sign-On - Life cycle support to the Single Sign-on Project in order to ensure applications incorporate user registration and verification, meet strong password authentication, extend current software functionality and maintainability of the tool.	5.b. One 3pt release per application may be required for SSO interface requirements.	5.b. Annually; per SSO project plan
1.4.2.0a.5		5.c. PRACA		
1.4.2.0a.5		5.c.i. Complete design and implementation support for the MRB signature changes from FY07.	5.c.i. Once	5.c.i. Per project plan
1.4.2.0a.5		5.d IFI		
1.4.2.0a.5		5.d.i. Complete IFI reports and enhancements from FY07.	5.d.i. Once	5.d.i. Per project plan
1.4.2.0a.5		5.e. ASDB		
1.4.2.0a.5		5.e.i. Design, develop, and enhance functionalities of ASDB based on Process Improvement Recommendations.	5.e.i. Once	5.e.i. Per project plan

1.4.2.0a.5		5.f. UTS		
1.4.2.0a.5		5.f.i. Update UTS as required to implement new requirements for IT Security, HSPD-12 and related Agency initiatives.	5.f.i. Per project schedule	5.f.i. Per project schedule
1.4.2.0a.5		5.f.ii. Implement requirements to populate/update appropriate UTS fields to maintain ACP data accuracy.	5.f.ii. Per project schedule	5.f.ii. Per project schedule
1.4.2.0a.6		6.c.i. Support activities that will improve the functionality and maintainability of the ISS web servers.	6.c.i. Continuous per project schedule	6.c.i. Continuous
1.4.2.0a.6		6.c.ii. Support the distribution and administration of Contribute software tool, as well as the training of Contribute users.	6.c.ii. Continuous per project schedule	6.c.ii. Continuous
1.4.2.0a.6		6.d. Artemis LAN Migration Project		
1.4.2.0a.6		6.d.i. Migrate files from archive tapes to CD or DVD.	6.d.i. Once	6.d.i. Per project schedule
1.4.2.0a.6		6. Support for the design and implementation phases of the following projects:	6.	6.
1.4.2.0a.6		6.a. Active Directory Migration	6.a. As requested	6.a. As requested
1.4.2.0a.6		6.b. Provide technical support and expertise to the CM Organization as defined in the CM task (see task order items related to SOW 1.3.2.2.0b)	6.b. As requested	6.b. As requested
1.4.2.0a.6		6.c. Web Re-architecture		
1.4.2.0a.7		7.a. Prepare/maintain IT Security Certification & Accreditation (C&A) packages for ISS IT systems and support associated C&A audit activities, as required.	Support for one HIGH (SDIL) and one MODERATE (IPF). Up to to 3 LOW catagorized IT systems, as requested.	Post-audit support, as required, through September 30, 2008.
1.4.2.0a.7	Develop project plans to	7. Perform IT security	7. As	7. Continuous

	support IT security initiatives such as HSPD-12, FISMA, etc.	strategic planning	requested	
1.4.2.0a.7		7.b. Perform IT security Continuous Monitoring.	7.b. Continuous	7.b. Continuous
1.4.2.0b	Provide life cycle support methodology consistent with Software Engineering Institute (SEI) Capability Maturity Model Integrated (CMMI) Capability Level 2 and with the Information Technology Infrastructure Library (ITIL), as it compliments the CMMI processes	PI&C Life cycle support operates at the CMMI and ITIL capability levels identified in the Process Improvement Plan, P-IM-116	Continuous	Per project schedule as defined in Process Improvement Plan
1.4.2.0c	Provide streamlining of the life cycle methodology	Streamline life cycle methodology	Continuous	Continuous
1.4.2.0d	Address IT security in each phase of the life cycle	Incorporate IT security in the life cycle methodology	Continuous	Continuous
1.4.2.0e	Implement IT system performance standards	Implementation of IT system performance standards	See Attachment J-1, Appendix E	Continuous
1.4.2.0f	Provide book coordination of SSP 50013 and SSP 50222	Updates to SSP 50013 (ISS IT Management Plan) and SSP 50222 (Capital Investment Plan)	One update per document	As requested
1.4.2.0g	Property Custodian	Property management of IT equipment	All government owned property in the NASA NEMS database identified by organization OH2B & OH2L	Continuous
1.4.2.1	IT Life Cycle Systems Engineering			
1.4.2.1.01	Review Government-provided policies, architectures, standards, and procedures	Recommended modifications and implementation strategies	Continuous	Continuous
1.4.2.1.02	Provide a representative to attend recurring Government-sponsored meetings	Representative at recurring meetings	1 representative at:	
1.4.2.1.02			A. ISS AIT	A. Bi-weekly
1.4.2.1.02			B. JSC IT Steering Council	B. Bi-weekly

1.4.2.1.02				C. Network Access Control Board	C. Weekly
1.4.2.1.02				D. OCSO Meeting	D. Monthly
1.4.2.1.02				E. Security Birds of a Feather	E. Monthly
1.4.2.1.02				F. EDMS Meetings	F. Three per week
1.4.2.1.02				G. IRD Customer Forum	G. Monthly
1.4.2.1.02				H. JSC Workstation Group	H. Weekly
1.4.2.1.02				I. Active Directory Working Group	I. Weekly
1.4.2.1.02				J. JSC Web Committee	J. Monthly
1.4.2.1.05	Submit procurement requests to deliver commercial off-the-shelf (COTS) software, hardware, and associated maintenance agreements. Maintenance will be provided by the government for existing COTS. Any additional requirements for the contractor to procure hardware, software, and maintenance would include a CR to increase the cost of the contract to accommodate the procurement activity.	As requested		As requested	As requested
1.4.2.1.06	Develop, implement, and maintain IT Standard Operating Procedures (SOP)	SOP		Once	Updates as required
1.4.2.1.07	Develop, implement, and maintain an IT Configuration Management Plan	IT CM Plan		Once	Updates as required
1.4.2.1.08	Develop IT configuration reports on all equipment and software maintained by and/or operated by the	IT Configurations Reports		Continuous	As requested

	contractor			
1.4.2.1.10	IT Sustaining Engineering and Operation			
1.4.2.1.10.1	Provide sustaining engineering for multimedia, computer, and network systems	Sustaining engineering	Attachment J-1, Appendix E and Appendix F, Table 2	Continuous
1.4.2.1.10.2	Manage third party maintenance and license agreements	Management of third party maintenance and license agreements, including a 5 year planning spreadsheet capturing all expected maintenance purchases.	Attachment J-1, Appendix F, Table 1 and Table 3	Annually per maintenance schedule
1.4.2.1.10.3	Ensure IT systems are functionally and operationally performing at the lowest possible operating cost and in accordance with NASA requirements	IT operation per Availability and Cost Performance metrics	Continuous	Continuous
1.4.2.1.10.4	Minimize disruption to system availability during normal working hours	Schedule outages with the customer in advance of the outage	Per SOP	Continuous
1.4.2.1.10.5	Establish and conduct a preventive maintenance and operational readiness program	Preventative maintenance and operational readiness program	Continuous	Continuous
1.4.2.1.10.5.1	Remedial Maintenance	Repair or replacement of failed equipment and restoration to operating condition	Attachment J-1, Apx F, Table 1 Attachment J-1, Apx F, Table 3	Continuous
1.4.2.1.10.5.2	Maintenance Agreements and License Management	Plans and schedules for maintenance agreement and license management	Attachment J-1, Apx F, Table 1 Attachment J-1, Apx F, Table 3	Continuous
1.4.2.1.10.5.3	COTS Upgrades/Maintenance	Patches & version upgrades		
1.4.2.1.10.5.3		a. OS and System patches	a. As required	a. Continuous
1.4.2.1.10.5.3		b. Emergency patches	b. As required	b. Continuous
1.4.2.1.10.5.3		c. COTS patches	c. As required	c. Continuous
1.4.2.1.10.5.3		d. COTS upgrades	d. As required	d. Continuous
1.4.2.1.10.6	Operate and provide system administration for all systems Attachment J-1, Appendix E	Operation and system administration of IT systems as defined in the SOW	See Attachment J-1, Appendix E	Continuous

1.4.2.1.10.6.1	Provide Return to Service for IT systems	Return to Service for IT systems	See Attachment J-1, Appendix E	Continuous
1.4.2.1.10.6.2	System administration functions shall be performed to minimize disruption to system availability	Scheduling of system administration activities	Continuous	Continuous
1.4.2.1.10.6.3	Contractor system administrators shall acquire IT security training	IT security training for administrators	Per current NPR 2810.1A	Continuous
1.4.2.1.10.6.4	Provide backup, restore, and archive for IT systems	Backup for IT systems	See Attachment J-1, Appendix E	Continuous
1.4.2.1.10.7		6. Manage user accounts for access to ISS applications including additions, modifications, expiration, and deletion as defined in SSP 50013.	6. Continuous	6. Continuous
1.4.2.1.10.7	IT Security Support	1. Advise ISSP customers and users on IT security policies	1. Continuous	1. Continuous
1.4.2.1.10.7		2. Implement approved networking solutions	2. Once per request (SR)	2. As required
1.4.2.1.10.7		3. Monitor production capabilities	3. Continuous	3. Continuous
1.4.2.1.10.7		4. Respond to requests for firewall and other IT security support	4. Once per request (SR)	4. As required
1.4.2.1.10.7		5. Provide review, testing and implementation of NASA CIS Benchmarks for Windows, Unix and Oracle platforms.	5. Continuous	5. Continuous
1.4.2.1.10.7.1	Maintain a knowledge base of security issues, problems, and resolutions	Knowledge base of security issues, problems, and resolutions	Continuous	Continuous
1.4.2.1.10.7.2	Perform periodic technical assessments, security testing of computer systems, and updates for JSC Computer Security Plans	1. Reports/results from technical assessments	1. As requested	1. As requested
1.4.2.1.10.7.2		2. Security testing of computer systems per SOP	2. 4	2. Yearly
1.4.2.1.10.7.2		3. Provide inputs to updates of JSC Computer Security Plans	3. Per NPR 2810.1A	3. Per NPR 2810.1A
1.4.2.1.10.7.3	Process security-related	1. Identification and	1. Per incident	1. As required

	incidents	analysis		per incident
1.4.2.1.10.7.3		2. Securing computing resources	2. Per incident	2. As required per incident
1.4.2.1.10.7.3		3. Round the clock response to computer security incidents	3. 15% require after hours response capability	3. As notified by the ISS OSCO or JSC IT Security.
1.4.2.1.10.7.4	Provide analysis of security incidents relating to incorrectly configured systems	Analysis of security incidents and coordination with system owners per vulnerability scans by JSC IT Security or per contract SOP.	Once	Quarterly
1.4.2.1.10.7.5	Provide real time incident status reports	Real time incident status reports per SOW 1.4.2.1.10.7	Per incident	As required per incident
1.4.2.1.10.7.6	Manage interconnection access with International Partners (IPs)	Facilitate connectivity by working with the IPs to arrange connectivity to ISS Resources including processing ACPs, AIS, R2S accounts, MOU, ISA for IPs	Continuous	Continuous
1.4.2.1.10.7.7	Provide liaison support between the ISS Program and the ISS International Partners (IPs)	1) Provide liaison with IPs to process requests for access to ISS servers and applications. Work with the ISS External Relations Office (OX) and JSC Legal Office as required to facilitate the completion of ISS International Agreements.	1) As requested by IP or NASA	1) Continuous
1.4.2.1.10.7.7		2) Facilitate and support meetings to resolve application and network connectivity issues between ISS IPF systems and IPs.	2) As required	2) Continuous
1.4.2.1.10.7.7		3) Attend Technical Interchange Meetings (TIM) with IP's	3) As requested by OH2	3) As requested
1.4.2.2	Work Authorization and User Support		Respond to 10,000 customer requests for tasks in this subsection.	Yearly
1.4.2.2.1	Gather, organize, and disseminate IT information to the customer community including	1. Communication of IT information	1. Continuous	1. Continuous

	application outage schedules, status, etc.			
1.4.2.2.1		2. Reviewing and coordinating responses to e-mail traffic	2. Continuous	2. Continuous
1.4.2.2.2	User Requirements/Analysis			
1.4.2.2.2.a	Perform data gathering, entry, and analysis of requests	1. Develop/update processes and work instructions	Continuous	Continuous
1.4.2.2.2.a		2. Coordinate the SR process between the customer, OH2 Management, and Contractor	Continuous	Continuous
1.4.2.2.2.a		3. Validate customer data prior to submitting for processing and implementation	Continuous	Continuous
1.4.2.2.2.a		4. Monitor SR to completion. Issues should be elevated to NASA OH2 management.	Continuous	Continuous
1.4.2.2.2.a		5. Status of service requests	Once	Weekly
1.4.2.2.2.a		6. Metrics provided on a monthly basis	Once	Monthly
1.4.2.2.2.b	Document and coordinate implementation of IT requirements requested for implementation by Institutional IT providers	Documentation and coordination of IT requirements	70% of requests as required by SR for JSC institutional services	Yearly
1.4.2.2.2.c	Serve as the primary point of contact for IT services required to support end users	Primary POC for IT Services	Continuous	Continuous
1.4.2.2.3	Develop an IT Capital Investment Plan for the ISSP	ISSP IT Capital Investment Plan	Once	Per SSP 50222
1.4.2.2.4	Loan Pool			
1.4.2.2.4.a	Serve as the primary point of contact for loan pool services	Primary POC for loan pool services	Yearly	Yearly
1.4.2.2.4.b	Develop and maintain user guides/desktop instructions for services that require user self-installation	1. Maintain existing Guides and instructions	1. Once	1. As required

1.4.2.2.4.b		2. Develop new guides and instructions	2. 1-2 guides	2. As required
1.4.2.2.4.c	Develop and maintain procedures for appropriate property management of the ISS loan pool products, compliant with NASA Property Management procedures	Standard Operating Procedures (SOPs) for ISS Loan Pool operations	Once.	Updates as required
1.4.2.2.4.d	Report property losses	Provide reports of property losses	Continuous	Continuous
1.4.2.2.4.e	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	Standard load	Once per configuration	Continuous
1.4.2.2.4.f	Provide augment standard load configuration in order to support specific user requirements	Unique updates to standard load	20% of loan pool request	Continuous
1.4.2.2.5	Ensure that the contractors internal work management and tracking systems interface seamlessly with the Customer Service System	Closed loop accounting for work authorizations	Continuous	Continuous
1.4.2.2.6	Track, resolve, and report on problems associated with systems, products, and services	Problem Reports	Yearly	Yearly
1.4.2.2.7	Provide desktop support to 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. Desktop support	1. Yearly	1, Yearly
1.4.2.2.7		2. Customer Satisfaction Survey metric on all IT OPS ASRs servicing an end user	2. Continuous	2. Monthly (reported as Level 2 metric)
1.4.2.2.8	The contractor shall provide assistance in space utilization, coordination/facilitation,	Physical space request assessments, coordination, recommendations, tracking, and reporting.	Continuous	Continuous

	and planning for ISSP physical space requirements at JSC.			
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**3.0 Travel:**

Trips	Destination	Travelers	Days	For
1	Houston Germany / Italy	2	5	ACP Process
1	Washington D.C. to Hous	2	10	Critical First Steps Process
1	Houston to Las Vegas	2	5	INTEROP Conference

**4.0 PERIOD OF PERFORMANCE:** October 1, 2007 – August 31, 2008

**5.0 ESTIMATED COST:**

ISS Information Technology Support			
Labor and Non-Labor Resources: R1			
Labor	Hours	Rate	Cost
Manager			
Supervisor			
IT Professional III			
IT Professional II			
IT Professional I			
Analyst III			
Analyst II			
Analyst I			
Secretary			
Business Specialist II			
Business Specialist I			
<b>Total Labor</b>			
Non-Labor Resources			
Travel			
<b>Total NLR</b>			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. <b>A-08-642R3</b>	2. Date Of Order <b>November 15, 2007</b>	NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER Certified for National Defense under DPAS (15 CFR 700) DO-C9
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3. Issuing Office NASA Johnson Space Center Attn: BG/Robin P. Chapman, Contracting Officer Houston, TX 77058-3696  Tel. No.: (281) 483-8501 FAX: (281) 483-2370 E-Mail <a href="mailto:robin.p.chapman@nasa.gov">robin.p.chapman@nasa.gov</a>	4. Ship To: Transportation Officer, Building 421 NASA Johnson Space Center Houston, TX 77058-3696 Mark For: Accountable Property
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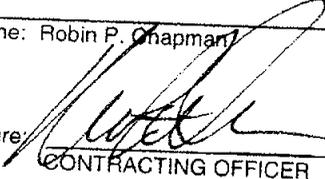
5. Contractor  Ares Corporation 16441 Space Center Blvd, Bldg A Houston, TX 77058  Attention: Marcy Linebarger  Phone: 713-933-6804 Fax: 281-488-4970 TIN: _____ :AGE CODE: _____	6. Deliver On Or Before:  <b>September 30, 2008</b>
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7. BILLING ADDRESS: NASA Johnson Space Center Attn: LF231/Accounts Payable Group Houston, TX 77058-3696 Order No: NNJ04AA01C
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8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not required. Sign below if required and return to contracting officer.  Name: _____ Signature: _____ Date: _____	10. Name: Robin P. Chapman   Signature: _____ Date: <b>12/4/07</b> CONTRACTING OFFICER
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11. SCHEDULE						
ITEM NO.	DESCRIPTION	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>IP ELEMENTS INTEGRATION MANAGEMENT SUPPORT (LOE)</b>					
	Labor					
	Travel					
	Materials					
	Fee					

2. For Jsc Internal Use Only: Requisition No.: _____ Reissue To: _____	<input type="checkbox"/> COMP. <input type="checkbox"/> PART.    PPC: _____	13. Total <b>\$2,139,517</b>
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14. Quantities In "Quantity Accepted" Column Have Been:

INSPECTED     ACCEPTED     RECEIVED

TO CONFORM TO THE CONTRACT. ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED

BY: \_\_\_\_\_

**1.0 TITLE OF EFFORT:** IP Elements Integration Management Support

**2.0 TASK DESCRIPTION:**

The contractor shall provide technical support to the NASA IP Element Integration Manager (EIM) in managing and overseeing the tasks necessary to integrate the IP Elements into the ISS. 'IP Elements' are defined as: HTV, ATV, MSS, SPDM, MLM, UDM, SM, DC, DCM, Soyuz, Progress and Visiting Vehicles.

**2.1 STATEMENT OF WORK REFERENCE:** SOW 1.5.3 IP Elements Integration Management Section

**2.2 REQUIREMENTS:**

The contractor shall confirm that the IP Elements meet their ISSP requirements and are ready for flight. In addition, the contractor shall confirm that IP Elements meet their ISSP requirements and are ready for flight. The contractor shall ensure that NASA meets applicable ISS requirements associated with integrating the IP Elements and that NASA and its contractors comply with relevant bilateral agreements.

The contractor shall perform the tasks identified below in support of IP Element Integration Management.

1. 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 IP BDEALS documents.
2. 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 IP BHSEALS documents.
3. Distribute Element technical, programmatic and operations data for review by ISSP technical teams and collect assessments and comments to this data from the teams.
4. Facilitate ISSP teams' communications with IPs and IP contractors.
5. Provide responses to communications and data requests from IP and ISSP teams in accordance with teams' schedules.
6. Coordinate shipment of items to and from the IPs with the ISSP shipping coordinator in the Mission Integration team.
7. Facilitate and coordinate the resolution of issues associated with integrating the IP Elements, as necessary, and report status of issues regularly to the NASA EIM.
8. Facilitate and coordinate the closure of action items associated with integrating the IP Elements, as necessary, and track and report status of all action items regularly to the NASA EIM.
9. Initiate or coordinate CRs to maintain and update the ISS design and requirements baseline for IP Elements.

10. Support development, coordination and maintenance of the Program Integration office IP CoFR implementation plans, and IP Element Acceptance/Assessment Review Plans.
11. Plan and coordinate the ISSP teams' participation in the IP design, qualification, certification, and pre-shipment reviews.
  - i. Develop ISSP Support Plans for IP Milestone Reviews.
  - ii. Review IP Design, Qualification and Certification Review data packages for compliance with ISSP requirements and policies.
  - iii. Track and facilitate closure of issues and action items.
12. Coordinate IP EIM team support to ISSP Milestone and Launch Package reviews in the ISS Mission Integration Template
13. Provide consolidated Element team inputs to mission requirements, increment definition requirements, and manifest requirements for IP Element flights.
14. 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, support the Launch Package Management teams to coordinate element related processing issues.
15. 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.
16. Staff the ISS Increment Management Center and MER consoles during IP Elements' assembly flights, flights involving CSA robotics missions, and first-time IP visiting vehicle flights (e.g., HTV & ATV). Staff an ISS MER console on an as-needed basis after the initial IP assembly flights and first-time IP visiting vehicle flights..
17. The contractor shall investigate and develop recommendations on launch service mission assurance strategies for ISS resupply missions. The task includes developing an understanding of the ISS mission, evaluating NASA and other industry practices for launch vehicle mission assurance practices, and providing a strategy of strategies for the ISS mission.

#### **2.2.1 Meeting and Documentation Support**

Under contract SOW 3.1.1.1 Engineering and Technical Services and Program WBS 1.5.3 IP Elements Integration Management, the contractor shall perform the following activities to provide the Element Integration Management teams with meeting and documentation support.

- 1) Meeting Support is provided for:

- a) Technical Interchange Meetings
- b) Milestone Reviews,
  - i) Preliminary Design Reviews
  - ii) Critical Design Reviews
  - iii) Qualification Reviews
  - iv) Acceptance Reviews
- c) Element Integration Meetings
- d) Other meetings as necessary

- 2) Meeting support tasks include:
- a) Scheduling conference calls
  - b) Producing design review plans
  - c) Developing and maintaining agendas and calendar of events
  - d) Preparing meeting minutes
  - e) Compiling presentations and electronically distributing items to the appropriate team
  - f) Tracking actions, issues, and Review Item Discrepancies (RIDs)
  - g) Generating and maintaining travel lists
  - h) Data entry and database management of RIDs for milestone reviews.

- 3) Documentation support tasks include:
- a) Documentation management
  - b) Filing and archiving project-related documentation
  - c) Photocopying meeting presentations and other documentation as necessary
  - d) Formatting documentation
  - e) Converting documents from various formats to PDF files
  - f) Scanning hard copies into electronic format for posting on the internet
  - g) Distributing documentation to team members
  - h) Maintaining intranet sites and managing content
  - i) Posting project related documentation to the appropriate internet site
  - j) Serve as Curator of the Program Integration Office homepage
  - k) Coordinate all Program Integration Office web site curators
  - l) Develop and maintain the OM 1,2,3,4, & 7 web sites
  - m) Ensure all applicable OM web pages are registered and compliant with NASA standards

**3.0 DELIVERABLES:** The contractor shall provide deliverables which include written reports, presentations and relevant data provided in both hardcopy and electronic form. Electronic files shall be provided in Microsoft Word, Microsoft Excel, or Microsoft PowerPoint where applicable.

**4.0 PERIOD OF PERFORMANCE:** October 1, 2007 - September 30, 2008

**5.0 Travel:**

Trips	Destination	Travelers	Days	For
9	Japan	1	7	HTV PQR activity
2	Kourou	1	7	ATV activity
7	Canada	1	7	CSA Robotics activities
5	Florida	1	7	Robotics Ground Processing
2	Colorado	1	7	Orion activity
6	California	1	7	SpaceX activity
6	France	1	7	ATV activity

**Subcontractor Travel**

Trips	Destination	Travelers	Days	For
1	JSC	1	2	Dec. 2007 - Final Briefing

**6.0 ESTIMATED COST:**

**IP Elements Integration Management Support R3**

**Labor and Non-Labor Resources:**

Labor	Hours	Rate	Cost
Manager			
Technical Prof			
Technical Prof			
Analyst II			
Clerk			
Business Spec			
Data/Doc Mgt			
<b>Total Labor</b>			
<b>Non-Labor</b>			
Travel			
Total NLR			
<b>Material (Subcontractor) Cost</b>			
Labor			
Travel			
<b>Total</b>			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

National Aeronautics and Space Administration  
Lyndon B. Johnson Space Center  
Houston, TX 77058

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. <b>A-08-643R1</b>	2. Date Of Order <b>October 5, 2007</b>	NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER Certified for National Defense under DPAS (15 CFR 700) DO-C9
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3. Issuing Office NASA Johnson Space Center Attn: BGI Robin P. Chapman, Contracting Officer Houston, TX 77058-3696  Tel. No.: (281) 483-8501 FAX: (281) 483-2370 E-Mail <a href="mailto:robin.p.chapman@nasa.gov">robin.p.chapman@nasa.gov</a>	4. Ship To: Transportation Officer, Building 421 NASA Johnson Space Center Houston, TX 77058-3696 Mark For: Accountable Property
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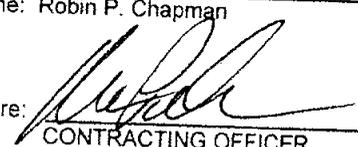
5. Contractor  Ares Corporation 16441 Space Center Blvd , Bldg A Houston, TX 77058  Attention: Marcy Linebarger  Phone: 713-933-6804 Fax: 281-488-4970 TIN: _____	6. Deliver On Or Before:  <b>September 30, 2007</b>
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7. BILLING ADDRESS: NASA Johnson Space Center Attn: LF231/Accounts Payable Group Houston, TX 77058-3696 Order No: NNJ04AA01C
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8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not required. Sign below if required and return to contracting officer.	10. Name: Robin P. Chapman
Name: _____ Signature: _____ Date: _____	Signature:  Date: <b>10/5/07</b> CONTRACTING OFFICER

11. SCHEDULE						
ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>ENGINEERING &amp; TECHNICAL SERVICES SUPPORT (LOE)</b>  Estimated Labor  Travel  Materials  Fee					

2. For Jsc Internal Use Only: Requisition No.: _____ Reissue To: _____	<input type="checkbox"/> COMP. <input type="checkbox"/> PART.    PPC:	13. Total <b>\$3,041,029</b>
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14. Quantities In "Quantity Accepted" Column Have Been:

INSPECTED     ACCEPTED     RECEIVED

TO CONFROM TO THE CONTRACT. ACCPETANCE WILL BE AT JSC UNLESS OTHERWISE NOTED. BY: \_\_\_\_\_

**1.0 TITLE OF EFFORT:** Engineering and Technical Services Support

**2.0 TASK DESCRIPTION:**

The contractor shall provide engineering and technical services including technical integration support, meeting support, engineering services support, integrated test and verification support, cable and fluid assessment support, project management support, hardware delivery support, book coordination support and special study support.

**2.1 STATEMENT OF WORK REFERENCE:** SOW 3.1.1.1 Engineering and Technical Services

WBS	Title	Sub Title	Functional Description
	Vehicle Management and Administration	Progress Reporting	Prepare monthly presentation of accomplishment, risks, and financial status. Provide monthly budget variance assessment and revise Estimate to Completion (ETC). Prepare award fee self assessments.
	Vehicle Management and Administration	Task Order management	Prepare and maintain task order statement of work and basis of estimate. Coordinate with employees and customers.
	Vehicle Management and Administration	Employee performance assessment, coaching, and mentoring	Conduct formal performance assessment of each employee annually and informal assessments as needed (due to job function changes or performance feedback).
	Vehicle Management and Administration	Travel coordination	Prepare travel estimates; obtain required coordination for trips; review/approve travel authorizations and expense reports
	Vehicle Management and Administration	Task coordination	Monitor customer needs and employee performance to ensure required work is performed in accordance with the statement of work and to the customer's satisfaction. Monitor employee work load and skill mix. Take corrective action as needed.
1.1.1	Meeting Support	Meeting Coordination	Schedule meeting conference rooms and reserve equipment. Schedule and set up meeting telecons. Create and distribute weekly meeting agendas using Agenda Calendar Tool (ACT). Prepare meeting presentation packages. Develop meeting minutes & protocols.
1.1.1	Meeting Support	Action Tracking	Capture and distribute notices requesting action closure before due dates. Track L&M team actions through closure. Track action status through closure for all International Partner L&M Technical Interchange Meetings (TIMs), Bilateral & Multifateral meetings.
1.1.1	Meeting Support	Communication Coordination	Create and maintain meeting calendars. Maintain meeting distribution lists. Maintain rosters and phone list.

1.1.1	Meeting Support	MER technical services	To provide technical support (minutes) to the ISS MER Mgrs when anomalies arise on ISS that require resolution.
1.1.1	Meeting Support	MER technical services	Upload MER ART/FIT/coordination meeting notifications
1.1.1	Meeting Support	MER technical services	Provide technical support (minutes) daily at the MER Tagups
1.1.1	Meeting Support	MER technical services	Provide technical support for the MER Mgrs tagups during US flights (other 2 shifts)
1.1.1	Meeting Support	Node 2/3 Status and Issues Teleconference Coordination	Prepare and distribute agenda for Node 2/3 Teleconference. Write minutes, coordinate and respond to input. Make sure minutes are posted to Nodes website. This activity also takes place for other Nodes meetings.
1.1.1	Meeting Support	Test & Verification	Pre-Board Prep, e-mail notifications, posting documents, preparing agenda, Pre-board meeting, Board meeting notification Update Agenda for Board, load updated documents on the web, make copies for the board, prepare minutes
1.1.2	CoFR Process Support	CoFR	Produce flight specific production plan, Organize several meetings w/OB, EA, Boeing and CMC. Distribute Meeting notice update agendas, compile data from system/teams format data in to presentations. repro copies to support LPA/kickoffs. track and status open paper including CRs, waiver/Deviations and Exception/CoFR Exceptions and open actions. Generate flt specific Boeing/CMC HW matrix that's included in OB CoFR Plan/letter. Assist CoFR Lead update CoFR Plan and distribute to ISS
1.1.2	CoFR Process Support	CoFR	Review manifest to build and populate the GFE hardware matrix and down manifest charts for each SORR and COFR. Coordinate schedule meeting with GFE hardware providers for status on GFE hardware. Utilize and track open paper via the OPMT. Track open paper and provide status to the EMCR. Coordinate the status of hardware issues with the subsystem teams. Support CoFR Meetings and SORRs as required.
1.1.2	CoFR Process Support	CoFR and Open Paper Process Improvement	Coordinate with different NASA organizations to identify, capture, incorporate all of the open paper for flights and coordinate tools/build tools for incorporating all of the open paper for the IP Element Flights in preparation for CoFR.
1.1.3	Program Review Support	Element Integration for ATV	Maintain matrix showing requirements ownership. Develop and maintain VCM. Distribute closure documents and track comments. Organize issue resolution meeting, prepare agendas, document minutes, and track actions.
1.1.3	Program Review Support	Element Integration for ATV	Coordinate and Lead ESA-NASA Trilateral and Bilateral VCB
1.1.3	Program Review Support	Element Integration for ATV	Prepare and lead monthly meeting/tag-up with system engineers to review requirement status: open, missing docs, stage testing, RIDs, etc

1.1.3	Program Review Support	Element Integration for ATV	Coordinate tag-ups with local ESA liaison to synchronize bilateral matrix. Tag-up with ESA counterpart in Europe to sync up trilateral matrix
1.1.3	Program Review Support	Element Integration for ATV	Prepare statistics and charts for monthly OB tag-up, monthly LPMT and monthly/quarterly PMR
1.1.3	Program Review Support	Element Integration for OGS, WRS, UPA	Maintain matrix showing requirements ownership for OGS, WRS, UPA. maintain VCNs. Distribute documents for review and track comments. Organize issue resolution meeting, document Closure, and track actions. load VCNs to JSC server
1.1.3	Program Review Support	Element Integration for Columbus	Track open work for the Columbus Element. Coordinate requirements closures, dependencies, RID closures, action item, and data distribution with ESA and NASA. Develop the Columbus ESA/NASA VCB and team meeting agendas and coordinate them with NASA and ESA. Upload documents into EDMS. Status open items at the EMCR. Maintain the Columbus Burn Down List, VCM, and Minutes, Team list, Distribution lists and other integration support products.
1.1.4	Coordinate Office CR Evaluations	Review new OB CR's	check for proper format, grammar, spelling, complete information, acronyms not spelled out, make corrections and if necessary, transfer information to current forms.
1.1.5	Coordinate Office CR Evaluations	CR Distribution	Prepare e-mails for CR evaluation - determine those needing to review the documents, pull CR and all support documents from EMDS to include in the e-mail, prepare folders in outlook to maintain control of files, submitting 2nd & 3rd requests for eval.
1.1.6	Coordinate Office CR Evaluations	CR closure	Prepare consolidated evaluation forms for signature. Once signed submit e-mail notification of closure w/evaluation to appropriate CM receipt desk and the CI
1.1.6	Office Web Content	Web Development & Maintenance	Create and maintain web pages for OB, OB2, OB3, and OB5. Create and maintain MER web pages and maintain files on the MER server.
1.1.6	Office Web Content	Webpages	T&V webpage with weekly updates to KSC Upcoming mtg and pic-of-the-week, ATV RID updates, OB3 webpage, import/export log webpage, back-up to OB curator.
1.1.6	Office Web Content	Import/Export Webpage	Update OB export log with inputs from engineers when they export Ensure up-to-date log is available on OB export website Link EST# in the log to the JSC EST database
1.1.6	Office Web Content	OB6 Web curator	Upload CoFR Data, LPA-SORR, FRR, production plans, CoFR plans, action tracing, individual assigned tasks. JCCT data, Common Spec, Export data, open risk
1.1.7	Coordinate Office CR Evaluations	Matrix - CR evaluations	Maintain CR evaluation matrix with CR, Deviations, Waivers, and Shuttle CR's - listing all evaluators for each request and maintain response status, noting Late responders, complete an end of month status for evaluation process

1.1.8	Coordinate Office CR Evaluations	Miscellaneous Tasks for CRs	These include assisting with pulling documents from EDMS as requested, checking status on CR's for Action items or closure path, assist w/working through questions which arise from evaluations
1.2.1	Issue Resolution	PRACA and NCR resolution	Provide Problem Reporting and Corrective Action (PRACA) closure, Problem Report (PR) closure, and NCR closure rational for Node 2 and 3.
1.2.1	Issue Resolution	Test and Verification Engineer	Supported MVCB meetings as T&V representative.
1.2.1	Issue Resolution	PIRNs for Node 2/3	Receive PIRNs from Node 2/3 book managers to acquire Rafael Garcia's signature after first confirming that the ESA Engineering Board (EB) and the Change Control Board (CCB) at MSFC have concurred. Fax to book managers under Chau Hong (OM). Support the CCB meeting for realtime updates, location of presenters and signature needs.
1.2.1	Issue Resolution	Systems Integration for CHCS CMS	Help coordinate system/project issues going to Program boards/panels (eg, VCB, T&VCP, SWG, ASCB) to ensure products coming forward meet Program's expectation, dissenting/supporting positions have been coordinated and supporting/affected organizational impacts have been coordinated.
1.2.1	Issue Resolution	OB Representation at Program-level Reviews, Boards and Meetings	OB Board Member for CHCS CMS Project Milestone Reviews (eg, SRR, SDR, SAR). OB representative to CHCS CMS Technical Interchange Meetings (TIMs) with International Partners. OB representative for Increment 16 IMT & JOP (Primary), Flight 17A IMT & JOP (Primary), ASCB (Backup), R&M Panel (Backup)
1.2.2	Engineering Evaluation and Integration	Engineering evaluation	Provide ISS engineering support with concentration on the Internal Active Thermal Control System (IATCS). Work involves all program disciplines such as systems engineering, requirements development, design, hardware integration, testing and verification. Activities include direct involvement and coordination with NASA design boards, ISS International Partners and various commercial vendors to ensure design specifications and scheduled milestones are met and are within budgetary constraints as required. Currently providing support for three ISS projects: Node 2, Node 3 and the IATCS Special Problem and Resolution Team (SPRT). Node 2 duties include Problem Reporting and Corrective Action (PRACA) closure, Problem Report (PR) closure, design changes, close-out activities and Flight 10A mission support. Node 3 duties involve test and verification, Non-Conformance Reporting (NCR) and design review/change support. IATCS SPRT involvement includes engineering support for both ISS on-orbit operation and future inc

1.2.2	Engineering Evaluation and Integration	Test and Verification Engineer	Review proposed testing for all ISS hardware as it pertains to SSP 41172 Qualification and Acceptance Environmental Test Requirements.
1.2.2	Engineering Evaluation and Integration	Test and Verification Engineer	Review test anomalies of hardware and recommend necessary workmanship retest via and RVA "Reverification Assessment" and/or RIA "Requirement Interpretation Agreement".
1.2.2	Engineering Evaluation and Integration	Test and Verification Engineer	Provide integration and engineering support to the CMC FSE effort by reviewing FSE T&V requirements and communicating with S&M to insure that proposed testing is adequate for reference hardware.
1.2.2	Engineering Evaluation and Integration	T&V Process	T&V database administrator to track RIAs, RVAs, TIAs, TCVs, and Export report to Boeing for OPMT.
1.2.2	Engineering Evaluation and Integration	ATV verification management	Provide technical assistance and coordination for anomaly resolution with NASA engineers and ESA representatives. Perform technical assessments and reviews of Document Change Notice (DCNs), Request for Waiver (RFWs) and Proposed Interface Revision Notice (PIRNs) for potential impacts to NASA requirements as well as system safety, and provide appropriate input to applicable authors and engineers. Trace requirements between multiple sources ensuring proper closure. Maintain RID matrix for NASA Management. Prepare technical briefings.
1.2.2	Engineering Evaluation and Integration	HTV verification management	Provide technical assistance and coordination with NASA engineering for requirement verification. Perform technical assessments and reviews of technical documentation (e.g., Interface Control Document) particularly in relationship to the System Specifications of the International Space Station. Update documentation to ensure accuracy and compliance with ISS requirements. Maintain requirements matrix for NASA management
1.2.2	Engineering Evaluation and Integration	CEV verification management	Perform technical review of proposed Interface control documentation between the ISS and CEV. Verify requirements of the ISS have been adequately addressed in the new documentation. Represent OB3 at technical reviews and NASA management reviews for the CEV program
1.2.2	Engineering Evaluation and Integration	COTS Verification Management	Provide technical review, corrections and inputs to the Interface Control Documentation for both COTS vehicles. Rewrite technical documents ensuring accuracy and completeness. Provide an independent review of documentation prior to release.
1.2.2	Engineering Evaluation and Integration	Pressure & Leak Testing	Develop reliable leak test methods to be placed into SSP 41172, Qualification and Acceptance Environmental Test Requirements. Review every document that the ISSP has a word "leak" in it, i.e., drawing & specifications requirements, test procedures & reports, OMRSD, CRs, etc., to make sure they are compliant with SSP 41172. Participate

			in the hardware and Element leak testing.
1.2.2	Engineering Evaluation and Integration	Cupola Element management	Manage remaining development of the Cupola Element (for integration with Node 3) and associated remaining open paper closure
1.2.2	Engineering Evaluation and Integration	CAM Project Closeout	Manage remaining development of the CAM Element (for integration with Node 3) and associated remaining open paper closure
1.2.2	Engineering Evaluation and Integration	CR Review	Review and evaluate CR's and prepare input to OB response to determine whether the CR should be approved and implemented as proposed.
1.2.2	Engineering Evaluation and Integration	Systems Integration for CHeCS CMS	Review Program-level CRs to identify impacts to areas of responsibility (eg, CHeCS CMS, INC 16, Flight 17A).
1.2.3	Integrated Test and Verification (IT&V) Support	Test and Verification of Commercial Orbital Transportation Services (COTS) Visiting Vehicle Integration to ISS	Joint analysis and test schedule integration. Data Exchange Requirements and Integration and Verification Plan drafting support.
1.2.3	Integrated Test and Verification (IT&V) Support	OMRS Process	Develop and maintain OMRS RCN's for JSC and support other center RCN's. Formal approval is done once concurrence has been received for the community and formal approval given after presenting to the T&VCP.
1.2.3	Integrated Test and Verification (IT&V) Support	Risk Management	Assist OB Risk Management Manager and provide support for IRMA input and update, PRAB and other support activities as required.
1.2.3	Integrated Test and Verification (IT&V) Support	Russian Segment (RS) Integration & Verification	Verify specs and ICD (SSP 41163, SSP 50227, etc.) requirements applicable to the RS. Review and approve VCMs for Russian modules and vehicles. Develop Test & Verification plans and Section 4 requirements for new Russian modules, i.e., MLM, DCM, and/or RS reconfiguration, for example, DC1 relocation. To be a book manager for NASA-RSA Phase 2-3 Bilateral Integration and Verification Plan, SSP 50101, i.e., issue NDCs and revise the book as needed.
1.2.3	Integrated Test and Verification (IT&V) Support	Element Integration for Node 3	Maintain matrix showing requirements for Node 3 which need to be developed. Develop and maintain OMRS for Node 3. Organize meetings with system representatives to finalize OMRS. Coordinate tests dates and need dates for OMRS with KSC. Present the status of Node 3 OMRS and Node 3 TAS as result of Node 3 Descope activities to SIT and MVCB.
1.2.3	Integrated Test and Verification (IT&V) Support	RCN Development and Maintenance for Node 2	Enter data in OMRSD for all Node 2 RCNs. Lead the coordination of parties that need to review and concur with the requirements. Make sure the requirements are done in accordance with OMRSD

			guidelines.
1.2.3	Integrated Test and Verification (IT&V) Support	T&V development and sustaining for COTS vehicles	Work with NASA subsystem and COTS personnel from SpaceX and RPK to develop test and verification program for COTS vehicles and to provide oversight and internal coordination of COTS developed verification products with NASA personnel in the execution of the COTS test and verification program.
1.2.3	Integrated Test and Verification (IT&V) Support	T&V development and sustaining for the Orion vehicle	Work with NASA subsystem and Orion project personnel to develop test and verification program for the Orion vehicle interfaces to the ISS and to provide oversight and internal coordination of the Orion project developed verification products with NASA personnel in the execution of the Orion vehicle test and verification program.
1.2.4	Cable and Fluid Assessment	Cable & Fluid Interface Assessment and Digital Pre assembly	Work out all the issues associated with the DVOs for Cable & Fluid Interface Assessment, i.e., Perform As-Designed & Physical Audits for and Demonstrate Mating of Electrical/Avionics & Fluid Interfaces, and also Demonstrate On-Orbit Constraints Allow Mating of IVA & EVA Interfaces. Participate in testing. Review and approve Reports and VCNs prepared by Boeing that is contractually obligated to this assessment. Work out all the issues associated with the Digital Pre-Assembly, i.e., review plans, procedures, reports, BIVP test sheets, etc.
1.2.5	Project Management Support	ISS Visiting Integration & Integrated Carriers Group	Compile WAR inputs for the ISS Visiting Integration & Integrated Carriers Group and submit to the quarterly WAR integrator
1.2.5	Project Management Support	Non-Prime Earned Value	Collect, report, and submit the Earned Value metrics for OB's non-prime contract work. Each month, provide feedback to the points of contact. They, in turn, provide the earned value for their area and that is updated to the earned value metric (file). The results are briefed to Sharon Conover and/or Dan.
1.2.5	Project Management Support	OB STaR	Coordinating OB's portion of STaR. This involves crossover tasks with the liens and threats list, IMPR, and the newly established STaR VCB.
1.2.5	Project Management Support	Capability Upgrades schedule	Take inputs from and update the Primavera schedule for Capability Upgrades.
1.2.5	Project Management Support	OB PMP	Propose methods for tracking the on-going work within OB6. This task involves working with the leads within OB6 and collecting their inputs. Further research is being done on the use of groupware.
1.2.5	Project Management Support	OB6 Action Tracking	Sharon wants a way to track the on-going work within OB6. This task involves working with the leads within OB6 and collecting their inputs for
1.2.5	Project Management Support	OB IMPR	Establish a schedule for updating OB's IMPR data - monthly. Once done, update the binder Dan references during the IMPR. Run the preview briefing to Dan / Linda.

1.2.5	Project Management Support	OB liens & threats	Establish, collect, and update the OB liens and threats list (an Excel spreadsheet). Coordinate the elements with other risk holders that provide inputs to IRMA (used at the PRAB). Brief Dan / Linda bi-weekly on the liens and threats list status.
1.2.5	Project Management Support	OB6 WAR consolidator	Compile OB6 WARs, generate two task/accomplishment list, submit 1. to L. Uljon. 1. to S. Conover with a cc: to B. Lasater
1.2.5	Project Management Support	OB3 System Integrator new project initiation	Generate/track Change request for new project. Respond/track evaluations. Prepare schedule and cost impacts. Present to program boards.
1.2.5	Project Management Support	OB3 System Integrator Sustaining Engineering	Generate/track Change Request for design changes to existing projects. Provide schedule/Budget tracking. Provide Review support from program to project and Board support from project to program.
1.2.5	Project Management Support	OB3 System Integrator System/Program support	Support IRMA tracking and updates. Prioritize Program tasks to system. Provide hardware expertise to Program/Project. Support Working Group/SPRT meetings
1.2.5	Project Management Support	OB4 Project Integrator, New Projects	Generate/track Change request for new project. Respond/track evaluations. Prepare schedule and cost impacts. Present to program boards.
1.2.5	Project Management Support	OB4 Project Integrator, Project Support	Generate/track Change Request for requirement changes to existing projects. Provide schedule/Budget/technical risk tracking. Provide Review support from program to project and Board support from project to program.
1.2.5	Project Management Support	OB4 Project Integrator, Special Studies	Provide technical support for special studies including architecture changes for ISS.
1.2.5	Project Management Support	Nodes Project Representative	Attend Nodes related meetings as the Project Representative. Discuss the information directly related to Nodes with Nodes Project Manager.
1.2.5	Project Management Support	Node 2 COFR	Assist with Open Paper for Node 2.
1.2.5	Project Management Support	Regen ECLSS Support	Provide support to OB4 when requested to manifest Regen ECLSS hardware and coordinate hardware shipments to appropriate locations for bench review and support bench review activities.
1.2.5	Project Management Support	Miscellaneous Tasks	These include working export control documents: 1724s, 290s, 1735s for WHC project (now completed). Obtain data from hardware providers; complete forms, route for signature.
1.2.5	Project Management Support	ATCS SI Backup	Provide backup support to the ATCS System Integrator (SI); OB3 QDIRT rep; notify appropriate SI of issues that may impact upcoming flights (cost, schedule, etc); attend weekly ATCS tag up meetings.
1.2.5	Project Management Support	Expedition 17 Increment	Serve as OB delegate to the INC 17 Team; Maintain cognizance of all issues affecting OB owned systems and coordinate solutions with the appropriate team as required; attend IMT and INC 17 Team status meetings as scheduled

1.2.5	Project Management Support	MPLM Support	Serve as OB3 delegate to the MPLM teams at MSFC and KSC; maintain cognizance of MPLM issues, status of PR's being processed and proposed hardware modifications.
1.2.5	Project Management Support	Fire Port Labels	Coordinate processing of label request for manufacture and installation in U.S. pressurized elements; assist IP element managers as needed in getting their requests processed in accordance with standard format and nomenclature.
1.2.5	Project Management Support	FSE SUPPORT	Support OB inputs to the design, manufacture, testing, and acceptance of new FSE hardware. Support OB FSE sustaining engineering functions after the FSE item has flown one time. Attend FSE coordination meetings to support OB positions and brief OB management of issues of concern to OB.
1.2.5	Project Management Support	Systems Integration for CHeCS CMS	Monitor and track project-level milestones, schedule, and cost by participating in monthly TCSR reviews. Support fiscal year ITA & Work Package definition. Document and manage system-level Risks, Liens, and Threats. Maintain knowledge of system/project status, issues and resolution efforts via participation in weekly SPRT meetings. Support requirements definition for new hardware development projects and maintain current CHeCS Spec requirements. Support definition, development and implementation of the CMS Strategic and Implementation Plans.
1.2.5	Project Management Support	Systems Integration for CHeCS CMS	Communicate system/project conflicts and priorities up to the Program and Program priorities down to the system/project.
1.2.5	Project Management Support	Processes and Procedures Development	Support definition, documentation and improvement of OB/OB3 processes and procedures. Support definition, documentation and improvement of CHeCS-related processes and procedures. OB3 Liaison to OB6 for process support.
1.2.7	Book Coordination Support	Management of Crew Health Care System (CHeCS) Specification, and T2 Specification	Manage existing requirements and work change requests that impact those requirements. Work with system integrators and their teams to draft requirements for new hardware.
1.2.7	Book Coordination Support	Book Management	Coordinate and update input from OB for the OB SPIP (Space Station Implementation Plan). Make sure that updates are made in accordance with DQA, correct signatures are obtained and submit the book to EDMS.
1	Vehicle Management and Administration	Material/VAI	1. Scope/Description: Under contract SOW 1.3.1 SSP Engineering and Technical Services, the subcontractor shall assist in performing the following tasks: a. Perform strategic assessments of ISS Vehicle performance and functionality given varying input assumptions, i.e. Assembly Sequence, number of Shuttle flights, pre-positioning achieved, post-Shuttle flight rate, etc.

			<ul style="list-style-type: none"> <li>b. Perform assessments to determine the sensitivity of current maintenance strategies to the potential programmatic variables.</li> <li>c. Identify vehicle/system performance risks &amp; recommended strategies to mitigate risks. Includes 1-pager concept as a tool to display and communicate the myriad of pertinent program parameters as a function of time.</li> <li>d. Perform vehicle/system performance risk versus cost assessments.</li> <li>e. Perform trade studies as required to support strategic maintenance planning.</li> <li>f. Analyze spares requirements for the Shuttle retirement and recommend the quantities of ORUs for each subsystem to support Station through 2015 and other potential end dates.</li> <li>g. Provide a rolling cost estimate for the spare procurements as an on-going input to the budget process.</li> </ul>
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**3.0 REQUIREMENTS and DELIVERABLES:**

**4.0 PERIOD OF PERFORMANCE:** October 1, 2007 – September 30, 2008

**5.0 Travel:**

Trips	Destination	Travelers	Days	Purpose
6	California	1		CEV II/ Space X
2	Canada	1		L&M mtg HCM
1	CO	1		Orion PDR LMC (Q2)
3	Hou	1		Node 3 TIM (Q4)
6	Japan	1		HTV / L&M Mtg
12	KSC	1		CEV / FSE / JEM / Node 3
1	MD	1		T&V audit
2	MSFC	1		MPLM TIM / T&V Audit
3	Netherlands	1		ATV Verification (Q1)
3	Russia	1		DC1 relo TIM / MLM / L&M

**5.0 ESTIMATED COST:**

**Engineering & Technical Support - LOE R1**

Labor and Non-Labor Re	Hours	Rate	Cost
Manager I			
Technical Professional IV			
Technical Professional III			
Technical Professional II			
Technical Professional I			
Analysst III			
Analysst II			
Analysst I			
Business Specialist I			
Data/Doc Mgt Specialist			
<b>Total Labor</b>			
<b>Non-Labor Resources</b>			
Travel			
Material			
Total NLR			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. <b>A-08-646</b>	2. Date Of Order <b>October 1, 2007</b>	NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER Certified for National Defense under DPAS (15 CFR 700) DO-C9
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3. Billing Office NASA Johnson Space Center Attn: BG\Robin P. Chapman, Contracting Officer Houston, TX 77058-3696  Tel. No.: (281) 483-8501 FAX: (281) 483-2370 E-Mail <a href="mailto:robin.p.chapman@nasa.gov">robin.p.chapman@nasa.gov</a>	4. Ship To: Transportation Officer, Building 421 NASA Johnson Space Center Houston, TX 77058-3696 Mark For: Accountable Property
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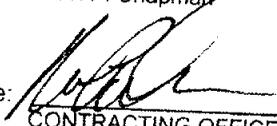
5. Contractor  Ares Corporation 16441 Space Center Blvd , Bldg A Houston, TX 77058  Attention: Marcy Linebarger  Phone: 713-933-6804 Fax: 281-488-4970 TIN:	6. Deliver On Or Before:  <b>September 30, 2008</b>
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7. BILLING ADDRESS: NASA Johnson Space Center Attn: LF231/Accounts Payable Group Houston, TX 77058-3696 Order No: A-07-637, Rev 1
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8. Type Of Order:

PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:

DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not required. Sign below if required and return to contracting officer.  Name: _____ Signature: _____ Date: _____	10. Name: Robin P. Chapman  Signature:  Date: <b>9/27/07</b> CONTRACTING OFFICER
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11. SCHEDULE						
ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>PROGRAM INTEGRATION OFFICE MANAGEMENT &amp; TECHNICAL SUPPORT</b>  Estimated Labor  Travel  Fee					

2. For Jsc Internal Use Only: Requisition No.: _____ Reissue To: _____	<input type="checkbox"/> COMP. <input type="checkbox"/> PART.    PPC: _____	13. Total  <b>\$368,740</b>
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14. Quantities In "Quantity Accepted" Column Have Been:

INSPECTED     ACCEPTED     RECEIVED

TO CONFORM TO THE CONTRACT, ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.

BY: \_\_\_\_\_

**1.0 TITLE OF EFFORT:** Program Integration Office Management and Technical Support

**2.0 TASK DESCRIPTION:**

The contractor shall provide business management and engineering and technical services support including resource management, technical meeting, and configuration management support.

**2.1 STATEMENT OF WORK REFERENCE:** SOW 3.1.1.1 Engineering and Technical Services and Program; 1.2 Business Management.

**2.2 REQUIREMENTS:**

The contractor shall perform the tasks described below:

**1.0 Resources Planning Tasks**

- Perform OM resources planning and execution tasks.  
Audit resource performance for assigned OM teams and report findings to the OM.
- Provide recommendations for resolution of budget / schedule discrepancies.  
Update and maintain OM Earned Value analysis for Non-Prime reporting in support of the NASA Earned Value Lead.
- Provide resource-based inputs to OM teams to update threats in the Program risk database in preparation for the Program Risk Advisory Board (PRAB).
- Develop data inputs to OM budget planning and strategy formulation exercises in preparation for monthly (internal, PMR) and annual Program-level budget reviews.  
Attend design reviews, project reviews and TIMs to provide expertise to facilitate OM teams' resource planning for hardware development.
- Brief resource and performance status to designated OM forums.  
Review for accuracy the resource expenditures proposed in OM Internal Task Agreements (ITAs) developed with providing organizations.
- Provide resource data updates for OM sections of the Cost Analysis Requirements Document (CARD) with associated recommendations for updates to the Program Work Breakdown Structure (PWBS).
- Track OM CRs / SSCNs estimates and projections against OM resource planning and forecasts.

**2.0 Meeting/Technical Support Tasks**

**2.1 External Carrier Office:** The contractor shall provide management support to the Program Integration Office in support of the External Carrier Office teams. Support shall be provided for the following: Technical Interchange Meetings - Preliminary Design Reviews - Critical Design Reviews - Element Integration Meetings  
Other meetings as necessary

**2.2 Program Integration Office:** The contractor shall perform the following activities to support the Program Integration Office to provide the System Analysis and Integration teams with meeting support.

a. Meeting support is provided for the following:

- System Analysis and Integration Meetings
- Other meetings as necessary

b. Responsibilities include:

- Scheduling conference calls
- Documentation management
- Developing and Maintaining associated websites
- Creating design review plans
- Developing and maintaining agendas and calendar of events
- Preparing meeting minutes
- Compiling presentations and electronically distributing items to the appropriate team
- Tracking actions, issues, and review item discrepancies.
- Generating and maintaining travel lists
- Data entry and database management of Review Item Discrepancies for milestone reviews

c. Miscellaneous documentation support includes:

- Filing and archiving project related documentation
- Photocopying meeting presentations and other documentation as necessary
- Formatting documentation
- Converting documents from various formats to PDF files
- Scanning hard copies into electronic format for posting on the internet
- Distributing documentation to team members
- Posting project related documentation to the appropriate internet site

**2.3 Configuration Management:** The contractor shall perform the following activities to provide the Program Integration Office with CM Coordinator support:

- Represent the Program Integration Office to the Configuration Management coordination reviews
- Coordinate the Program Integration Office review of all ISS CRs (Change Requests) that require Program Integration Office mandatory review and provide the coordinated response via the Configuration Management Process
- Coordinate the Program Integration Office review of all Shuttle CRs that require Program Integration Office mandatory review and provide the coordinated response via the Configuration Management Process
- Coordinate with the Program Integration Office Management on the review of ISS CRs that do not require mandatory Program Integration Office review.
- Provide a monthly status to the Program Integration Office Management regarding Program Integration Office CR processing metrics.

**3.0 DELIVERABLES:**

**4.0 PERIOD OF PERFORMANCE:** October 1, 2007 – September 30, 2008

# ORDER FOR SUPPLIES OR SERVICES

1. Order No. **A-08-647**  
2. Date Of Order **November 13, 2007**

NOTE: MARK ALL PACKAGES AND PAPERS WITH ORDER  
Certified for National Defense under DPAS (15 CFR 700) DO-C9

Issuing Office  
NASA Johnson Space Center  
Attn: BG/Robin P. Chapman, Contracting Officer  
Houston, TX 77058-3696  
Tel. No.: (281) 483-8501 FAX: (281) 483-2370  
E-Mail [robin.p.chapman@nasa.gov](mailto:robin.p.chapman@nasa.gov)

4. Ship To:  
Transportation Officer, Building 421  
NASA Johnson Space Center  
Houston, TX 77058-3696  
Mark For: Accountable Property

5. Contractor  
  
Ares Corporation  
16441 Space Center Blvd, Bldg A  
Houston, TX 77058  
  
Attention: Marcy Linebarger  
  
Phone: 713-933-6804 Fax: 281-488-4970  
TIN:

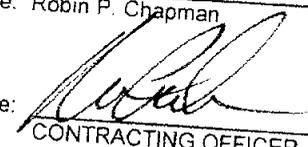
6. Deliver On Or Before:  
  
September 30, 2008

7. BILLING ADDRESS:  
NASA Johnson Space Center  
Attn: LF231/Accounts Payable Group  
Houston, TX 77058-3696  
Order No: A-07-637, Rev 1

8. Type Of Order:  
  
 PURCHASE: Please furnish the following in accordance with the conditions specified on this order. Reference:  
  
 DELIVERY: Except for the Terms and Conditions of Purchase Order listed on the following page, this delivery order is subject to instructions contained on this form and is issued subject to terms and conditions of contract number: NNJ04AA01C

9. Written acceptance of this order by contractor  is,  is not required. Sign below if required and return to contracting officer.

Name: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

10. Name: Robin P. Chapman  
Signature:  Date: 11/13/07  
CONTRACTING OFFICER

11. SCHEDULE						
ITEM NO.	DESCRIPTION	QUANTITY ORDERED	Unit	UNIT PRICE	AMOUNT	QUANTITY ACCEPT
001	<b>AEROSPACE AND FLIGHT MECHANICS SUPPORT LOE)</b> Labor Travel Fee					

2. For Jsc Internal Use Only:  
Requisition No.: \_\_\_\_\_  
Reissue To: \_\_\_\_\_  COMP.  PART. PPC: \_\_\_\_\_  
13. Total **\$118,419**

14. Quantities In "Quantity Accepted" Column Have Been:  
 INSPECTED  ACCEPTED  RECEIVED  
TO CONFORM TO THE CONTRACT. ACCEPTANCE WILL BE AT JSC UNLESS OTHERWISE NOTED.  
BY: \_\_\_\_\_

**5.0 Travel:**

1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	GSFC	1	7	ELC budget activity
1	Florida	1	7	ELC budget activity
1	Colorado	1	7	OM4 ELC quarterly review
1	Colorado	1	7	Orion activity
1	California	1	7	Orion activity
1	California	1	7	SpaceX activity
1	California	1	7	SpaceX activity
1	California	1	7	SpaceX activity
1	California	1	7	SpaceX activity
1	California	1	7	SpaceX activity
1	California	1	7	SpaceX activity

**6.0 ESTIMATED COST:**

**Program Integration Office Management and Technical S**

**Labor and Non-Labor Resources:**

<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
Manager			
Analyst II			
Analyst II			
Clerk			
Business Specialist I			
<b>Total Labor</b>			
<b>Non-Labor Resources</b>			
Travel			
Training			
Total NLR			
<b>Subtotal</b>			
<b>Fee</b>			
<b>Total Estimated Cost</b>			

**1.0 TITLE OF EFFORT:** Aerospace and Flight Mechanics Support

**2.0 TASK DESCRIPTION:**

The contractor shall provide project management support of Aerospace and Flight Mechanics Division hardware and software systems to ensure the ISSP technical, cost, and schedule requirements are met.

**2.1 STATEMENT OF WORK REFERENCE:** SOW 3.1.1.1 Engineering and Technical Services; SOW 6.3.2 Probabilistic Risk Assessment (PRA).

**3.0 REQUIREMENTS:**

**3.1 ANTARES Simulation Tool Support**

The contractor shall verify Simulink models and develop a process of incorporating these models into the EG simulation such as ANTARES. The contractor shall provide engineering support for ISS Visiting Vehicles for design reviews and special analyses, such as effects of fuel slosh on the controller. The contractor shall perform peer reviews and independent assessments of ISS GN&C analysis results and development of test cases to validate upgrades to programs such as SOMBAT.

**3.2 Quality and Flight Equipment Support**

The contractor shall aid in the creation of a human reliability/human error database tool through research, data collection and systematic analysis of that data. Specific models and case studies will be developed by data acquired through interactive research of unique crew and ground support activities, processes, and procedures available at NASA Johnson Space Center.

**3.0 PERIOD OF PERFORMANCE:** November 5, 2007 - September 30, 2008

**4.0 TRAVEL:** 1 Trip, 2 people, 3 days, roundtrip from Richland, WA to Washington, DC.

**5.0 ESTIMATED COST:**

**Aerospace & Flight Mechanics Support**

**Labor and Non-Labor Resources:**

<b>Labor</b>	<b>Hours</b>	<b>Rate</b>	<b>Cost</b>
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Program Manager (Off-Site)			
Technical Professional I			
Technical Professional II			
Technical Professional IV			

**Total Labor**

**Non-Labor Resources**

Travel  
Training

Total NLR

**Subtotal**

**Fee**

**Total Estimated Cost**