

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF PAGES 1   5	
2. AMENDMENT/MODIFICATION NO. <b>121</b>		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.	
ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN Kennedy Space Center, FL 32899		CODE		5. PROJECT NO. (If applicable)	
7. ADMINISTERED BY (If other than Item 6)		CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  OAO Corporation 7375 Executive Place Seabrook, MD 20706-2278			(x)	9A. AMENDMENT OF SOLICITATION NO.	
				9B. DATED (SEE ITEM 11)	
				10A. MODIFICATION OF CONTRACT/ORDER NO.  <b>NAS5-98144/CC90303B</b>	
				10B. DATED (SEE ITEM 13)  December 1, 2001	
CODE		FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> 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)					

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.	
<input type="checkbox"/>	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.
<input type="checkbox"/>	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).
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: <b>NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes</b>
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return 1 copies to the issuing office.

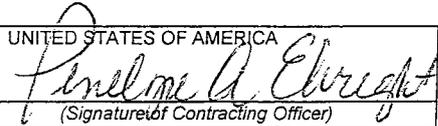
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

**Stennis Space Center --- ODIN SERVICES**

Technology Infrastructures: Incorporation of 9 SWRs Previously Approved Utilizing Fast Track Approval Process

Change in Delivery Order Price: \$54,443.51 (INCREASE)

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) Keith L. Spencer Sr. Contracts Manager		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Penelope A. Ebright Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 17 May 2004	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 5/21/04

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below is hereby incorporated into this Delivery Order at a fixed price of \$54,443.51. These infrastructure upgrades were previous approved in accordance with Item 22, "Fast-Track Infrastructure Upgrade Proposal (IUP) Process".

<b>SWR #</b>	<b>Fast Track Approval Date</b>	<b>Subject</b>	<b>Amount</b>
HE00 FE03 00 Rev 1	5/10/2004	Install GFE Cat6 wiring and multimode fiber cable in B2101 for USGS to support networks	\$19,042.63
J1E1 1E19 00	5/10/2004	Install (2) new multimode ST connectors on existing duplex multimode cable on 2 <sup>nd</sup> level of B4050 for NASA	\$592.66
LS01 0000 00	4/2/2004	Install Cat5e wiring in room 176 in B5100 to support LMCO networks	\$9,839.65
LS02 DATA 01	5/13/2004	Install Cat5e wires from MER102 to M159 to support the relocation of the switch cabinets for LMTO	\$4,726.31
NJ00 L4AE 00	5/10/2004	Install (1) classified Cat5e red wire to (10 ) locations in room 269, B1102 for NAVOCEANO	\$8,387.58
NJ00 L4AG 00	4/2/2004	Install (1) 12-strand multimode and (1) 12-strand singlemode fiber cable from room 295 to room 266 for NAVOCEANO to support LAN networks	\$5,285.90
P203 4212 08 Rev 1	4/5/2004	Attendance of (2) OAO employees at Cisco Networks Conference July 11-16 in New Orleans LA	\$3,842.70
XK30 4TMP 01 Rev 1	5/10/2004	Removal of existing Cat3 telephone and network wiring room 102, B4010 due to remodeling	\$1,643.03
XK30 4TMP 02 Rev 1	5/10/2004	Removal of existing aerial 6-pair copper cable from B3220 to B3226	\$1,083.63
		<b>TOTAL</b>	<b>\$54,443.51</b>

**2. SWR HE00 FE03 00**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install GFE Cat6 wiring and multimode fiber cable in B2101 for USGS as outlined in OAO proposal dated April 20, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

- (1) Install GFE Cat6 wiring to approximately 100 locations in B2101 and terminate on Cat6 patch panels in room 116, 139 and 158.
  - (2) Install (1) GFE 12-strand multimode fiber cable from room 158 to room 116.
  - (3) Install (1) GFE 12-strand multimode fiber cable from room 158 to room 139.
  - (4) Terminate fiber into SC connectors and place in fiber patch panels in rooms 116, 139 and 158.
  - (5) Install Cat6 patch panels and fiber panels in racks installed by other contractor.
  - (6) Install overhead cable tray into room 158.
  - (7) Install 2" conduit thru all fire walls.
  - (8) Install fire stop material at each of the fire walls after wiring has been placed.
  - (9) Remove all old coax cabling that was used for networks once all the PC's are cutover to the new Cat6 wiring.
  - (10) Test and label Cat6 wiring and provide test results to customer.
  - (11) Test and label fiber and provide test results to customer.
  - (12) Provide OAO with redline drawings showing jack numbers and locations.
- b. The contractor shall provide the following material:
- (1) 48 each Avaya multimode SC connectors (266858)
  - (2) 48 each cool cure consumables (142172)
  - (3) 14 each 2" EMT connectors
  - (4) 14 each 2" EMT connector bushings
  - (5) 2 each fire stop putty (174609)
  - (6) 2 each 2" EMT conduit 10 feet length
- c. Schedule: The completion of this effort shall be (8) eight weeks after receipt of Fast Track approval (May 10, 2004)

### 3. SWR J1E1 1E19 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install (2) new multimode ST connectors on existing duplex multimode cable on 2<sup>nd</sup> level of B4050 for NASA as outlined in OAO proposal dated April 20, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
- (1) Terminate (2) multimode ST connectors on existing duplex multimode fiber cable on 2<sup>nd</sup> level of B4050 that has been damaged.
  - (2) Test and label if needed on the 2<sup>nd</sup> level.
  - (3) Provide OAO with new test results.
- b. The contractor shall provide the following material:
- (1) 2 each cool cure consumables (142172)
  - (2) 2 each P2020C-C-125 multimode ST connectors (170290)
- c. Schedule: The completion of this effort shall be (1) one week after receipt of Fast Track Approval (May 10, 2004)

### 4. SWR LS01 0000 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install Cat5e network connectivity in room 176, B5100 to support LMCO networks as outlined in OAO proposal dated January 27, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
  - (1) Install (4) Cat5e plenum wires to (13) locations in room 176 in B5100 to support their network.
  - (2) Install J-hooks along outside of room 176 and room 175 walls approximately 18 feet above floor to support wiring to network room 148.
  - (3) Terminate wiring on existing patch panels in room 148.
  - (4) Test and label wiring at both ends.
  - (5) Provide OAO with redline drawing showing jack numbers and locations
- b. The contractor shall provide the following material:
  - (1) 21,000 feet of 4-pair Cat5e plenum wire (CMP-00424LAN-6U-01)
  - (2) 60 each Caddy J-hooks (184873)
  - (3) 26 each Trac Jack gray (248938)
  - (4) 26 each Trac Jack white (248939)
  - (5) 13 each faceplates (189457)
- c. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (April 2, 2004)

## 5. SWR LS02 DATA 01

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install Cat5e wires from MER 102 to M159 to support relocation of the switch cabinets for LMTO as outlined in OAO proposal dated April 13, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for the performance of the following tasks:
  - (1) Install flextray from existing cable tray in room MER102 thru wall above new drop ceiling then drop down to (3) equipment cabinet locations in room M159.
  - (2) Install (12) Cat5e drops to (3) locations in room M159 above equipment cabinets.
  - (3) Install (1) 24-port 1U patch panel in each of the (3) equipment cabinets once they have been relocated to room M159 from room 106 and terminate Cat5e wires which will be done after hours to keep customer outage to a minimum.
  - (4) Terminate (36) Cat5e wires on existing Cat5e patch panel in room MER102.
  - (5) Test and label wires at both ends.
  - (6) Provide OAO with redline drawing showing jack numbers and locations.
- b. The contractor shall provide the following materials:
  - (1) 3000 feet of BERK-TEK Cat5e plenum wire (CMP00424LAN-6U-01)
  - (2) 10 each Flextray 4" wall "L" bracket (217073)
  - (3) 4 each Flextray 2"x4"x10' (174336)

- (4) 3 each Ortronics 1U Cat5e 24-port patch panel (248950) black
- c. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (May 13, 2004).

#### 6. SWR NJ00 L4AE 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install classified Cat5e red wire to (10) locations in room 269, B1002 for NAVOCEANO as outlined in OAO proposal dated March 18, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for the performance of the following tasks:
  - (1) Install (1) classified Cat5e red wire to (10) locations in room 269 back to room 295 and terminate on 110 jack panel in room 295.
  - (2) Install Panduit raceway from room 269 back to room 295 for the above wiring to be placed.
  - (3) Install (1) 110 jack panel in room 295 and terminate Ca5e wiring.
  - (4) Install (1) Cat5e jack, (1) faceplate (2) blanks at all (10) locations in room 269 and terminate other end of Cat5e wire.
  - (5) Install (1) Caddy clip in (5) office areas where they have sheetrock walls.
  - (6) Install (1) Panduit outlet boxes in (5) cubicles.
  - (7) Test and label Cat5e wiring.
- b. The contractor shall provide the following materials:
  - (1) 4,000 feet of Belden Cat5e red PVC wiring (CM-00424BEL-5U-03)
  - (2) 25 each Panduit LD10 raceway (131155)
  - (3) 20 each Panduit LD5 raceway (131156)
  - (4) 20 each Ortronics blanks for faceplates (148027)
  - (5) 10 each Ortronics faceplates (148025)
  - (6) 10 each Ortronics T568A/B single jacks (248941)
  - (7) 5 each Panduit outlet boxes (201336)
  - (8) 5 each Caddy clips (157703)
  - (9) 2 packs of Panduit TEES for LD10 raceway (142140)
  - (10) 2 packs of Panduit inside corners for LD10 raceway (131130)
  - (11) 2 packs of Panduit outside corners for LD10 raceway (131128)
  - (12) 2 packs of Panduit end cap for LD10 raceway (131132)
  - (13) 1 pack of Panduit right angle for LD10 raceway (131126)
  - (14) 1 pack of Panduit reducer fitting (142142)
  - (15) 1 pack of Panduit TEES for LD5 raceway (142138)
  - (16) 1 pack of Panduit inside corners for LD5 raceway (131142)
  - (17) 1 pack of Panduit outside corners for LD5 raceway (131137)
  - (18) 1 pack of Panduit right angle for LD5 raceway (131138)
  - (19) 1 each Avaya 110 jack panel block (200666)
- c.. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (May 10, 2004).

**7. SWR NJ00 L4AG 00**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabaling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to install (1) 12-strand multimode and (1) 12-strand singlemode fiber cable from room 295 to room 266, B1002 for NAVOCEANO in support of LAN networks as outlined in OAO proposal dated March 18, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for the performance of the following tasks:
  - (1) Install (1) plenum 12-strand multimode fiber cable from room 295 to room 266.
  - (2) Install (1) plenum 12-strand singlemode fiber cable from room 295 to room 266.
  - (3) Install (2) 600B2 fiber shelves equipped with cover, trough and a 24-port empty st panel in existing equipment cabinet in room 266.
  - (4) Relocate existing 12-strands of multimode fibers that are on top of server in the cabinet listed in item (3) above.
  - (5) Terminate fiber into ST connectors and place one end in new 600B2 fiber shelves listed in item (3) above.
  - (6) Terminate fiber into ST connectors and place in new GFE fiber cabinet in room 295.
  - (7) Install multimode and singlemode couplers in 600B2 that were installed in item (3) above.
  - (8) Test and label fiber.
  - (9) Provide OAO with redline drawing showing route taken with fiber.
  
- b. The contractor shall provide the following materials:
  - (1) 275 feet of Corning 12-strand multimode plenum MIC fiber cable (370-949-FDDI-12)
  - (2) 275 feet of Corning 12-strand singlemode plenum MIC fiber cable (370-948-SMODE-12)
  - (3) 48 each cool cure consumables (142172)
  - (4) 24 each P3020A-C-25 singlemode ST connectors (157475)
  - (5) 24 each P2020C-C-125 multimode ST connectors (170290)
  - (6) 24 each C2000A multimode ST couplers (088987)
  - (7) 24 each C3000A2 singlemode ST couplers (105263)
  - (8) 2 each Avaya 600B2 fiber shelf (178260)  
(9) 2 each Avaya clear cover plate (179391)
  - (10) 2 each Avaya trough for fiber jumpers (192718)
  - (11) 2 each Avaya 24-port empty ST panel (179380)
  
- c. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (April 2, 2004).

**8. SWR P203 4212 08 Rev 1**

The contractor shall have (2) OAO employees attend the Cisco Networks Conference to be held July 11-16, 2004 in New Orleans, LA as outlined in OAO proposal dated March 26, 2004. Installation will include testing, labeling, and configuration documentation (red line drawings).

The completion of this effort shall be (4) four days after conference attendance

**9. SWR XK30 4TMP 01 Rev 01**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), to remove existing Cat3 telephone and network wiring from room 102, B4010 as result of remodeling as outlined in OAO proposal dated April 15, 2004.

- a. The contractor shall be responsible for the performance of the following tasks:
  - (1) Remove wiring from approximately (52) locations in room 102 back to room 117 in B4010 due to remodeling of building
  - (2) Remove jack numbers and locations from drawings.
- b. No materials are required for this effort
- c. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (May 10, 2004).

**10. SWR XK30 4TMP 02 Rev 01**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), to remove existing aerial 6-pair copper cable from B3220 to B3226 as outlined in OAO proposal dated April 15, 2004.

- a. The contractor shall be responsible for the performance of the following tasks:
  - (1) Remove existing 6-pair cable from B3220 to B3226 that was installed to provide telephone service for contractors that were in building B3225 and B3226
  - (2) Take cabling to redistribution at B2204
- b. No materials are required for this effort
- c. Schedule: The completion of this effort shall be (4) four weeks after receipt of Fast Track Approval (May 10, 2004).

11. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$54,443.51 for this infrastructure upgrade:

**ESTIMATED TOTAL (Contract Item 4) (through Mod 121)**

Ordered Seats and Services	\$ 10,936,603.27
Catalog Actuals	\$ 676,781.44
Specialized Services Actuals	\$ 224,796.72
Infrastructure upgrades	\$ 3,410,477.21
Fast Track Mods Authorized	\$ -
<b>Subtotal</b>	<b>\$ 15,248,658.64</b>

Less credits	\$ (2,625.55)
Less retainage not earned	\$ (33,905.56)
Subtotal	\$ 15,212,127.53
Seats/service levels projected through 11/30/04	\$ 2,689,097.60
<b>Total Estimated Delivery Order Value</b>	<b>\$ 17,901,225.13</b>

12. Part V "Technology Infusion (Infrastructure Upgrades)", Item 2 is modified to include the subject infrastructure upgrades. The signed date and completion date will be completed in a future infrastructure upgrade modification.

Mod	Description	Date Signed	Date Completed	Amount
121	<b>HE00 FE03 00 Rev 1</b> Install GFE Cat6 wiring and multimode fiber cable in B2101 for USGS to support networks			\$19,042.63
121	<b>J1E1 1E19 00</b> Install (2) new multimode ST connectors on existing duplex multimode cable on 2 <sup>nd</sup> level of B4050 for NASA			\$592.66
121	<b>LS01 0000 00</b> Install Cat5e wiring in room 176 in B5100 to support LMCO networks			\$9,839.65
121	<b>LS02 DATA 01</b> Install Cat5e wires from MER102 to M159 to support the relocation of the switch cabinets for LMTO			\$4,726.31
121	<b>NJ00 4AE 00</b> Install (1) classified Cat5e red wire to (10 ) locations in room 169, B11092 for NAVOCEANO			\$8,387.58
121	<b>NJ00 L4AG 00</b> Install (1) 12-strand multimode and (1) 12-strand singlemode fiber cable from room 295 to room 266 for NAVOCEANO to support LAN networks			\$9,839.65
121	<b>P203 4212 08 Rev 1</b> Attendance of (2) OAO employees at Cisco Networks Conference July 11-16 in New Orleans LA			\$3,842.70

<b>Mod</b>	<b>Description</b>	<b>Date Signed</b>	<b>Date Completed</b>	<b>Amount</b>
<b>121</b>	<b>XK30 4TMP 01 Rev 1</b> Removal of existing Cat3 telephone and network wiring room 102, B4010 due to remodeling			\$1,643.03
<b>121</b>	<b>XK30 4TMP 02 Rev 1</b> Removal of existing serial 6-pair copper cable from B3110 to B3226			\$1,083.63

13. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified).
14. Reporting requirements: The contractor shall provide monthly status reports to the SSC Alternate DOCOTR, with a copy to the DOCO. These reports shall include, as a minimum, installation progress, and potential problem areas.
15. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.
16. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.