

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF PAGES 1 7
2. AMENDMENT/MODIFICATION NO. <b>77</b>	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-MS Kennedy Space Center, FL 32899		7. ADMINISTERED BY (If other than Item 6)	CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)  OAO Corporation 7500 Greenway Center Drive Greenbelt MD 20770		(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.	
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).	
<b>X</b> 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>	
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.

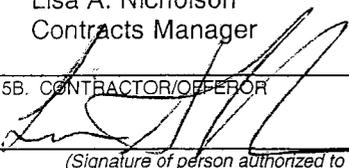
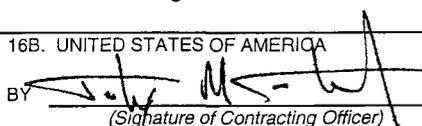
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

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

Technology Infrastructure: SWR P203 3N01 00, P203 3STK 00 Rev 02, and EAEB 3N15 00

Change in Delivery Order Price: \$239,676.13 (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) Lisa A. Nicholson Contracts Manager	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Timothy M Freeland Contracting Officer
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)
15C. DATE SIGNED 02-20-03	16C. DATE SIGNED 2-21-03

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 \$239,676.13.

SWR #	Subject	Amount
P203 3N01 00	Cable plant expansion due to relocation of server cabinets in room 101 of B1110 for NASA	\$50,295.96
P203 3STK 00 P7N0 70SG 00	Installation of a new Lightning Detection System at SSC for NASA	\$143,820.06
EAEB 3N15 00	Install Cat5 wiring to existing jack locations on the 1 <sup>st</sup> floor of B1100 South for NASA	\$45,560.11
	TOTAL	\$239,676.13

**2. SWR P203 3N01 00**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) and materials necessary to install 4-pair level 7 wiring to accommodate the move of servers from the north side of room 101 to the middle of room 101 in B1110 for NASA. Install new equipment cabinets and relocate all network hubs and fiber panels to new cabinets as identified in OAO proposal dated January 13, 2003.

a. The contractor shall perform the following tasks:

- (1) Install new Flextray under computer floor from new GFE server cabinets to existing network hubs in room 101.
- (2) Install (1) 24-port level 7 patch panel in row 1 rack 4.
- (3) Install (1) 24-port level 7 patch panel in row 2 rack 4.
- (3) Install (1) 48-port level 7 patch panel in row 1 rack 2 & 6.
- (4) Install (1) 48-port level 7 patch panel in row 2 rack 3 & 6.
- (5) Install (1) Panduit deep outlet box e/w (4) level 7 wires in row 2 rack 4.
- (6) Install (1) sheet of plywood on South wall behind existing network cabinets.
- (7) Install (4) Visipatch panels on new sheet of plywood.
- (8) Install (240) level 7 wires from new 24-port & 48-port patch panels listed in item (2) thru (4) above to new Visipatch panels on wall behind network cabinets.
- (9) Install (1) 12-port multimode fiber patch panel in row 2 rack 4.
- (10) Install (1) 12-strand multimode fiber cable from existing network cabinets to row 2 rack 4 and terminate into ST connectors and place in fiber patch panel listed in item (9) above.
- (11) Install (2) new network cabinets to replace the (3) old network cabinets so that patch cords can be placed inside so they won't get knocked loose by people passing by cabinets.
- (12) Remove all equipment from 3 old cabinets and install in the (2) new cabinets.
- (13) Install (144) level 7 solid copper cords from GFE network hubs in new cabinets to Visipatch panels that were mounted in item (7) above.
- (14) Install (1) patch cord organizer under each patch panel.
- (15) Install Visipatch distribution rings on Visipatch panels.
- (16) Install (1) deep Panduit outlet box in row 2 rack 1.

- (17) Install (4) level 7 wires from Visipatch panel to row 2 rack 1 and terminate into (4) level 7 jacks.
- (18) Test and label level 7 wires at server cabinets and Visipatch panels.
- (19) Test and label multimode fiber cable.

b. The contractor shall provide the following material:

- (1) 28,000 feet of 2071 level 7 plenum wire (CMP-0042AVA-7U-06)
- (2) 144 level 7 solid copper cords (108793-969-06-25)
- (3) 110 feet of 12-strand multimode plenum MIC cable (370-949-FDDI-12)
- (4) 60 each 7 FT Cat6 station cords (MM07-AV7E-04) green
- (5) 60 each 10 FT Cat6 station cords (MM07-AV7E-04) green
- (6) 60 each 14 FT Cat6 station cords (MM07-AV7E-04) green
- (7) 50 each 8-inch L brackets (217074)
- (8) 50 each stanchion clamp (216883)
- (9) 40 each 5 FT Cat6 station cords (MM07-AV7E-04) green
- (10) 30 packs of 110C-4 connectors for 110 wiring blocks (073039)
- (11) 24 each P2020C-C-125 multimode ST connectors (118974)
- (12) 24 each cool cure consumables (142172)
- (13) 24 each Visipatch distribution rings (532421)
- (14) 20 each 4 FT Cat6 station cords (MM07-AV7e-04) green
- (15) 12 each C2000A multimode ST couplers (088974)
- (16) 10 each Flextray 2" x 8" x 10' (174337)
- (17) 6 each patch cord organizer (155563)
- (18) 5 each 336-pair Visipatch panel (532210)
- (19) 4 each GigaSpeed patch panel 48-port (246729)
- (20) 4 each 5-meter multimode ST/SC fiber jumper (152014)
- (21) 4 each T568A Cat6 jack (246746) Green
- (22) 2 each GigaSpeed patch panel 24-port (246728)
- (23) 2 each Visipatch horizontal duct (539650)
- (24) 2 each 10-meter multimode ST/SC fiber jumper (152015)
- (25) 2 packs tooless hold down clip (221356)
- (26) 2 sets casters (7208) (2-unlocking and 2-locking)
- (27) 2 each equipment cabinets (GL720E-2932) black – Great Lakes Cabinet
- (28) 2 each TPE-29F fan assembly – Great Lakes Cabinet
- (29) 2 each vertical cable management (CME-7229) - Great Lakes Cabinet
- (30) 1 roll of Velcro ties
- (31) 1 sheet of ¾" x 4' x 8' plywood
- (32) 1 each cleanshear cutting tool (211959)
- (33) 1 pack washer splice kit (214856)
- (34) 1 each 600B2 12-port fiber panel (179749)
- (35) 1 each M14L-262 faceplate (197613) White
- (36) 1 each Panduit deep outlet box (205872)

c. Schedule: The completion of this effort shall be (8) eight weeks after the receipt of a signed Modification.

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) and materials necessary to implement the new Lightning Detection System at SSC to be used to alert personnel of potential and actual lightning strikes as identified in OAO proposal dated February 10, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (2) dual Cat5 jacks in room 116 of B4010, room 101 of B4110 and room 104 in B4210 to support (4) terminal servers and (1) workstation at each location being installed by the OEM .
- (2) Install (1) dual Cat5 jack in room 345 in B1100 to support (1) terminal server for (1) electric field mill being installed by OEM
- (3) Install (1) dual Cat5 jack in room 151 of B4995 to support (1) terminal server for (1) electric field mill and (1) terminal server for (1) satellite dish being installed by OEM
- (4) The network jack exists in security area for the connection of existing satellite dish to the network.
- (5) Install (2) 23" shelves in existing cabinet in room 101 of B4210 for workstation and terminal servers and remote alarm display to sit on.
- (6) Install (2) 19" shelves in existing cabinet in room 116 of B4010 for workstation and terminal servers and remote alarm display to sit on.
- (7) Install (1) 19" shelf in room 345 of B1100 for (1) terminal server to sit on.
- (8) Install (1) 19" shelf in room 151 of B4995 for (2) terminal servers to sit on.
- (9) Test and label Cat5 jacks.
- (10) Upgrade drawing showing jack locations and jack numbers.
- (11) Install (2) 19" shelves in equipment rack in room 174 of B1201.

**Bldg. 4995**

- (1) Install (1) 1.8 meter dish on top of room 151.
- (2) Install (1) satellite receiver in room 151 on 19" shelf that OAO installed previously.
- (3) Install (1) RG6 coax from satellite dish down to room 151 and connect to satellite receiver.
- (4) Install (1) terminal server on 19" shelf and connect to satellite receiver in room 151.
- (5) Install (1) electric field mill with surge suppression kit on top of room 151.
- (6) Install (1) terminal server and connect to field mill on top of room 151.
- (7) Install (1) 7-conductor cabling from field mill down to room 151 and connect to terminal server.

**Bldg. 4010**

- (1) Install (1) PLWS workstation and (4) electric field mill terminal servers on the two 19" shelves that OAO installed previously in room 120.

**Bldg. 4110**

- (1) Install (1) PLWS workstation and (4) electric field mill terminal servers on the two 23" shelves that OAO installed previously in cabinet 820 in room 101

**Bldg. 4210**

- (1) Install (1) PLWS workstation and (4) electric field mill terminal servers on existing table in room 104.

**Bldg. 1100**

- (1) Install (1) electric field mill on top of B1100 old section about 30 feet from the penthouse.

- (2) Install (1) 7-conductor cable from electric field mill on room down to room 345.
- (3) Install (1) electric field mill terminal server on the 19" shelf that OAO installed previously in room 345 and connect the 7-conductor wire from the electrical field mill.

**Bldg. 2201**

- (1) Install (1) electric field mill on existing shelf in room 111.
- (2) Connect existing satellite receiver to this electric field mill.

**Bldg. 1201**

- (1) Install (1) PLWS workstation and (4) electric field mill terminal servers in room 174.

b. The contractor shall provide the following material:

- (1) 3,000 feet of Cat5 plenum blue station wire (CMP-00424BEL-5U)
- (2) 20 each 5 feet Cat5 blue station cords (MM05-AX5-06)
- (3) 10 each IMO II PCB dual Cat5 T568A-B jacks (248945)
- (4) 8 each IMO II PCB blank modules (148027)
- (5) 6 each IMO II PCB singlegang faceplates (148025)
- (6) 6 each Panduit deep outlet boxes (207082)
- (7) 6 each CPI 19" clear shelf (133511)
- (8) 2 packs of 110C-4 connectors for 110 wiring blocks (073029)
- (9) 2 each CPI 23" gray shelf (171334)
- (10) 1 each Caddy faceplate clip (157703)
- (11) 4 each PLWS workstation (55119)
- (12) 1 each custom mapping (CMD51)
- (13) 2 each PLWS training (SVC4281)
- (14) 4 each PLWS base system installation (SVCPLWS32)
- (15) 2 each electric field mill (EFM) Digital/analog (55247)
- (16) 2 each EFM surge suppression kits (55175)
- (17) 2 each EFM mounting systems roof mount base (55201)
- (18) 20 each EFM terminal servers with configuration (TERM)

c. Schedule: The completion of this effort shall be 130 working days after the receipt of a signed Modification.

**4. EAEB 3N15 00**

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) and materials necessary to install (3) Cat5e wires to (120) locations on the 1<sup>st</sup> floor of B1100 South for the NASA IFMP personnel. Install (26) dual RJ11 jacks to replace the single RJ11 jacks that are located in rooms 11130A, B, 11134A, B, C, D, E, F, 11138, A, B, C & D as identified in OAO proposal dated February 07, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (3) Cat5e wires to (120) locations on the 1<sup>st</sup> floor of B1100 South.
- (2) Install (240) dual Cat5 jacks on the above wires plus the existing wiring.
- (3) Remove 120 single Cat5 jacks to install the above jacks.
- (4) Install (26) dual RJ11 jacks to replace the single RJ11 jacks that are located in rooms 11130A, B, 11134A, B, C, D, E, F, 11138, A, B, C & D to existing 4-pair wiring.

- (5) Install (1) 300-pair 110 wiring block in room 11128 and terminate the (354) Cat5e wires.
- (6) Install (1) 188B2 wire organizer next to 110 wiring block.
- (7) Test and label all new Cat5 wiring.
- (8) Provide redline drawing to OAO to update drawings.
- (9) Install (144) solid copper cables from GFE hub to (2) new 110 wiring blocks.
- (10) Install GFE 6500 type network hub in room 11128 and configure.

b. The contractor shall provide the following material:

- (1) 75,000 feet of Belden Cat5e blue plenum wire (CMP-00424BEL-5U-06)
- (2) 240 each dual Cat5e jacks (248945)
- (3) 144 each 30 FT solid copper cords (M54AAPBBL-030)
- (4) 42 packs of 110C-4 connectors for 110 wiring blocks (073039)
- (5) 26 each dual RJ11 jacks (148035)
- (6) 5 each AVAYA 300-pair 110 wiring block (154071)
- (7) 2 each AVAYA 188B2 wire organizer (112052)
- (8) 2 each 5-meter duplex singlemode fiber jumper (152039)
- (9) 1 each 1-meter duplex singlemode fiber jumper (151986)

c. Schedule: The completion of this effort shall be (6) six weeks after the receipt of a signed Modification.

5. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$239,676.13 for these infrastructure upgrades:

**TOTAL DELIVERY ORDER VALUE (through Mod No. 77)**

Ordered Seats and Services	\$ 5,138,675.51
Catalog Actuals	\$ 319,954.23
Specialized Services Actuals	\$ 4,500.00
Infrastructure upgrades	\$ 1,496,579.34
Fast Track Mods Authorized	\$ 81,167.31
Subtotal	\$ 7,040,876.39
Less credits	\$ (2,625.55)
Less retainage not earned	\$ (50,950.46)
Subtotal	\$ 6,987,300.38
Seats/service levels projected through 11/30/04	\$ 8,281,438.72
<b>Total Estimated Delivery Order Value</b>	<b>\$ 15,268,739.10</b>

6. 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. No.	Description of Work	Date Signed	Completion Date	Modification Value
77	P203 3N01 00 Cable plant expansion due to relocation of server cabinets in room 101 of B1110 for NASA			\$50,295.96

<b>77</b>	P203 3STK 00/P7N0 70SG 00 Installation of a new Lightning Detection System at SSC for NASA			\$143,820.06
<b>77</b>	EAEB 3N15 00 Install Cat5 wiring to existing jack locations on the 1 <sup>st</sup> floor of B1100 South for NASA			\$45,560.11

7. 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).

The contractor may invoice for effort completed on SWR P203 3STX 00, Rev 02 upon completion and acceptance by the Alternate DOCOTR of the following milestones:

- a. \$125,148.68      Receipt of materials
- b. \$18,671.38      System installed and satisfactorily tested

8. 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.
9. 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.
10. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.