

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 7	
2. AMENDMENT/MODIFICATION NO. 102	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN 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 7375 Executive Place Seabrook, MD 20706-2278		(x)	9A. AMENDMENT OF SOLICITATION NO.	
			9B. DATED (SEE ITEM 11)	
			10A. MODIFICATION OF CONTRACT/ORDER NO. NAS5-98144/CC90303B	
			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).	
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes	
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: SWRs XJCS 3N45 00

Change in Delivery Order Price: \$222,493.38 (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 24 Oct 2003	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 10/24/03

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 \$222,493.38

SWR #	Subject	Amount
XJCS 3N45 00	Install communication wiring in B3225 and B3226 for NASA	\$ 222,493.38

2. SWR XJCS 3N45 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 communications wiring (network, telephone, video and 4-fiber cabling to two new buildings (B3225 and B3226) as outlined in OAO proposal dated October 10, 2003.

- a. The contractor (and its subcontractor) shall perform the following tasks:

OAO:

- (1) Install one Cisco Catalyst 6513 in building 3225 with 336 10/100/1000 Ethernet ports, 8 GigE ports, and (3) Gig uplinks to building 3226's new Cisco Catalyst 6513 and (1) Cisco 2950 24-port 10/100/1000 switch ports for victim net.
- (2) Install one Cisco Catalyst 6513 in building 3226 with 336 10/100 Ethernet ports, 8 GigE ports, and a 10GigE uplink to 1201's new Cisco Catalyst 6513, and one Cisco 2950 24-port 10/100 switch ports for victim net.
- (3) Lay down 336 CAT6 line cords form the new Cisco Catalyst 6513 to a new 110 block in building 3225 and (24) Cat6 line cords for the Cisco 2950 switch.
- (4) Lay down 336 CAT6 line cords form the new Cisco Catalyst 6513 to a new 110 block in building 3226 and (24) Cat6 line cords for the Cisco 2950 switch.
- (5) Install one Cisco Catalyst 6513 in building 1201 with 16 GigE ports and 2 10GigE uplinks.
- (6) Move all internal routing to the in Cisco Catalyst 6513 in building 1201.
- (7) Trunk the new Cisco Catalyst 6513 in building 1201 via an EtherChannel 2GigE uplink to SSCTuna.
- (8) Lay down 96 Cat6 line cords form SSCTUNA to a new 1110 block in building 1201
- (9) Lay down 96 Cat6 line cords form SSCSHARK to a new 1110 block in building 1201
- (10) Install one Cisco C2950 with 24 10/100 ports and 2 100Base-FX ports in building 1201 and
- (11) Install Cisco's LAN Manager on existing GFE Sun system.
- (12) Install Cisco's RWAN Manager on existing GFE Sun system.

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B3225 & B3226:

- (1) Install (2) Cat6 wires to (139) locations and terminate on (2) Cat6 jacks at the station end and on Visipatch panels in communications room in B3225.
- (2) Install (2) Cat6 wires to (143) locations and terminate on (2) Cat6 jacks at the station end and on Visipatch panels in communications room in B3226.
- (3) Install (2) Cat3 wires to (140) locations and terminate on (2) Cat3 jacks at the station end and on 110 wiring blocks at communications closet in B3225.

- (4) Install (2) Cat3 wires to (145) locations and terminate on (2) Cat3 jacks at the station end and on 110 wiring blocks at communications closet in B3226.
- (5) Install (12) Cat6 wires to (8) locations and terminate on (8) 12-port boxes placed in the cable trays designated by Debra Rushing to be used in the future and terminate the other end on 110 wiring blocks in communications room in B3225.
- (6) Install (12) Cat6 wires to (8) locations and terminate on (8) 12-port boxes placed in the cable trays designated by Debra Rushing to be used in the future and terminate the other end on 110 wiring blocks in communications room in B3226.
- (7) Install (1) RG11 coax from communications room in cable tray and terminate into (3) 8-port taps placed along cable tray in B3225 to be used for SSC video.
- (8) Install (1) RG11 coax from communications room in cable tray and terminate into (3) 8-port taps placed along cable tray in B3226 to be used for SSC video.
- (9) Install (1) RG6 coax cable to (8) locations in B3225 for SSC video out to cable tray where 8- port tap are located and connect.
- (10) Install (1) RG6 coax cable to (6) locations in B3226 for SSC video out to cable tray where 8- port tap are located and connect.
- (11) Install (1) RG6 coax cable to (7) locations in B3225 for PTD live fire video back to PTD computer room.
- (12) Install (1) RG6 coax cable to (7) locations in B3226 for PTD live fire video to ODIN communications closet.
- (13) Install (1) RG6 coax from PTD computer room in B3225 to communications room in B3226 to be used to connect the two buildings for live fire video.
- (14) Install theft-proof terminators on all unused ports on 8-port coax taps in B3225 and B3226.
- (15) Install (2) SSC video transmitters in B1201 and (1) SSC video receiver in B3225 and (1) SSC video receiver in B3226.
- (16) Terminate RG6 coax into RG6 F-connectors and place one end in 8-port taps on cable tray and the other end in faceplate equipped with F-connector at station end in B3225 and B3226.
- (17) Install (1) multimode 4-fiber fanout cable from communications room in B3225 to CEE room to be used for VITS.
- (18) Terminate fiber into ST connectors and place in faceplate equipped with (4) fiber inserts in CEE room and in faceplate equipped with (4) fiber inserts in communications room in B3225.
- (19) Install flex cable tray from existing cable tray to reach communications poles that feed the modular furniture.
- (20) Install and terminate (360) solid copper cables to (5) Visipatch panels to be used for network ports in B3225.
- (21) Install and terminate (360) solid copper cables to (5) Visipatch panels to be used for network ports in B3226.
- (22) Install (5) Visipatch panels equipped with horizontal duct and terminate (274) Cat6 wires from station jacks and (96) Cat6 wires from 12-port boxes in B3225.
- (23) Install (5) Visipatch panels equipped with horizontal duct and terminate (284) Cat6 wires from station jacks and (96) Cat6 wires from 12-port boxes in B3226.
- (24) Terminate (2) Cat6 jacks on (274) Cat6 wires in B3225.
- (25) Terminate (2) Cat6 jacks on (284) Cat6 wires in B3226.
- (26) Install 110 wiring blocks and terminate (275) Cat3 wires from station jacks in B3225.
- (27) Install 110 wiring blocks and terminate (286) Cat3 wires from station jacks in B3226.
- (28) Terminate (1) Cat3 jack on (275) Cat3 wires in B3225.
- (29) Terminate (1) Cat3 jack on (286) Cat3 wires in B3226.

- (30) Install caddy J-hooks over office areas above drop ceilings in both buildings to place wiring where it is not feasible to place flex tray.
- (31) Install (1) directional coupler in communications room in B3225 and B3226 so that RG11 coax can go in two directions in each building.
- (32) Install cable management panels in both buildings.
- (33) Test and label Cat6 wiring in both buildings.
- (34) Test and label Cat3 wiring in both buildings.
- (35) Test and label 4-fiber cable in B3225.
- (36) Test and label SSC video coax cables in both buildings.
- (37) Provide LMIT with redline drawing showing jack numbers and locations.
- (38) Install (1) 19" x 84" aluminum equipment rack in customer computer room.
- (39) Install (2) double sided vertical troughs on equipment rack in computer room.

BOE-TEL**B1201**

- (1) Install and terminate (192) solid copper cables to (3) Visipatch panels to be used for network ports.
- (2) Install cable management panels.
- (3) Install (1) 19" x 84" aluminum equipment rack in room 116.
- (4) Install (1) double sided vertical trough on equipment rack.

b. The contractor (and its subcontractor) shall provide the following material:

B3225 & B3226:

- (1) 143, 000 feet of 1081 PVC Cat6 wire (CM-00424MAXE-7-06)
- (2) 143,000 feet of 1010 PVC Cat3 wire (CM-00424MAX-3U-06)
- (3) 4,000 feet of Belden 9248 PVC RG6 coax
- (4) 1,000 feet of Belden 9292 PVC RG11 coax
- (5) 1,000 feet of Belden 1532A RG6 burial coax
- (6) 764 each MGS300BH-226 modular jack (246746) green
- (7) 678 each Avaya Cat6 solid copper cords (CPC3482-04F030) green
- (8) 567 each M1BH-318 Cat3 jack (240709)
- (9) 400 each 14 feet Cat6 station cord (MM14-AV7E-04) green
- (10) 384 each Avaya Cat6 solid copper cords (CPC3482-04F100) green
- (11) 282 each M16L-246 faceplate 4-hole (197617)
- (12) 150 each caddy J-hooks (184873)
- (13) 150 each corning multimode 4-fiber fanout cable (370-647-FDDI-04)
- (14) 100 each Avaya Visipatch distribution rings (532421)
- (15) 54 packs 110C-4 connectors (073039)
- (16) 52 each RG6 F connectors ((103779)
- (17) 52 each caddy clips (157703)
- (18) 50 each 25 feet Cat6 station cords (MM25-AV7E-04) green
- (19) 40 each theft-proof terminators (021946)
- (20) 25 each flextray center hanger support (196501)
- (21) 24 packs 188 UT1-50 transparent label holder (073093)
- (22) 24 each Pico Macom coax faceplate (142763)
- (23) 22 each Avaya 336-piar visipatch (532210)
- (24) 22 each Avaya Visipatch horizontal duct (539650)
- (25) 20 each 188B2 backboard (112052)
- (26) 20 each 3/8" threaded rod (FT1909)
- (27) 20 each 110AW2-300 wiring block (154071)

- (28) 20 each flextray 2" x 4" x 10' (174336)
- (29) 16 each M112SMB 12-port box (142387)
- (30) 16 each cool cure consumables (142172)
- (31) 12 each RG11 "F" connector (109611)
- (32) 8 each P3060A-C-125 angle ST connector
- (33) 8 each P2020C-C-125 multimode ST connector (170290)
- (34) 8 each cable management panel 3.5" (OR-60400099) (185274)
- (35) 8 each cable management panel 7" (OR-60400098) (183043)
- (36) 6 each Blonder Tongue DMT 8-port video tap (217898)
- (37) 4 each Avaya ST jack inserts (190662)
- (38) 4 each 2-meter singlemode ST/SC fiber cable (152037)
- (39) 3 each wall jack (SE-630AD4 (063187)
- (40) 2 each 1-meter singlemode ST/ST fiber cable (151986)
- (41) 2 each 5-meter singlemode ST/SC fiber cable (152039)
- (42) 2 packs washer splice kit (214856)
- (43) 2 each BNI TR2100 7709-860SC (8MW) transmitter Toner Cable
- (44) 2 each BNI TR2200-750 (38) N-R17-SC/APC receiver Toner Cable
- (45) 2 each TLS directional couplers for video (217908)
- (46) 2 sheets of 3/4" x4' x 8' plywood
- (47) 3 each double sided vertical trough (166031)
- (48) 2 each 19" x 84" aluminum racks (086047)
- (49) 1 pack N2604A-100 Cat6 universal channel probe (267764) pk/2
- (50) 1 pack N2604A-101 Cat6 universal link probe (267765) pk/2
- (51) 1 each Wirescope 350 professional test set kit (221512)
- (52) 1 pack 3/8" spring nut (FT1034)
- (53) 1 pack 3/8" coupling nut (FT1860)
- (54) 1 pack 3/8" hex nut (FT1844)
- (55) 1 pack 3/8" flat washer (FT1876)

c. NASA will provide: the following material:

- (1) 3 each GFE Cisco Catalyst 6513
- (2) 4 each GFE Cisco 2500W AC Power Supply for the Catalyst 6513
- (3) 2 each GFE Cisco 4000W AC Power Supply for the Catalyst 6513
- (4) 6 each GFE Cisco Power Cord 250VAC 16A Twist Lock NEMA L6-20 Plug, US
- (5) 3 each GFE Cisco Catalyst 6000 SUP 2 Flash Image w/CV and SSH, Release 7.4.2
- (6) 3 each GFE Cisco Catalyst 6500 Supervisor Engine-2, 2GE plus MSFC-2/PFC-2
- (7) 2 each GFE Cisco Catalyst 6000 MSFC2 IOS Service Provider W/VIP
- (8) 14 each GFE Cisco Catalyst 6500 48-Port 10/100, RJ-45, X-BAR
- (9) 3 each GFE Cisco Catalyst 6000 Supervisor PCMCIA Flash MEM Card 24MB Option
- (10) 4 each GFE Cisco Catalyst 65000 16-port GIGE MOD: Fabric-Enabled
- (11) 3 each GFE Cisco Catalyst 6500 10 Gigabit Ethernet Base Module
- (12) 10 each GFE Cisco 1000Base-SX Short Wavelength GBIC
- (13) 1 each GFE Cisco Catalyst 6500 Switch Fabric Module 2
- (14) 22 each GFE Cisco 1000-Base LX/LH long haul GBIC
- (15) 3 each GFE Cisco 6000 Sup2 MEM 128 MB Dram Option
- (16) 2 each GFE Cisco 6000 MSFC-2 MEM, 128 MB Dram Option
- (17) 3 each GFE 8x5xNBD SVC Catalyst 6513 Chassis

- (18) 1 each GFE CWLMS-2.1-UP-K9 (upgrade to LMS2.1 for WIN/Sol form CWSI 2.x, SNMS 1.x, LMS1.x)
- (19) 1 each GFE SAS Svc, CW2000 LMS 2.0
- (20) 1 each GFE Cross Bundle discount for LMS users adding RWAN 1.2 WIN/SOL
- (21) 2 each GFE SAS Svc, CW2000 RWA1.1
- (22) 3 each GFE Cisco WS-C2950c-24
- (23) 3 each GFE 8x5xNBD SVC C2950 24 10/100 ports 2 100 Base-FX Port
- (24) 1 each Implementing CiscoWorks for Enterprise LAN/WAM Management (CEWNT)

c. Schedule: The completion of this effort shall be (12) twelve weeks after the receipt of a signed Modification.

3. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$222,493.38 for this infrastructure upgrade:

ESTIMATED TOTAL (Contract Item 4) (through Mod 102)

Ordered Seats and Services	\$ 8,630,988.46
Catalog Actuals	\$ 481,597.49
Specialized Services Actuals	\$ 9,900.00
Infrastructure upgrades	\$ 2,752,465.41
Fast Track Mods Authorized	\$ -
Subtotal	\$ 11,874,951.36
Less credits	\$ (2,625.55)
Less retainage not earned	\$ (94,456.36)
Subtotal	\$ 11,777,869.45
Seats/service levels projected through 11/30/04	\$ 4,954,395.58
Total Estimated Delivery Order Value	\$ 16,732,265.03

4. 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	Date Signed	Date Completed	Amount
102	XJCS 3N45 Install communication wiring to B3225 and B3226 for NASA			\$222,493.38

5. 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 following payment schedule shall be applicable to SWR XJCS 3N45 00:

- Phase I Payment of \$114,639.38 shall be paid upon receipt of all material and verified by the Alternate DOCOTR or designee.
- Phase II Payment of \$56,443.00 shall be paid after all wiring has been installed into furniture framework and verified by the Alternate DOCOTR or designee.

Phase III Payment of 51,411.00 shall be paid after all wiring has been terminated, jacks, faceplates installed, testing has been accomplished and the upgrade has been accepted by the Alternate DOCOTR or designee.

6. 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.
7. 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.
8. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.