

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE J	PAGE OF PAGES 1 OF 2
2. AMENDMENT/MODIFICATION NO. P00117	3. EFFECTIVE DATE SEE BLOCK 16C.	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. <i>(If applicable)</i>	
6. ISSUED BY SPACE AND NAVAL WARFARE SYSTEMS COMMAND CONTRACTING OFFICER: 02-N DEBRA L. STREUFERT 2231 CRYSTAL DRIVE, SUITE 400 ARLINGTON, VA 22212-3721 PHONE: 703.685.5508	CODE N00039	7. ADMINISTERED BY <i>(If other than Item 6)</i> CODE		
8. NAME AND ADDRESS OF CONTRACTOR <i>(No., street, country, State and ZIP Code)</i> ELECTRONIC DATA SYSTEMS CORPORATION 13600 EDS DRIVE HERNDON, VA 20171 ATTN: NMCI CONTRACTS		(X)	9A. AMENDMENT OF SOLICITATION NO.	
CODE 1U305 FACILITY CODE			9B. DATED <i>(SEE ITEM 11)</i>	
		X	10A. MODIFICATION OF CONTRACT/ORDER NO. N00024-00-D-6000	
			10B. DATED <i>(SEE ITEM 11)</i> 06 OCTOBER 2000	
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 ACKNOWLEDGMENT 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 <i>(If required)</i> NOT APPLICABLE				
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: <i>(Specify authority)</i> 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 <i>(such as changes in paying office, appropriation date, etc.)</i> SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).			
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR CLAUSE 52.212-4 (CHANGES)			
	D. OTHER <i>(Specify type of modification and authority)</i>			
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <i>(See Note below)</i> copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION <i>(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)</i>				
Note: The Contractor may return a signed copy via facsimile or as a scanned image in portable document format (pdf).				
-SEE HEREIN-				
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 <i>(Type or print)</i> THOMAS GOETZ, CONTRACTS MANAGER		16A. NAME AND TITLE OF CONTRACTING OFFICER <i>(Type or print)</i> DEBRA L. STREUFERT, CONTRACTING OFFICER		
15B. CONTRACTOR/OFFEROR BY  <small><i>(Signature of person authorized to sign)</i></small>	15C. DATE SIGNED 19 JUL 04	16B. UNITED STATES OF AMERICA BY  <small><i>(Signature of Contracting Officer)</i></small>	16C. DATE SIGNED 20 JUL 04	
NSN 7540-01-152-8070 PREVIOUS EDITION UNUSABLE		30-105		STANDARD FORM 30 (REV. 10-83) FAR (48 CFR) 53.243

a. This modification is issued to add to Part One, Table Four, SCLIN 0026AU for NSW Indian Head Building D-327 Relocation, as follows:

Item	Service	Quantity	Unit Price	Total Amount
0026AU	Project MAC; NSW Indian Head Building D-327 Relocation	1	\$84,500.00	\$84,500.00

The Contractor shall move NSW Indian Head Building D-327's fiber optic cabling from the existing Mechanical Room to Room 19 and provide OESO Trailers with a reliable fiber optic data communications network in accordance with the document entitled Statement of Work for NSW Indian Head Building D-327 Relocation of May 13, 2004.

b. A conformed copy of the revised contract is made a part of this modification as a result of the changes outlined herein.

c. All other terms and conditions of contract N00024-00-D-6000 remain unchanged and in full force and effect.

**Statement of Work
for
NSWC Indian Head Building D-327 Relocation**

13 May 2004

1. Objectives

- A. To move Building D-327's fiber optic cabling from the existing Mechanical Room to Room 19. This is necessary due to the partial demolition and renovation of D-327.
- B. To provide OESO Trailers with a reliable fiber optic data communications network. This is necessary since the personnel impacted by the D327 construction will be relocated to trailers.
- C. Due to construction schedules and criticality of the data communications passing through this building, any downtime must be carefully coordinated with the site CTR.

2. Scope

- A. D327 Fiber Relocation: This effort is to provide the necessary labor, material, and equipment for the termination, testing, and documentation of the fiber optic cable plant. Bldg. D-327 is the area of work; however, there are "hot" fibers (in use for data connections to D-327 and other buildings) which terminate and splice-through at Bldg. D-327; therefore, off-hour night/weekend shifts are required. Fiber optic cables in the scope include: 96 count (1), 24 count (1), 12-or-less count (8). Contractor will audit, ID, and tag cables to identify hot fibers and dark fibers, cut cables at fiber box, pull existing cables through existing conduit and into new Government-furnished conduits at site of Room 19. Contractor will strip figure "8" messenger strand from cables as required, move fiber box, prep cables in fiber box, break-out fiber, terminate and splice all fibers as necessary, and test and document each cable. The contractor will supply all material and consumables. This should be a turnkey solution for the Government; existing fiber connections should terminate/splice exactly as before the relocation and fiber jumpers should be patched through as previously. LAN connections will be unavailable when the fiber work begins on the Friday evening of the work. The connections should be operational again by start of business the next Monday morning.

Buildings affected by this work include: D-327, 20, Auditorium, 289, 554, 698, 266, D-339, 262, 878, T46, D-328 (2 connections), D-326, 1601 (2 connections), NSWC's Smart Link connection. Additionally all buildings serviced by Digital Subscriber Line (DSL) will not have network service during the period of the fiber work.

Cable Configuration and Layout:

There are 10 cables identified for relocation, termination, and splicing. The contractor shall audit and identify every connection and every splice. The contractor shall pull all cable out of existing conduit and pull through new conduits leading into Room 19. Contractor shall pull all cables through new conduit located on North side of D-327 (side facing Bldg. 1601) into Room 19 EXCEPT for the cable running from D-327 to D-328 Gymnasium. The existing cable may not be long enough, so the Government will provide a 12 fiber bundle for installation. Contractor will strip figure 8, feed through new conduit on the opposite side of D-327 (side facing D-328) and terminate at D-328, splice/terminate accordingly at D-327.

Contractor will correctly audit and identify all connections prior to relocation. The D-327 connections will be spliced/terminated as they existed prior to relocation.

96-Fiber Cable (Bldg. D-323 to D-327)

All 96 fibers are terminated at D-323. At D-327, the 96 are either terminated or spliced through to other cables for other buildings' connectivity. Also provides connectivity for D-327 employees and a NOSSA point-to-point connection.

24-Fiber Cable (Bldg. D-327 to 878) Provides connectivity for Bldg. 878 (Firehouse) and separate connection for T-46.

12/Less Fiber Cable (Bldg. D-327 to 1601) Provides connectivity for Bldg. 1601 Comptroller and separate connection for Center of Knowledge Engineering.

12/Less Fiber Cable (Bldg. D-327 to D-326) Provides connectivity for D-326.

12/Less Fiber Cable (Bldg. D-327 to D-328) Provides connectivity for Treaty Support and separate connection for MWR employees. Contractor will pull this cable through conduit separate from other cables.

12/Less Fiber Cable (Bldg. D-327 to D-339) Provides connectivity for D-339 and separate connection for Bldg. 262.

12/Less Fiber Cable (Bldg. D-327 to 266) Provides connectivity for Bldg. 266.

12/Less Fiber Cable (Bldg. D-327 to 698) Provides connectivity for Bldg. 698.

12/Less Fiber Cable (Bldg. D-327 to 289) Provides connectivity for Bldg. 289 and separate connection for Bldg. 554.

12/Less Fiber Cable (Bldg. D-327 to 20) Provides connectivity for Bldg. 20 and separate connection for Auditorium.

There are 6 drops currently existing in the D327 Library Room, servicing 4 users and one printer. These drops need to have data communications throughout the renovation; therefore, require new CAT-5 cabling from their existing location to the new endpoint, Room 19.

- B. OESO Trailer Fiber Installation:** The buildings included in this scope are Bldg. 20 and OESO Trailers.

Cable Configuration and Layout:

There will be a new 12-fiber cable from Building 20 to OESO Trailers. Cable will be Government-Furnished. The Government will run the cable through conduit at each building and onto utility poles. Government will coil the cable inside each building at a plywood backboard in preparation for the contractor. The contractor will terminate 6 singlemode fiber strands at Building 20 and 6 singlemode fiber strands at the OESO trailers. The 6 multimode fibers within the cable will not need terminations and may be stubbed off at the fiber enclosure box.

Temporary trailers would have a 12-fiber cable to Bldg. 20 to connect into the LAN. All 12 fibers could be terminated; however, only 2 strands are necessary for connectivity. Due to a recent failure of multimode (MM) fiber at Bldg. 20, there are not spare MM fibers, singlemode (SM) should be used for the trailers. The contractor could terminate all 6 SM fiber in the new cable, since fiber breakout kits have a minimum of 6 strands (four strands would be spare in case of failure). The 6 MM could be terminated, but are not necessary - particularly in a temporary environment.

Fiber path for the trailers:

1. Choose which two strands of the new cable are to be used in the trailers, use the same two strands at the other endpoint - Bldg. 20.
2. At Bldg. 20, a SM jumper cable (ST-ST connectors) would patch the two strands of the new cable into Bldg. 20's existing fiber box, connector #'s 5 & 6.
3. Strands 5 & 6 leave Bldg. 20 and terminate at Bldg. D-327 as #'s 49 & 50.

4. At Bldg. D-327, a SM jumper cable (ST-ST) would patch #'s 49 & 50 to #'s 10 & 11 (All within D-327's Fiber Box). Please note that connector #9 did not pass light source test and should not be used.
5. Strands 10 & 11 leave Bldg. D-327 and terminate at Bldg. D-323 as #'s 10 & 11 of "Command D-327 Leg Fiber Box."
6. At Bldg. D-323 there would be a SM jumper from #'s 10 & 11 to a Singlemode Fast Ethernet 100BaseTX-to-100BaseFX media converter. Jumper would be ST from the fiber box to either ST or SC depending on the type of converter purchased. From the media converter, CAT 5 patch cable to an available port on the Core Switch (set at 100Mbps/Full Duplex).
7. At trailers, there would be a matching media converter and some type of Fast Ethernet switch to support about 20 connections. All data drops would run to the switch location.

The scope of this work is divided into 5 tasks.

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|-------------|---------------|
| A. Task I | Builds |
| B. Task II | Splicing |
| C. Task III | Terminations |
| D. Task IV | Testing |
| E. Task V | Documentation |

TASK I – Builds

D327 Fiber Relocation:

Government Furnished Equipment (GFE) includes: the existing fiber box enclosure, panels, and splice trays, and the fiber cables. The contractor will provide all other material such as fan-out kits, connectors, mounting hardware and consumables. The contractor will move the fiber box and splice trays existing currently in Bldg D-327 Mechanical Room and mount in Room 19. All of the cables will need to be prepped so that the identified fibers can be terminated or spliced.

OESO Trailer Fiber Installation:

The contractor will provide all fiber boxes, fan-out kits, connectors, mounting hardware and consumables. The fiber boxes will need to be mounted to a plywood backboard in the basement of Building 20 and a plywood backboard on the wall the OESO trailers. The singlemode strands of the cable at each building will need to be prepped so that all of the singlemode fibers can be directly terminated.

**Building 20 will require a new 12-fiber box to be wall-mounted.
The OESO Trailers will require a new 12-fiber box to be wall-mounted.**

Building/Room	Interconnection Box Port Size	Splice Box	Fiber counts in each cable at building.
1) 20	12	None	12 new (6 SM/6 MM)
2) OESO Trailers	12	None	12 new (6 SM/6 MM)

* Note: At Bldg. 20, a fiber box and cable already exists from Bldg. 20 to Bldg D-327/D-323. The new box at Bldg. 20 will jumper into the existing box to provide LAN connectivity between the OESO Trailers and D-327/ D-323.

TASK II – Splicing

The contractor will identify all splices during the audit phase and splice as-is from existing location into new location.

TASK III – Terminations

D327 Fiber Relocation: Contractor will provide all singlemode and multimode connectors and provide all termination consumables. The contractor will identify all terminations at D-327 during the audit phase and terminate as-is from existing location into new location.

OESO Trailer Fiber Installation: The contractor will provide all connectors. The contractor will provide all termination consumables.

The contractor will terminate the following:

Building 20 = 6 fiber (6 SM) Singlemode only. The 6 multimode strands do not require terminations.

OESO Trailers = 6 fiber (6 SM) Singlemode only. The 6 multimode strands do not require terminations.

TASK IV – Testing

- A. The contractor will test the terminated fibers to ensure each one conforms to the design specifications.

TASK V – Documentation

- A. The contractor will provide written documentation with results of launches. Documentation can be in written or electronic format.

3. General Work Requirements

- 3.1 All tasks shall be subject to demonstration of satisfactory performance and the technical approval by the COR.
- 3.2 All work shall be performed in a professional, workman-like manner. Drop cloths shall be used when working over or around office furniture or equipment. The work area shall be restored to its original state before leaving.
- 3.3 Any cable or equipment damaged during execution of this effort is to be replaced by the contractor at no additional cost to the government should the damage be caused by the contractor's negligence.
- 3.4 The preparation of the fiber optic cable is to be done with the proper tools designed for that purpose.
- 3.5 The cable plant should conform to the following design specifications.
- | | |
|--|----------|
| Loss Budget | 10dB |
| Long term minimum bend radius | 8" |
| Maximum tensile load (installation) | 600 lb. |
| Maximum tensile load (long term) | 150 lb. |
| Every splice will be a fusion splice with loss | < 0.1 dB |
| Connector loss (mated pair) | < 0.5 dB |
- 3.6 The contractor shall comply with Security regulations. The contractor will display, in a visible fashion upon clothing, an identification badge assigned from the Center's Pass Office.