

2. Amendment/Modification No. 13	3. Effective Date 2004AUG26	4. Requisition/Purchase Req No. SEE SCHEDULE	5. Project No. (If applicable)
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6. Issued By TACOM WARREN AMSTA-AQ-ATAA PATRICIA ADAMS (586)574-8627 WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL EMAIL: ADAMSP@TACOM.ARMY.MIL	Code	W56HZV	7. Administered By (If other than Item 6) DCMA DAYTON AREA C, BUILDING 30 1725 VAN PATTON AVENUE WRIGHT PATTERSON AFB, OH 45433-5302	Code	S3605A
			SCD C PAS NONE ADP PT HQ0337		

8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) INTERNATIONAL CONSULTANTS, INC. 4134 LINDEN AVENUE, STE. 300 DAYTON, OH. 45432-3035 TYPE BUSINESS: Small Disadvantaged Business Performing in U.S.	<input type="checkbox"/>	9A. Amendment Of Solicitation No.
	<input type="checkbox"/>	9B. Dated (See Item 11)
	<input checked="" type="checkbox"/>	10A. Modification Of Contract/Order No. DAAE07-03-D-S011/0001
	<input type="checkbox"/>	10B. Dated (See Item 13) 2003JAN23
Code 0J8L5	Facility Code	

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 amendments; (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 (If required)
ACRN: AB NET INCREASE: \$279,919.92

13. THIS ITEM ONLY APPLIES 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: The Contract/Order No. In Item 10A.	The Changes Set Forth In Item 14 Are Made In
<input type="checkbox"/>	B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, 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: Mutual agreement between both parti	
<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.)

SEE SECOND PAGE FOR DESCRIPTION

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) JUDITH K. BUSHA BUSHAJ@TACOM.ARMY.MIL (586)574-7041
15B. Contractor/Offeror (Signature of person authorized to sign)	15C. Date Signed
	16B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)
	16C. Date Signed 2004AUG26

CONTINUATION SHEET**Reference No. of Document Being Continued**

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PIIN/SIIN DAAE07-03-D-S011/0001

MOD/AMD 13

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

SECTION A - SUPPLEMENTAL INFORMATION

CONTRACT: DAAE07-03-D-S011 TASK ORDER 0001 MODIFICATION 13

PURPOSE: To modify Section C and designate fee amounts for CLIN's 2012AA & 2012AB.

PRIOR CONTRACT AMOUNT: \$ 7,458,704.60

AMOUNT OF THIS ACTION: \$ 279,919.92

REVISED CONTRACT AMOUNT: \$ 7,738,624.52

1. The purpose of this bi-lateral modification 13 to task order 0001 is to modify Section - C and to identify the fee associated with CLINs 2012AA and 2012AB.

2. The Designated fee amounts that was not identified on CLIN's 2012AA and 2012AB are changed as follows:

	2012AA	2012AB
Estimated Cost:	\$41,770.43	\$79,577.00
Fixed Fee:	\$ 2,846.57	\$ 5,423.00
Total CPPF:	\$44,617.00	\$85,000.00

3. The period of performance remains unchanged through 10 Mar 05.

4. CLIN 2111AA is established to fund LWC/RO/Pressure Vessel Development labor (701 hrs.) in estimated amount of \$66,200.00, Fixed fee of \$1,986.00 for total CPPF of \$68,186.00.

5. CLIN 2003AC is established to fund Vessel Development material in the amount of \$18,085.18 Cost Only/ No Fee.

6. CLIN 2111AB is established to fund LWC/RO/Pressure Vessel Fabrication labor (476 hrs.) in estimated amount of \$34,700.00, Fixed fee of \$1,041.00 for total CPPF of \$35,741.00.

7. CLIN 2003AD is established to fund fabrication material in the amount of \$21,003.90 Cost Only/ No Fee.

8. CLIN 2111AC is established to fund EUWP Test Site Spt. labor (500 hrs.) in the estimate amount of \$44,922.50, Fixed Fee of \$898.45 for total CPPF of \$45,820.95.

9. CLIN 2003AE is established to fund EUWP Test Site Material in the amount of \$82,557.89 Cost Only/ No Fee.

10. CLIN 2004AC is established to fund EUWP Test Site travel in the amount of \$8,525.00 Cost Only/No Fee.

11. The total task order value is increased by 279,919.92 from \$7,458,704.60 to \$7,738,624.52.

12. The period of performance is through 10 Mar 05.

13. All other terms and conditions of this task order remain unchanged.

*** END OF NARRATIVE A 013 ***

CONTINUATION SHEET

Reference No. of Document Being Continued
 PIIN/SIIN DAAE07-03-D-S011/0001 MOD/AMD 13

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT								
	SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS												
2003AC	<p><u>SERVICES LINE ITEM</u></p> <p>NOUN: ICI EUWP 03-D-S011 PRON: E632V058EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101</p> <p>Vessel Development Material Cost Only CLIN / No Fee</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>0</td> <td>10-OCT-2005</td> </tr> </table> <p>\$ 18,085.18</p>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	0	10-OCT-2005			\$ 18,085.18
DLVR SCH		PERF COMPL											
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>											
001	0	10-OCT-2005											
2003AD	<p><u>SERVICES LINE ITEM</u></p> <p>NOUN: ICI EUWP 03-D-S011 PRON: E632V058EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101</p> <p>Fabrication Material Cost Only CLIN / No Fee</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>0</td> <td>10-MAR-2005</td> </tr> </table> <p>\$ 21,003.90</p>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	0	10-MAR-2005			\$ 21,003.90
DLVR SCH		PERF COMPL											
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>											
001	0	10-MAR-2005											
2003AE	<p><u>SERVICES LINE ITEM</u></p>				\$ 82,557.89								

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Reference No. of Document Being Continued
 PIIN/SIIN DAAE07-03-D-S011/0001 MOD/AMD 13

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT									
	<p>NOUN: ICI EUWP PHASE II 03-D-S011 PRON: E632V034EH PRON AMD: 04 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101</p> <p>EUWP Test Site Material Cost Only CLIN / No Fee</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>0</td> <td>10-MAR-2005</td> </tr> </table> <p>\$ 82,557.89</p>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	0	10-MAR-2005				
DLVR SCH		PERF COMPL												
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>												
001	0	10-MAR-2005												
2004AC	<p><u>SERVICES LINE ITEM</u></p>				\$ 8,525.00									
	<p>NOUN: ICI EUWP PHASE II 03-D-S011 PRON: E632V034EH PRON AMD: 04 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101</p> <p>EUWP Test Site Travel Cost Only CLI / No Fee</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>0</td> <td>10-MAR-2005</td> </tr> </table> <p>\$ 8,525.00</p>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	0	10-MAR-2005				
DLVR SCH		PERF COMPL												
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>												
001	0	10-MAR-2005												
2011	<p><u>SERVICES LINE ITEM</u></p>				\$ 945,263.46									
	<p>NOUN: PM SPT, ICI CONTRACT SECURITY CLASS: Unclassified</p>													

CONTINUATION SHEET

Reference No. of Document Being Continued
 PIIN/SIIN DAAE07-03-D-S011/0001 MOD/AMD 13

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
2012AA	<p>PRON: P146G0412T PRON AMD: 02 ACRN: AD AMS CD: 53304700144</p> <p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>SERVICES LINE ITEM</u></p> <p>NOUN: IPDS DRAWINGS PRON: EH41W154EH PRON AMD: 01 ACRN: AF AMS CD: 21203100000</p> <p>Funds reduced amount of \$44,617.00 from CLIN 2001.</p> <p>(End of narrative B001)</p>			<p>Estimated Cost: \$41,770.43 Fixed Fee: \$ 2,846.57 Total CPFF: \$44,617.00</p>	\$ 44,617.00
2012AB	<p><u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin</p> <p><u>SERVICES LINE ITEM</u></p> <p>NOUN: NITRILE FUEL STORAGE TANKS PRON: EH41W146EH PRON AMD: 02 ACRN: AE AMS CD: 42212300000</p> <p>Funds reduced amount of \$85,000.00 from CLIN 2001.</p> <p>(End of narrative B001)</p>			<p>Estimated Cost: \$79,577.00 Fixed Fee: \$ 5,423.00 Total CPFF: \$85,000.00</p>	\$ 85,000.00
2111	<p>SECURITY CLASS: Unclassified</p>				
2111AA	<p><u>SERVICES LINE ITEM</u></p> <p>NOUN: ICI EUWP 03-D-S011 PRON: E632V058EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101</p>				\$ 68,186.00

CONTINUATION SHEET

Reference No. of Document Being Continued
 PIIN/SIIN DAAE07-03-D-S011/0001 MOD/AMD 13

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	701 CPFF Labor CLIN Pressure Vessel Development Labor (End of narrative B001) <u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin <u>Deliveries or Performance</u> DLVR SCH PERF COMPL REL CD QUANTITY DATE 001 0 10-MAR-2005 \$ 68,186.00			Estimated Cost: \$44,922.50 Fixed Fee: \$ 898.45 Total CPFF: \$45,820.95	
2111AB	<u>SERVICES LINE ITEM</u> NOUN: ICI EUWP 03-D-S011 PRON: E632V058EH PRON AMD: 02 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101 476 CPFF Labor CLIN Pressure Vessel Fabrication Labor (End of narrative B001) <u>Inspection and Acceptance</u> INSPECTION: Origin ACCEPTANCE: Origin <u>Deliveries or Performance</u> DLVR SCH PERF COMPL REL CD QUANTITY DATE 001 0 10-MAR-2005 \$ 35,741.00			Estimated Cost: \$34,700.00 Fixed Fee: \$ 1,041.00 Total CPFF: \$35,741.00	\$ 35,741.00
2111AC	<u>SERVICES LINE ITEM</u> NOUN: ICI EUWP PHASE II 03-D-S011 PRON: E632V034EH PRON AMD: 04 ACRN: AB CUSTOMER ORDER NO: N0001403MP20101 500 CPFF Labor CLIN EUWP Test Site Spt. (End of narrative B001)			Estimated Cost: \$44,922.50 Fixed Fee: \$ 898.45 Total CPFF: \$45,820.95	\$ 45,820.95

Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

STATEMENT OF WORK

LIGHTWEIGHT RO PRESSURE VESSELS FOR EUWP

Changes made by modification 13 are indicated by an asterisk (***)

Revised 9 Jun 2004

1.0 BACKGROUND.

1.1 Need. The US Army has repeatedly run into difficulty meeting weight requirements when developing new water purification hardware. Weight savings measures are needed to reduce component weights of these systems. This can result in lighter systems or systems capable of higher capacities.

1.2 Scope. The scope of this effort is summarized by the following tasks:

- Design a reverse osmosis pressure vessel capable of up to a 70 percent weight savings over existing fiberglass vessels.
- Demonstrate the target weight savings by fabricating and testing a vessel.
- Provide a second pressure vessel for Government demonstration.

2.0 REFERENCES

- PD- EUWP: Purchase description; 100,000-gpd Expeditionary Unit Water Purifier, dated 15 June 2003.
- ANSI/CSA NGV-2000: Basic Requirements for Compressed Natural Gas Vehicle (NGV) Fuel Containers.

3.0 REQUIREMENTS:

3.1 Design Evaluation: The contractor shall procure and inspect a standard fiberglass RO pressure vessel to determine critical dimensional interfaces, finishes, and laminate ply sequences. This inspection shall be performed using a combination of destructive and nondestructive examination of the vessel.

3.2 Material Selection and Evaluation: The contractor shall perform an engineering study of the candidate materials for use in the prototype unit to determine those materials most compatible with EUWP requirements. This will include capabilities to withstand storage and operating temperatures, as well as that all materials that come in contact with water must be approved for potable water use.

3.3 Vessel Design and Analysis: The contractor shall design the RO pressure vessel based on ANSI/CSA NGV-2000 where applicable. In addition, netting analysis software shall be used for laminate design and finite element analysis shall be used to analyze vessel ends.

3.4 Tool Design and Fabrication: Upon completion of vessel design and analysis, the contractor shall design and fabricate a mandrel for the fabrication of prototype vessels. The mandrel shall be designed such that it can be used to fabricate vessels capable of holding from two to four RO elements.

3.5 Prototype Fabrication: The contractor shall fabricate two fully operational carbon fiber/epoxy membrane vessels capable of housing four standard 8-inch RO elements with an operating pressure of 1200 psi. The first vessel will be used for testing, while the second will be provided to the Government for demonstration purposes.

3.6 Prototype Testing: The contractor shall test one vessel to an operating pressure of 1200 psi, a proof pressure of 1800 psi, and burst pressure greater than 3000 psi. Results of this test shall be conveyed to the Government via correspondence (such as email) and in the final report.

*** 3.7 1) Lightweight Composite RO Pressure Vessel Development: Lightweight pressure vessels may provide a potential to realize weight savings on existing and future mobile water purification equipment, such as the EUWP. MTC was tasked with the development of a lightweight composite pressure vessel for reverse osmosis applications. This effort, though did not result in a viable vessel design, yielded considerable knowledge that can be used to further develop a lightweight pressure vessel in a follow-on effort. The scope of this effort shall be to perform further research of liner technologies, develop, fabricate and test three 8-inch x 4-element pressure vessels, prepare a report summarizing the development effort and test results, and prepare a drawing of the vessels. The duration of this effort is estimated to be 60 calendar days.

*** 2) Lightweight Composite RO Pressure Vessel Fabrication Option: Provided the development effort described in section 1 above is successful, the Government would like the option to build ten vessels for testing and demonstration by the Government. It is expected that this effort will take approximately 45 calendar days to deliver the final vessel.

*** 3) EUWP Test Support: MTC has been tasked with the development of the EUWP. Unfortunately, through an oversight on our part, we neglected to include contractor support of the system upon delivery. This support should include: 1) set-up and commissioning of the

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Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

system in Alamogordo, New Mexico; 2) on-site training of operators, 3) technical support not to exceed three visits to Alamogordo during system demonstration; 4) fabricate a high-pressure pump electric motor retrofit kit required for prolonged operation; 5) provide spare parts and consumables anticipated for six months of operation; 6) fabricate a chemical pretreatment skid to prevent membrane scaling during demonstration; and 7) fabricate a post-treatment skid to condition the water prior to disposal. The conclusion of this effort is expected to by July 05.

4.0 DELIVERABLES:

4.1 Design Report: The contractor shall document results of design evaluation, material selection and evaluation, and vessel design and analysis in the interim report. The Design Report shall be delivered to the Government 100 days after contract award.

4.2 Final Report: The contractor shall document the overall design process including test results from limit, proof and burst testing, drawing package for vessel and tool design and lessons learned from prototype fabrication. Design report and Final Report shall be prepared in accordance with DI-MISC-80508 (T), Contract Data Requirements List, A001.

*** END OF NARRATIVE C 005 ***

CONTINUATION SHEET

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Name of Offeror or Contractor: INTERNATIONAL CONSULTANTS, INC.

SECTION G - CONTRACT ADMINISTRATION DATA

LINE	PRON/ AMS CD/ <u>ITEM</u> <u>MIPR</u>	ACRN	OBLG STAT/ <u>JOB ORD NO</u>		PRIOR AMOUNT		INCREASE/DECREASE <u>AMOUNT</u>		CUMULATIVE <u>AMOUNT</u>
2003AC	E632V058EH N0001403MP20101	AB	1	\$	0.00	\$	18,085.18	\$	18,085.18
2003AD	E632V058EH N0001403MP20101	AB	1	\$	0.00	\$	21,003.90	\$	21,003.90
2003AE	E632V034EH N0001403MP20101	AB	1	\$	0.00	\$	82,557.89	\$	82,557.89
2004AC	E632V034EH N0001403MP20101	AB	1	\$	0.00	\$	8,525.00	\$	8,525.00
2111AA	E632V058EH N0001403MP20101	AB	1	\$	0.00	\$	68,186.00	\$	68,186.00
2111AB	E632V058EH N0001403MP20101	AB	1	\$	0.00	\$	35,741.00	\$	35,741.00
2111AC	E632V034EH N0001403MP20101	AB	1	\$	0.00	\$	45,820.95	\$	45,820.95
					NET CHANGE	\$	279,919.92		

SERVICE <u>NAME</u>	NET CHANGE <u>BY ACRN</u>	ACCOUNTING CLASSIFICATION	ACCOUNTING <u>STATION</u>	INCREASE/DECREASE <u>AMOUNT</u>
Navy	AB	17 341319W3TP000RA35300683422D0000009290000EWP0		\$ 279,919.92
				NET CHANGE \$ 279,919.92

	PRIOR AMOUNT <u>OF AWARD</u>	INCREASE/DECREASE <u>AMOUNT</u>	CUMULATIVE <u>OBLIG AMT</u>
NET CHANGE FOR AWARD:	\$ 7,458,704.60	\$ 279,919.92	\$ 7,738,624.52