AWARD/CONTRACT

1. This Contract Is A Rated Order Under DPAS (15 CFR 700) ▶ Rating DOA4

2. Contract (Proc. Inst. Ident) No.
W56HZV-04-C-0446

3. Effective Date
2004JUL02

4. Requisition/Purchase Request/Project No.
SEE SCHEDULE

5. Issued By — Code W56HZV
TACOM WARREN
AMSTA-AQ-ABGB
ROBERT BEARDSLEE (586)574-8071
WARREN, MICHIGAN 48397-5000

HTTP://CONTRACTING.TACOM.ARMY.MIL

e-mail address: BEARDSLR@TACOM.ARMY.MIL

6. Administered By (If Other Than Item 5) — Code S3605A
DCMA DAYTON
AREA C, BUILDING 30
1725 VAN PATTON AVENUE
WRIGHT PATTERSON AFB, OH 45433-5302

SCD C PAS NONE ADP PT HQ0337

7. Name And Address Of Contractor (No. Street, City, County, State, And Zip Code)
THE LEXINGTON CARBON COMPANY, LLC
3130 LAMAR DRIVE
LEXINGTON, KY. 40502-2906

TYPE BUSINESS: Other Small Business Performing in U.S.

Code 1SL92 Facility Code

8. Delivery
☐ FOB Origin ☒ Other (See Below) SEE SCHEDULE

9. Discount For Prompt Payment

10. Submit Invoices (4 Copies Unless Otherwise Specified) To The Address Shown In: ▶ Item 12

11. Ship To/Mark For — Code
SEE SCHEDULE

12. Payment Will Be Made By — Code HQ0337
DFAS - COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATION
P.O. BOX 182266
COLUMBUS OH 43218-2266

13. Authority For Using Other Than Full And Open Competition:
☐ 10 U.S.C. 2304(c)( ) ☐ 41 U.S.C. 253(c)( )

14. Accounting And Appropriation Data
SEE SECTION G

15A. Item No.	15B. Schedule Of Supplies/Services	15C. Quantity	15D. Unit	15E. Unit Price	15F. Amount
SEE SCHEDULE	CONTRACT TYPE: Cost-Plus-Fixed-Fee KIND OF CONTRACT: Research and Development Contracts				

15G. Total Amount Of Contract ▶ $2,126,080.00

16. Table Of Contents

(X)	Section	Description	Page(s)	(X)	Section	Description	Page(s)
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Contracting Officer Will Complete Item 17 Or 18 As Applicable

17. ☒ Contractor's Negotiated Agreement (Contractor is required to sign this document and return 2 signed copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. ☐ Award (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. Name And Title Of Signer (Type Or Print)

20A. Name Of Contracting Officer
MICHAEL CIONI
CIONIM@TACOM.ARMY.MIL (586)574-7070

19B. Name of Contractor
By _____
(Signature of person authorized to sign)

19c. Date Signed

20B. United States Of America
By /SIGNED/
(Signature of Contracting Officer)

20C. Date Signed
2004JUL02

SECTION A - SUPPLEMENTAL INFORMATION

	Regulatory Cite	Title	Date
A-1	52.204-4016 (TACOM)	TACOM-WARREN ELECTRONIC CONTRACTING	JUL/2003

(a) TACOM is now operating in an electronic contracting environment. All TACOM solicitations and awards are now distributed on the TACOM Warren Business Opportunities web page (http://contracting.tacom.army.mil/opportunity.htm) and are no longer available in hard copy. The TDPs and other documents, when available electronically, will be an attachment or linked to the solicitation package on the web. Please see submission guidelines at http://contracting.tacom.army.mil/userguide.htm and http://contracting.tacom.army.mil/ebidnotice.htm for more information. Any requirements included in the solicitation take precedence over guidance found on the TACOM contracting web page.

(b) You may need to use special software to view documents that we post on the home page. This viewing software is freeware, available for download at no cost from commercial web sites like Microsoft and Adobe. In cases where such software is required, we provide a link from our page to the commercial site where the software is available. Once you arrive at the software developer's site, follow their instructions to download the free viewer. You then can return to the TACOM home page.

(c) You are required to submit your offer, bid, or quote electronically. See the provision entitled "Electronic Offers (or 'Quotes' or 'Bids') Required in Response to This Solicitation (or 'Request for Quotations')" for more specific information.

(d) Any award issued as a result of this solicitation will be distributed electronically. Awards posted on the TACOM Warren Business Opportunities web page represent complete OFFICIAL copies of contract awards and will include the awarded unit price. This is the notice required by Executive Order 12600 (June 23, 1987)of our intention to release unit prices in response to any request under the Freedom of Information Act (FOIA), 5 USC 552. Unit price is defined as the contract price per unit or item purchased as it appears in Section B of the contract and is NOT referring to nor does it include Cost or Pricing data/information. If you object to such release, and you intend on submitting an offer, notify the PCO in writing prior to the closing date identified in this solicitation and include the rationale for your objection consistent with the provisions of FOIA. A release determination will be made based on rationale given.

(e) If you have questions or need help in using the Acquisition Center Home Page, call our Electronic Contracting Help Desk at (586) 574-7059, or send an email message to: acqcenweb@tacom.army.mil

(f) If you have questions about the content of any specific item posted on our home page, please call the buyer or point of contact listed for the item. Additional help is available to small businesses from Government-funded Electronic Commerce Regional Centers (ECRCs) to implement EDI. Information on ECRC is available at http://www.ecrc.ctc.com

[End of Clause]

A-2	52.204-4232 (TACOM)	PUBLIC ACTIVITY INVOLVEMENT	DEC/2002

Subcontract opportunities under this solicitation and any resulting contracts are open to competition between Department of Defense activities and private firms. In addition, Army Industrial Facilities are available to sell manufactured articles or to perform work at such Facilities on behalf of Offerors, in certain circumstances and as permitted by law. Rock Island Arsenal, Watervliet Arsenal, Anniston Army Depot, Sierra Army Depot, and Red River Army Depot have expressed interest in securing subcontracting opportunities under this RFP. For information related to the capabilities of these facilities, and Points of Contact, see www.gsie.army.mil

[End of Notice]

Name of Offeror or Contractor: THE LEXINGTON CARBON COMPANY, LLC

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS				
0001	3 HMMWV WATER RECOVERY UNITS	1	LO		$ 2,126,080.00
	NOUN: 3 HMMWV WATER RECOVERY UNITS SECURITY CLASS: Unclassified				
	Contractor shall furnish all the supplies and services to accomplish the task specified in Section C "Scope of Work."				
	Est.Cost: $1,958,080 Fixed Fee: $ 168,000 Total Amount: $2,126,080				
	(End of narrative B001)				
	Inspection and Acceptance INSPECTION: Destination ACCEPTANCE: Destination				
	Deliveries or Performance DLVR SCH REL CD: 001 — QUANTITY: 1 — PERF COMPL DATE: 31-MAR-2005 $ 2,126,080.00				
000101	3 HMMWV WATER RECOVERY UNITS NOUN: DEVELOP 3 HUMMER WAT REC UNIT PRON: R342CY02R3 PRON AMD: 01 ACRN: AA AMS CD: 63300544111 (AMOUNT: $ 711,110.00)				
000102	3 HMMWV WATER RECOVERY UNITS NOUN: DEVELOP 3 HUMMER WAT REC UNIT PRON: R342C247R3 PRON AMD: 02 ACRN: AA AMS CD: 63300544111 (AMOUNT: $ 860,000.00)				

Name of Offeror or Contractor: THE LEXINGTON CARBON COMPANY, LLC

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000103	3 HMMWV WATER RECOVERY UNITS NOUN: DEVELOP 3 HUMMER WAT REC UNIT PRON: R342CY03R3 PRON AMD: 01 ACRN: AA AMS CD: 63300522111 (AMOUNT: $ 108,090.00)				
000104	3 HMMWV WATER RECOVERY UNITS NOUN: DEVELOP 3 HUMMER WAT REC UNIT PRON: R342C246R3 PRON AMD: 03 ACRN: AB AMS CD: 622601H9111 (AMOUNT: $ 446,880.00)				
0002	DATA ITEM SECURITY CLASS: Unclassified				

Name of Offeror or Contractor: THE LEXINGTON CARBON COMPANY, LLC

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	Technical Data as set forth in Contract Data Requirements List (DD Form 1423) hereinafter referred to as Exhibit A. (End of narrative A001)			Not Separately Priced	
A002	SCIENTIFIC AND TECHNICAL REPORT SECURITY CLASS: Unclassified Packaging and Marking Inspection and Acceptance INSPECTION: Destination ACCEPTANCE: Destination Deliveries or Performance DOC SUPPL REL CD MILSTRIP ADDR SIG CD MARK FOR TP CD 001 3 DEL REL CD QUANTITY DEL DATE 001 1 SEE EXHIBIT A FOB POINT: Destination SHIP TO: PARCEL POST ADDRESS (Y00003) SEE NARRATIVE ON DD 1423	1	LO	$ ** NSP **	$ ** NSP **

B.1 Estimated Cost and Payment

B.1.1 The estimated cost for performance of the work required under this contract is as stated in Section B Schedule.

B.1.2 The Contractor will be paid for the fixed fee stated in Section B under CLIN 0001 for the performance of work under the Contract and in accordance with the terms of the Contract Clause entitled, "FIXED FEE," (Mar 1997), FAR 52.216-8. The fixed fee together with the reimbursement of cost shall constitute full and complete consideration for the Contractor's service in connection with the work required and performed under this Contract.

B.1.3 Allowable cost shall be determined, and payment shall be provided, in accordance with the Contract Clause entitled, "ALLOWABLE COST AND PAYMENT."

B.2 Payment

The Contractor may submit public vouchers every two weeks for payment under this Contract. The fee will be payable at the time of reimbursement of cost at the same rate as the total Contract fee bears to the total estimated cost, subject to any withholding pursuant to provisions of this Contract.

*** END OF NARRATIVE B 001 ***

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 The Contractor, LexCarb, as an independent contractor and not as a agent of the Government, shall provide all necessary labor, services, facilities, and supplies, except as noted in Section H.19, to successfully complete this scope of work. In summary, LexCarb shall design, fabricate, install, test/analyze, conduct training on, and deliver three (3) prototype water recovery unit (WRU) systems, fitted on three (3) U.S. Army M1097A2 High Mobility Multi-purpose Wheeled Vehicles (HMMWVs). Each prototype WRU system shall meet the criteria outlined in this scope of work.

C.2 Design. Design a prototype WRU system for the U.S. Army M1097A2, meeting the criteria for and the requirements in Attachment 002, "Performance Requirements: Prototype Water Recover Unit (WRU) System."

C.2.1 Design the prototype WRU system for a half sine shock environment of 10 (threshold) to 15 (objective) gravity forces (g's), 50-75 milliseconds (ms) in duration.

C.2.2 The mounting plates used on the previous HMMWV mock-up delivered under Contract DAAE07-02-C-L055, located on the bottom of the rear fenders of the M1097A2, will establish the space claim for the fender. This is deemed to provide sufficient clearance for operation of the vehicle.

C.2.3 The refrigeration system for the prototype WRU system will be belt driven from the engine accessory drive system, and will use the existing compressor mounting plate. The minimum cooling capacity for the prototype WRU system is 45,000 British thermal units (BTUs) per hour, at 90 degrees F, at 1700 engine revolutions per minute (RPMs).

C.3 Fabrication.

C.3.1 Prototype WRU Systems. Fabricate three (3) prototype WRU systems for installing on three (3) Government-furnished U.S. Army M1097A2 HMMWVs.

C.3.2 Water Purification Canisters. Fabricate a one (1) year supply of water purification canisters for the three (3) HMMWV units, consisting of two (2) sets of canisters per month for each HMMWV, for a total of twenty-four (24) sets of canisters per year for each HMMWV. Additionally, fabricate two (2) sets of water purification canisters for three (3) HMMWV units, for a total of six (6) sets of canisters for the WRU system test and evaluation. Each set includes two (2) canisters, one (1) resin, and one (1) carbon.

C.3.3 Special Tools. Deliver three (3) filter canister spanner wrenches for each prototype WRU system, for a total of nine (9) filter canister spanner wrenches. Deliver three (3) wrenches with the ten (10) filters in month (8), and deliver six (6) wrenches nine (9) months after Contract award. The filter canister spanner wrench is the only special tool required for the prototype WRU system, and all other tools shall be common to a U.S. Army mechanics Common #1 tool kit.

C.4 Installation.

C.4.1 Install and deliver three (3) prototype WRU systems on three (3) U.S. Army M1097A2 HMMWVs (i.e., one (1) per HMMWV). Complete the first installation by eight and one-half (8.5) months after Contract award. Install and deliver the two (2) remaining HMMWVs with prototype WRU systems by nine (9) months after Contract award.

C.4.2 Provide access to the prototype WRU system components that may require maintenance or replacement.

C.5 Testing and Analysis.

Prepare and deliver a design verification and acceptance plan to ensure achieving the performance requirements in Attachment 002, "Performance Requirements: Prototype Water Recover Unit (WRU) System." Several methods for validation of the design are available including test, demonstration, analysis, inspection, and similarity. For requirements that will be validated by test, the Contractor shall provide a test plan detailing the test objectives and criteria, test schedule, location, number, duration, and frequency of tests for each installed prototype WRU system. Provide the design verification and acceptance plan and test plan in accordance with (IAW) Exhibit A, Contract Data Requirements List (CDRL, DD Form 1423), Data Item No. A002, "Scientific and Technical Reports."

C.5.1 Analyze the exhaust condensate and purified water of the first assembled M1097A2 HMMWV prototype WRU system using a certified Environmental Protection Agency (EPA) water quality laboratory to ensure the system is operating properly. Analyze the exhaust condensate and purified water of the second and third assembled M1097A2 HMMWV prototype WRU systems to ensure the systems are operating properly. Perform all needed analysis of data received under Contract DAAE07-02-C-L055, with the data received from these three (3) prototype WRU systems, and provide the following data as input for obtaining an Army Surgeon General's safety release allowing soldiers to drink the product water:

A comparison of the Contractor's water quality test results to National Sanitation Foundation (NSF) International / American National Standards Institute (ANSI) Standards 53, "Drinking Water Treatment Units - Health," and 61, "Drinking Water Systems Components - Health Effects." Provide the water quality comparison results IAW Exhibit A, CDRL (DD Form 1423), Data Item No. A002, "Scientific and Technical Reports."

C.5.2 Support Government testing at Aberdeen Proving Grounds (APG), MD, to validate water production and vehicle operation characteristics. The Contractor shall provide WRU system training, technical, and operation and maintenance support during all phases of testing to APG testing personnel. The duration of Contractor support will not exceed two weeks. This test series will not impose more severe requirements than those delineated in this scope of work and Attachment 002, "Performance Requirements: Prototype Water Recover Unit (WRU) System."

C.5.2.1 Training support shall consist of providing an overview of (i) WRU system components, (ii) WRU system operation, (iii) operating speed and temperature conditions, (iv) procedures to start-up, shut-down, and purge the WRU system, (v) procedures to identify system faults, (vi) procedures to correct maintenance faults, (vii) procedures to properly conduct before, during, and after operation checks, and (viii) procedures to conduct filter inspection and change out.

C.5.2.2 Technical support shall consist of providing information to on WRU system operation to AGP testing personnel, as necessary, and evaluating WRU system performance data generated by APG testing personnel.

C.5.2.3 Operation and Maintenance support shall consist of ensuring the WRU system is operable during the test period, and fixing any field repairable items requiring repair during the test period.

C.6 Drawings. Prepare and deliver a Level 1 layout drawing, schematic, and list of parts for the prototype WRU system IAW Exhibit A, CDRL (DD Form 1423), Data Item No. A002, "Scientific and Technical Reports." Such drawings and lists will meet the requirements of American Society of Mechanical Engineers (ASME) Y14.100, "Engineering Drawing and Related Documentation Practices," as tailored for this project (see Attachment 001).

C.7 Operation and Maintenance Instructions and Training. Provide a set of Operation and Maintenance instructions for the prototype WRU system IAW Exhibit A, CDRL (DD Form 1423), Data Item No. A002, "Scientific and Technical Reports." Provide the maintenance instructions for field level maintenance. Provide one (1) week of operation and maintenance training during month nine after Contract award for ten (10) to fifteen (15) Government personnel at Hamilton Sundstrand's Windsor Locks, CT, location.

C.7.1 Training shall consist of providing in-depth information on (i) WRU system components, (ii) WRU system operation, (iii) operating speed and temperature conditions, (iv) procedures to start-up, shut-down, and purge the WRU system, (v) procedures to identify system faults, (vi) procedures to correct maintenance faults, (vii) procedures to properly conduct before, during, and after operation checks, and (viii) procedures to conduct filter inspection and change out.

C.8 Spare Parts List. Provide a spare parts list and pricing information covering operation of the prototype WRU system for 720 hours under desert conditions (i.e., 120 degrees F, and a dew point of 20 degrees F) IAW Exhibit A, CDRL (DD Form 1423), Data Item No. A002, "Scientific and Technical Reports."

C.9 Performance Specification. The Contractor shall prepare and deliver a performance specification for the prototype WRU system (including all system components, the water storage container, and all installation parts) IAW Exhibit A, CDRL, DD Form 1423, Data Item No. A002, "Final Scientific and Technical Report." The performance specification shall describe the performance capabilities of the prototype WRU system (including all system components, the water storage container, and all installation parts) in sufficient detail to enable the Government to procure these items. This detail shall include dimensions, weight, life-span, test requirements, temperature operating conditions/ranges, pressure operating conditions/ranges, electrical loads, external loads, interfaces, and ambient environment characteristics, as appropriate, for each item.

C.10 Hardware Deliverables.

C.10.1 Prototype WRU System. For the HMMWV-mounted system, deliver one (1) installed prototype WRU system by eight and one-half (8.5) months after Contract award. Deliver the remaining two (2) installed prototype WRU systems by nine (9) months after Contract award. It is necessary to install the prototype WRU systems on the HMMWVs for delivery.

C.10.2 Water Purification Canisters. Deliver ten (10) prototype water purification canisters by eight (8) months after Contract award. Deliver the remaining sixty-eight (68) prototype water purification canisters by nine (9) months after Contract award.

C.10.3 Special Tools. Deliver three (3) filter canister spanner wrenches for each prototype WRU system, for a total of nine (9) filter canister spanner wrenches. Deliver three (3) wrenches with the ten (10) filters in month (8), and deliver six (6) wrenches nine (9) months after Contract award. The filter canister spanner wrench is the only special tool required for the prototype WRU system, and all other tools shall be common to a U.S. Army mechanics Common #1 tool kit.

C.11 Data Deliverables.

C.11.1 Contractor's Progress, Status and Management Reports. The Contractor shall prepare and deliver Contractor's Progress, Status and Management Reports IAW Exhibit A, CDRL, DD Form 1423, Data Item No. A001, "Contractor's Progress, Status and Management Report."

C.11.2 Final Scientific and Technical Report. The Contractor shall prepare and deliver a Scientific and Technical Report IAW Exhibit

A, CDRL (DD Form 1423), Data Item No. A002, "Scientific and Technical Report." The Contractor shall deliver the (i) design verification and acceptance plan (Sec. C.5), (ii) test plan (Sec. C.5), (iii) comparison of water quality test results (Sec. C.5.1), (iv) level 1 layout drawing, schematic, and list of parts (C.6), (v) operation and maintenance instructions (Sec. C.7), (vi) spare parts list and pricing information (C.8), and (vii) performance specification according to the schedule in the "Remarks" Section (Block 16) of Data Item No. A002.

C.12 Meetings.

C.12.1 Kick-off Meeting. The Contractor shall conduct a one (1) day meeting at its site within three (3) weeks after Contract award to review initial progress on the project, initial design concept, and to discuss the Contractor's plan for accomplishing the Contract requirements. The Contractor shall establish a teleconference in conjunction with the kick-off meeting for personnel not able to attend the meeting at the Contractor's site.

C.12.2 Design Review Meeting. The Contractor shall conduct a one (1) day meeting at its site no later than three (3) months after Contract award to review the prototype WRU system design.

C.12.3 In-Progress Review (IPR). The Contractor shall conduct a one (1) day IPR via teleconference no later than five (5) months after Contract award, to discuss project progress and plans for the final four (4) months.

*** END OF NARRATIVE C 001 ***

SECTION D - PACKAGING AND MARKING

	Regulatory Cite	Title	Date
D-1	252.211-7003	ITEM IDENTIFICATION AND VALUATION	JAN/2004

[NOTE: The following clause requires unique item identification marking, or a DoD recognized unique identification equivalent, for all items delivered under the contract for which the Government's acquisition cost (as defined under 'Definitions' below) is $5,000 or more. Unique item identification marking is also required for items listed in paragraph (c)(1)(ii) of the clause. Unique item identification marking is required for embedded subassemblies, components, and parts if listed in paragraph (c)(1(ii), or if listed elsewhere in the solicitation or resulting contract. In the event that the Government has not yet identified these items or embedded parts, paragraph (c)(1)(ii) will read "TBD" for "to be determined". If these items are identified by the Government before the time proposals are due, an amendment to the solicitation will be issued which identifies them. If not, award will be made on the basis of them not being identified, however the contract may be later modified to include such identification marking. This clause also requires the contractor to report the Government's acquisition cost for each item delivered under the contract. Information concerning these requirements is available at http://www.acq.osd.mil/uid .]

(a) Definitions. As used in this clause--

"Automatic identification device" means a device, such as a reader or interrogator, used to retrieve data encoded on machine-readable media.

"Commonly accepted commercial marks" means any system of marking products for identification that is in use generally throughout commercial industry or within commercial industry sectors. Some examples of commonly accepted commercial marks are: EAN.UCC Global Trade Item Number; Automotive Industry Action Group B-4 Parts Identification and Tracking Application Standard, and B-2 Vehicle Identification Number Bar Code Label Standard; American Trucking Association Vehicle Maintenance Reporting Standards; Electronic Industries Alliance EIA 802 Product Marking Standard; and Telecommunications Manufacturers Common Language Equipment Identification Code.

"Concatenated unique item identifier" means-- (1) For items that are serialized within the enterprise identifier, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, and unique serial number within the enterprise identifier; or (2) For items that are serialized within the original part number, the linking together of the unique identifier data elements in order of the issuing agency code, enterprise identifier, original part number, and serial number within the part number.

"Data qualifier" means a specified character (or string of characters) that immediately precedes a data field that defines the general category or intended use of the data that follows.

"DoD recognized unique identification equivalent" means a unique identification method that is in commercial use and has been recognized by DoD. All DoD recognized unique identification equivalents are listed at http://www.acq.osd.mil/uid .

"DoD unique item identification" means marking an item with a unique item identifier that has machine-readable data elements to distinguish it from all other like and unlike items. In addition-- (1) For items that are serialized within the enterprise identifier, the unique identifier shall include the data elements of issuing agency code, enterprise identifier, and a unique serial number. (2) For items that are serialized within the part number within the enterprise identifier, the unique identifier shall include the data elements of issuing agency code, enterprise identifier, the original part number, and the serial number. Enterprise means the entity (i.e., a manufacturer or vendor) responsible for assigning unique item identifiers to items.

"Enterprise identifier" means a code that is uniquely assigned to an enterprise by a registration (or controlling) authority.

"Government's unit acquisition cost" means-- (1) For fixed-price type line, subline, or exhibit line items, the unit price identified in the contract at the time of delivery; and (2) For cost-type line, subline, or exhibit line items, the Contractor's estimated fully burdened unit cost to the Government for each item at the time of delivery.

"Issuing agency code" means a code that designates the registration (or controlling) authority.

"Item" means a single hardware article or unit formed by a grouping of subassemblies, components, or constituent parts required to be delivered in accordance with the terms and conditions of this contract.

"Machine-readable" means an automatic information technology media, such as bar codes, contact memory buttons, radio frequency identification, or optical memory cards.

"Original part number" means a combination of numbers or letters assigned by the enterprise at asset creation to a class of items with the same form, fit, function, and interface.

"Registration (or controlling) authority" means an organization responsible for assigning a non-repeatable identifier to an enterprise (i.e., Dun & Bradstreet's Data Universal Numbering System (DUNS) Number, Uniform Code Council (UCC)/EAN International (EAN) Company Prefix, or Defense Logistics Information System (DLIS) Commercial and Government Entity (CAGE) Code).

"Serial number within the enterprise identifier or unique serial number" means a combination of numbers, letters, or symbols assigned by the enterprise to an item that provides for the differentiation of that item from any other like and unlike item and is never used again within the enterprise.

"Serial number within the part number or serial number" means a combination of numbers or letters assigned by the enterprise to an item that provides for the differentiation of that item from any other like item within a part number assignment.

"Serialization within the enterprise identifier" means each item produced is assigned a serial number that is unique among all the tangible items produced by the enterprise and is never used again. The enterprise is responsible for ensuring unique serialization within the enterprise identifier.

"Serialization within the part number" means each item of a particular part number is assigned a unique serial number within that part number assignment. The enterprise is responsible for ensuring unique serialization within the part number within the enterprise identifier.

"Unique item identification" means marking an item with machine-readable data elements to distinguish it from all other like and unlike items.

"Unique item identifier" means a set of data marked on items that is globally unique, unambiguous, and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users.

"Unique item identifier type" means a designator to indicate which method of uniquely identifying a part has been used. The current list of accepted unique item identifier types is maintained at http://www.acq.osd.mil/uid_.

(b) The Contractor shall deliver all items under a contract line, subline, or exhibit line item.

(c) Unique item identification.

(1) The Contractor shall provide DoD unique item identification, or a DoD recognized unique identification equivalent, for--

(i) All items for which the Government's unit acquisition cost is $5,000 or more; and

(ii) The following items for which the Government's unit acquisition cost is less than $5,000:

Contract Line, Subline, or Exhibit Line Item Number: N/A

Item Description: N/A

(iii) Subassemblies, components, and parts embedded within items as specified in Exhibit Number/Contract Data Requirements List Item Number: N/A.

(2) The unique item identifier and the component data elements of the unique item identifier shall not change over the life of the item.

(3) Data syntax and semantics. The Contractor shall--

(i) Mark the encoded data elements (except issuing agency code) on the item using any of the following three types of data qualifiers, as specified elsewhere in the contract:

(A) Data Identifiers (DIs) (Format 06).

(B) Application Identifiers (AIs) (Format 05), in accordance with ISO/IEC International Standard 15418, Information Technology-- EAN/UCC Application Identifiers and ASC MH 10 Data Identifiers and ASC MH 10 Data Identifiers and Maintenance.

(C) Text Element Identifiers (TEIs), in accordance with the DoD collaborative solution ``DD'' format for use until the final solution is approved by ISO JTC1/SC 31. The DoD collaborative solution is described in Appendix D of the DoD Guide to Uniquely Identifying Items, available at http://www.acq.osd.mil/uid ; and

(ii) Use high capacity automatic identification devices in unique identification that conform to ISO/IEC International Standard 15434, Information Technology--Syntax for High Capacity Automatic Data Capture Media.

(4) Marking items.

(i) Unless otherwise specified in the contract, data elements for unique identification (enterprise identifier, serial number, and, for serialization within the part number only, original part number) shall be placed on items requiring marking by paragraph (c)(1) of this clause in accordance with the version of MIL-STD-130, Identification Marking of U.S. Military Property, cited in the contract Schedule.

(ii) The issuing agency code--

(A) Shall not be placed on the item; and

(B) Shall be derived from the data qualifier for the enterprise identifier.

(d) Commonly accepted commercial marks. The Contractor shall provide commonly accepted commercial marks for items that are not required to have unique identification under paragraph (c) of this clause.

(e) Material Inspection and Receiving Report. The Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

(1) Description.*

(2) Unique identifier**, consisting of--

(i) Concatenated DoD unique item identifier; or

(ii) DoD recognized unique identification equivalent.

(3) Unique item identifier type.**

(4) Issuing agency code (if DoD unique item identifier is used).**

(5) Enterprise identifier (if DoD unique item identifier is used).**

(6) Original part number.**

(7) Serial number.**

(8) Quantity shipped.*

(9) Unit of measure.*

(10) Government's unit acquisition cost.*

(11) Ship-to code.

(12) Shipment date.

(13) Contractor's CAGE code or DUNS number.

(14) Contract number.

(15) Contract line, subline, or exhibit line item number.*

(16) Acceptance code.

* Once per contract line, subline, or exhibit line item.
** Once per item.

(f) Material Inspection and Receiving Report for embedded subassemblies, components, and parts requiring unique item identification. The Contractor shall report at the time of delivery, as part of the Material Inspection and Receiving Report specified elsewhere in this contract, the following information:

(1) Unique item identifier of the item delivered under a contract line, subline, or exhibit line item that contains the embedded subassembly, component, or part.

(2) Unique item identifier of the embedded subassembly, component, or part, consisting of--

(i) Concatenated DoD unique item identifier; or

(ii) DoD recognized unique identification equivalent.

(3) Unique item identifier type.**

(4) Issuing agency code (if DoD unique item identifier is used).**

(5) Enterprise identifier (if DoD unique item identifier is used).**

(6) Original part number.**

(7) Serial number.**

(8) Unit of measure.

(9) Description.

** Once per item.

(g) The Contractor shall submit the information required by paragraphs (e) and (f) of this clause in accordance with the procedures at http://www.acq.osd.mil.uid

_____(h) Subcontracts. If paragraph (c)(1)(iii) of this clause applies, the Contractor shall include this clause, including this paragraph (h), in all subcontracts issued under this contract.

[End of Clause]

D.2 PACKAGING

The Contractor shall package all deliverables under this contract in accordance with standard commercial practice to ensure arrival at destination without loss or damage.

D.3 SOFTWARE MARKING

The Contractor shall mark all software delivered under this contract with the software title, TACOM Contract number, the name and address of the prime Contractor, and the name and address of the Subcontractor (if any) which generated the software. The marking shall be in the format below for prime Contractor or Subcontractor generated software as applicable:

Software Title
TACOM Contract Number
Contractor's Name
Contractor's Address

Software Title
TACOM Contract Number
Contractor's Name
Address
Subcontractor's Name
Subcontractor's Address

*** END OF NARRATIVE D 001 ***

SECTION E - INSPECTION AND ACCEPTANCE

	Regulatory Cite	Title	Date
E-1	52.246-5	INSPECTION OF SERVICES - COST-REIMBURSEMENT	APR/1984
E-2	52.246-8	INSPECTION OF RESEARCH AND DEVELOPMENT -- COST-REIMBURSEMENT	MAY/2001

E.3 INSPECTION AND ACCEPTANCE

The Contracting Officer's Representative (COR) is responsible for inspecting and accepting or rejecting all deliverables submitted by the Contractor to the Government, at destination, in accordance with the terms of the Contract.

*** END OF NARRATIVE E 001 ***

SECTION F - DELIVERIES OR PERFORMANCE

	Regulatory Cite	Title	Date
F-1	52.242-15	STOP WORK ORDER--(ALTERNATE I dated APR 1984)	AUG/1989
F-2	52.247-34	F.O.B. DESTINATION	NOV/1991

F.3 DELIVERY OF REPORTS

The Contractor shall submit all reports electronically in accordance with (IAW) Exhibit A, Contract Data Requuirements List (CDRL) (DD Form 1423).

F.4 DELIVERY OF HARDWARE

F.4.1 Prototype WRU System. For the HMMWV-mounted system, deliver one (1) installed prototype WRU system by eight and one-half (8.5) months after Contract award. Deliver the remaining two (2) installed prototype WRU systems by nine (9) months after Contract award. It is necessary to install the prototype WRU systems on the HMMWVs for delivery.

F.4.2 Water Purification Canisters. Deliver ten (10) prototype water purification canisters by eight (8) months after Contract award. Deliver the remaining sixty-eight (68) prototype water purification canisters by nine (9) months after Contract award.

F.4.3 Special Tools. Deliver three (3) filter canister spanner wrenches for each prototype WRU system, for a total of nine (9) filter canister spanner wrenches. Deliver three (3) wrenches with the ten (10) filters in month (8), and deliver six (6) wrenches nine (9) months after Contract award. The filter canister spanner wrench is the only special tool required for the prototype WRU system, and all other tools shall be common to a U.S. Army mechanics Common #1 tool kit.

F.4.4 Deliver the above items (in Section F.4.1, F.4.2, and F.4.3) to the following address:

CPT Michael Dunne, AMSRD-TAR-D/210
U.S. Army Tank-automotive and Armaments Command (TACOM)
6501 E. 11 Mile Rd.
Warren, MI 48397-5000

F.5 PERIOD OF PERFORMANCE

The period of performance for this Contract shall be nine (9) months from the date of contract award.

*** END OF NARRATIVE F 001 ***

SECTION G - CONTRACT ADMINISTRATION DATA

LINE ITEM	PRON/ AMS CD/ MIPR	ACRN	OBLG STAT	ACCOUNTING CLASSIFICATION		JOB ORDER NUMBER	ACCOUNTING STATION		OBLIGATED AMOUNT
000101	R342CY02R3 63300544111	AA	2	21 42040000046N6N7EP633005255Y	S20113	42CY02	W56HZV	$	711,110.00
000102	R342C247R3 63300544111	AA	2	21 42040000046N6N7EP633005255Y	S20113	42C247	W56HZV	$	860,000.00
000103	R342CY03R3 63300522111	AA	2	21 42040000046N6N7EP633005255Y	S20113	42CY03	W56HZV	$	108,090.00
000104	R342C246R3 622601H9111	AB	2	21 42040000046N6N7EP622601255Y	S20113	42C246	W56HZV	$	446,880.00
							TOTAL	$	2,126,080.00

SERVICE NAME	TOTAL BY ACRN	ACCOUNTING CLASSIFICATION		ACCOUNTING STATION		OBLIGATED AMOUNT
Army	AA	21 42040000046N6N7EP633005255Y	S20113	W56HZV	$	1,679,200.00
Army	AB	21 42040000046N6N7EP622601255Y	S20113	W56HZV	$	446,880.00
				TOTAL	$	2,126,080.00

	Regulatory Cite	Title	Date
G-1	52.242-4016 (TACOM)	COMMUNICATIONS	MAY/2000

(a) Communications on technical matters pertaining to the contract shall be direct between the Contractor and the Contracting Officer's Representative (COR). Communications for the COR shall be addressed to:

Name: CPT Michael Dunne
e-mail: DunneM@tacom.army.mil
Telephone: (586) 574-4220

(b) The Administrative Contracting Officer's (ACO) name and email address are also provided:

ACO: Mr. James Schwerman
e-mail: James.Schwerman@dcma.mil
Telephone: (513) 684-3945

(c) Please see the appointment letters prepared at time of contract award for functions the COR and ACO will perform on this contract.

[End of Clause]

G-2 252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE DEC/1991

(a) Definition. Contracting Officer's Representative means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

[End of Clause]

G-3 52.227-4004 RELEASE OF INFORMATION OCT/2003
(TACOM)

The contractor shall ensure that he complies with the requirements of Chapter 5, page 22, paragraph 5-48, of AR 360-1, The Army Public Affairs Program, dated 15 Oct 2000,_prior to contemplated release of any procurement information. Approval of the Contracting Officer is required prior to release of any such information. AR 360-1 may be found at http://www.usapa.army.mil/pdffiles/r360_1.pdf .

[End of clause]

***

G-4 52.232-4005 INVOICE INFORMATION REQUIREMENT JAN/1988
(TACOM)

On each payment request submitted, the Contractor shall identify each affected Contract Line Item Number (CLIN), sub-CLIN, and/or work directive, together with the related dollar amounts. This requirement does not diminish or restrict any other requirement of this contract.

***

G.5 CONTRACTOR: SPECIAL BILLING INSTRUCTIONS:

G.5.1 The Contractor shall bill to the alpha numeric Sub-Line Item Number (SLIN) level and ACRN under the four-digit Contract Line Item Number (CLIN), see Section B, for which the work effort was performed.

G.5.2 If multiple SLINs exist on the same four-digit major CLIN, the Contractor shall determine which alpha-numeric SLIN contains the oldest fiscal year money and invoice against the SLIN containing the oldest money, until fully billed.

G.5.3. To determine the fiscal year of funds, refer to the "Job Order Number" (JON) column that applies to ALL funding under the four digit CLIN, as shown in Section G - Contract Administration Data. The first digit of the JON represents the fiscal year. (For example, CLIN 0001 is funded by SLINs 000101, and 000102. If JON: 42C334 is associated with 000101 and JON: 52C205, associated with 000102, SLIN 000101 is FY 2004 funding and shall be invoiced prior to invoicing against SLIN 000102, which is FY 2005 funding.)

G.6 DFAS: SPECIAL PAYMENT INSTRUCTIONS:

DFAS will make payments as billed by the contractor.

*** END OF NARRATIVE G 001 ***

SECTION H - SPECIAL CONTRACT REQUIREMENTS

	Regulatory Cite	Title	Date
H-1	252.204-7000	DISCLOSURE OF INFORMATION	DEC/1991
H-2	252.205-7000	PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS	DEC/1991
H-3	252.223-7006	PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS	APR/1993
H-4	252.225-7001	BUY AMERICAN ACT AND BALANCE OF PAYMENTS PROGRAM	APR/2003
H-5	252.225-7002	QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS	APR/2003
H-6	252.225-7004	REPORTING OF CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES	APR/2003
H-7	252.225-7013	DUTY-FREE ENTRY	JAN/2004
H-8	252.227-7036	DECLARATION OF TECHNICAL DATA CONFORMITY	JAN/1997
H-9	252.227-7037	VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA	SEP/1999
H-10	252.231-7000	SUPPLEMENTAL COST PRINCIPLES	DEC/1991
H-11	252.235-7011	FINAL SCIENTIFIC OR TECHNICAL REPORT	SEP/1999
H-12	252.246-7000	MATERIAL INSPECTION AND RECEIVING REPORT	MAR/2003
H-13	252.246-7001	WARRANTY OF DATA	DEC/1991
H-14	252.225-7043	ANTITERRORISM/FORCE PROTECTION FOR DEFENSE CONTRACTORS OUTSIDE THE UNITED STATES	JUN/1998

(a) Except as provided in paragraph (b) of this clause, the Contractor and its subcontractors, if performing or traveling outside the United States under this contract, shall-

(1) Affiliate with the Overseas Security Advisory Council, if the Contractor or subcontractor is a U.S. entity;

(2) Ensure that Contractor and subcontractor personnel who are U.S. nationals and are in-country on a non-transitory basis, register with the U.S. Embassy, and that Contractor and subcontractor personnel who are third country nationals comply with any security related requirements of the Embassy of their nationality;

(3) Provide, to Contractor and subcontractor personnel, antiterrorism/force protection awareness information commensurate with that which the Department of Defense (DoD) provides to its military and civilian personnel and their families, to the extent such information can be made available prior to travel outside the United States; and

(4) Obtain and comply with the most current antiterrorism/force protection guidance for Contractor and subcontractor personnel.

(b) The requirements of this clause do not apply to any subcontractor that is-

(1) A foreign government;

(2) A representative of a foreign government; or

(3) A foreign corporation wholly owned by a foreign government.

(c) Information and guidance pertaining to DoD antiterrorism/force protection can be obtained from HQDA (DAMO-ODL)/ODCSOP; telephone, DSN 225-8491 or commercial (703) 695-8491. For additional information: Assistant Secretary of Defense for Special Operations and Low Intensity Conflict, ASD(SOLIC); telephone, DSN 255-0044 or commercial (703) 695-0044.

[End of Clause]

H-15 252.227-7039 PATENTS -- REPORTING OF SUBJECT INVENTIONS APR/1990

The Contractor shall furnish the Contracting Officer the following:

(a) Interim reports every twelve (12) months (or such longer period as may be specified by the Contracting Officer) from the date of the contract, listing subject inventions during that period and stating that all subject inventions have been disclosed or that there are no such inventions.

(b) A final report, within three (3) months after completion of the contracted work, listing all subject inventions or stating that there were no such inventions.

(c) Upon request, the filing date, serial number and title, a copy of the patent application and patent number, and issue data for any subject invention for which the Contractor has retained title.

(d) Upon request, the Contractor shall furnish the Government an irrevocable power to inspect and make copies of the patent

application file.

(End of clause)

H-16 52.204-4005 REQUIRED USE OF ELECTRONIC CONTRACTING JUN/2004

H-17 52.216-4008 (TACOM) STATUS OF FUNDS ON COST REIMBURSEMENT CONTRACTS/CLINS JUN/1989

(a) The Contractor shall review the funding as it relates to work performed on the cost-reimbursement Contract Line Item Numbers (CLINs) under this contract and shall provide to the Procuring Contracting Officer (PCO) a written determination of what, if any, funds are excess to requirements (leaving a reasonable amount for final overhead rate negotiations and other reasonably predicted requirements) and are available for deobligation. This review shall be coordinated with the Administrative Contracting Officer (ACO), and the written determination shall be accomplished within 120 days of completion of performance under the CLIN. The report shall be prepared in terms of dollars available per Purchase Request Order Number (PRON), unless requested otherwise by the PCO.

(b) This report may be requested in writing by the PCO on additional occasions during the course of performance of work on cost-reimbursable CLINs contained in this contract. On such occasions, the written report shall be provided to the PCO within 14 days of Contractor receipt of the written request.

(End of clause)

H-18 52.246-4026 (TACOM) LOCAL ADDRESSES FOR DD FORM 250 JAN/2002

(a) The contractor must provide a copy of each Material Inspection and Receiving Report (DD 250) pertaining to this contract, to the addresses given below, using either of the following methods:

(1) Our first preference is for you to use electronic mail (e-mail), using the following e-mail address: DD250@tacom.army.mil

(2) Our second preference is for you to use data facsimile (datafax) transmission, using this fax number: (586) 574-5527 and use "DD250 mailbox" in the "to:" block of your fax cover or header sheet.

In either method, do not mix DD250s from more than one contract in a single transmmission. That is, you may submit multiple DD250s in a single transmission, but they must all be against the same contract.

(b) These copies meet the requirements for the Purchasing Office copy and the Army Inventory Control Manager copy listed in tables 1 and 2 of DFARS Appendix F.

(c) The DD250 form may be found, in three different formats, on the World Wide Web at http://web1.whs.osd.mil/icdhome/DD-0999.htm

[End of Clause]

H.19 GOVERNMENT-FURNISHED PROPERTY

H.19.1 Upon Contract award, the Government will furnish the Contractor with three (3) Army High Mobility Multi-purpose Wheeled Vehicles (HMMWVs) for use in performing this Contract:

HMMWV #1: The Contractor shall modify the HMMWV only as necessary for installing the water recovery unit, and shall maintain and return the HMMWV with the water recovery unit installed in as good condition as when issued, fair wear and tear excepted. The Contractor shall also return to the Government any parts it may have removed from the HMMWV to accommodate the water recovery unit installation. The data on the HMMWV is as follows:

Model Number: M1097A2

Serial Number: 177662 *
Condition: Military 10-20 Standards (except that the rear fenders have been modified for the water recovery unit)
Acquisition Cost: $61,042

* The Contractor has been using this HMMWV in performing Contract DAAE07-02-C-L055. This contract award transfers

accountability for this HMMWV from Contract DAAE07-02-C-L055 (with LexCarb LLC) to this Contract W56HZV-04-C-0446 (with LexCarb LLC).

HMMWV #2: The Government shall provide this HMMWV to the Contractor upon contract award. The Contractor shall modify the HMMWV only as necessary for installing the water recovery unit, and shall maintain and return the HMMWV with the water recovery unit installed in as good condition as when issued, fair wear and tear excepted. The Contractor shall also return to the Government any parts it may have removed from the HMMWV to accommodate the water recovery unit installation. The data on the HMMWV is as follows:

Model Number: M1097A2

Serial Number: 211721

Condition: New
Acquisition Cost: $62,671.45

HMMWV #3: The Government shall provide this HMMWV to the Contractor upon contract award. The Contractor shall modify the HMMWV only as necessary for installing the water recovery unit, and shall maintain and return the HMMWV with the water recovery unit installed in as good condition as when issued, fair wear and tear excepted. The Contractor shall also return to the Government any parts it may have removed from the HMMWV to accommodate the water recovery unit installation. The data on the HMMWV is as follows:

Model Number: M1097A2

Serial Number: 211751

Condition: New
Acquisition Cost: $62,671.45

H.19.2 Upon Contract completion, the Contractor shall promptly return any parts that have been removed from the HMMWVs to accommodate water recovery unit installation, to the following location:

CPT Michael Dunne, AMSRD-TAR-D/210
U.S. Army Tank-automotive and Armaments Command (TACOM)
6501 E. 11 Mile Rd.
Warren, MI 48397-5000

Prior to returning these items, the Contractor shall coordinate delivery details with the Contracting Officer's Representative (COR), CPT Dunne.

H.20 PRE-CONTRACT COSTS

Pursuant to FAR 31.205-32, the Government recognizes that due to the urgency of this program and in anticipation of the issuance of this contract, the Contractor has incurred costs since 25 Mar 04. Such costs, to a maximum of $195,000, are allowable to the extent that they would have been allowable if incurred after the date of this contract.

*** END OF NARRATIVE H 001 ***

SECTION I - CONTRACT CLAUSES

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: http://farsite.hill.af.mil/

[End of Clause]

	Regulatory Cite	Title	Date
I-1	52.202-1	DEFINITIONS	DEC/2001
I-2	52.203-3	GRATUITIES	APR/1984
I-3	52.203-5	COVENANT AGAINST CONTINGENT FEES	APR/1984
I-4	52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	JUL/1995
I-5	52.203-7	ANTI-KICKBACK PROCEDURES	JUL/1995
I-6	52.203-8	CANCELLATION, RESCISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-7	52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-8	52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	JUN/2003
I-9	52.204-4	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER	AUG/2000
I-10	52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	JUL/1995
I-11	52.211-5	MATERIAL REQUIREMENTS	AUG/2000
I-12	52.211-15	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS	SEP/1990
I-13	52.215-2	AUDIT AND RECORDS - NEGOTIATIONS	JUN/1999
I-14	52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT/1997
I-15	52.215-10	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA	OCT/1997
I-16	52.215-12	SUBCONTRACTOR COST OR PRICING DATA	OCT/1997
I-17	52.215-14	INTEGRITY OF UNIT PRICES (ALTERNATE I, (OCT 1997))	OCT/1997
I-18	52.215-17	WAIVER OF FACILITIES CAPITAL COST OF MONEY	OCT/1997
I-19	52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS	OCT/1997
I-20	52.215-19	NOTIFICATION OF OWNERSHIP CHANGES	OCT/1997
I-21	52.216-7	ALLOWABLE COST AND PAYMENT	DEC/2002
I-22	52.216-8	FIXED FEE	MAR/1997
I-23	52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	OCT/2000
I-24	52.219-14	LIMITATIONS ON SUBCONTRACTING	DEC/1996
I-25	52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES	FEB/1997
I-26	52.222-4	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT--OVERTIME COMPENSATION	SEP/2000
I-27	52.222-19	CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES	JAN/2004
I-28	52.222-20	WALSH-HEALEY PUBLIC CONTRACTS ACT	DEC/1996
I-29	52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB/1999
I-30	52.222-26	EQUAL OPPORTUNITY	APR/2002
I-31	52.222-35	AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA	DEC/2001
I-32	52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	JUN/1998
I-33	52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS	DEC/2001
I-34	52.223-5	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION	AUG/2003
I-35	52.223-6	DRUG FREE WORKPLACE	MAY/2001
I-36	52.223-12	REFRIGERATION EQUIPMENT AND AIR CONDITIONERS	MAY/1995
I-37	52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JAN/2004
I-38	52.227-1	AUTHORIZATION AND CONSENT (ALTERNATE I dated April 1984)	JUL/1995
I-39	52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	AUG/1996
I-40	52.227-11	PATENT RIGHTS--RETENTION BY THE CONTRACTOR (SHORT FORM)	JUN/1997
I-41	52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR/1996
I-42	52.232-9	LIMITATION ON WITHHOLDING OF PAYMENTS	APR/1984
I-43	52.232-17	INTEREST	JUN/1996
I-44	52.232-20	LIMITATION OF COST	APR/1984
I-45	52.232-23	ASSIGNMENT OF CLAIMS	JAN/1986
I-46	52.232-25	PROMPT PAYMENT	OCT/2003
I-47	52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER--CENTRAL CONTRACTOR REGISTRATION	OCT/2003
I-48	52.233-1	DISPUTES	JUL/2002
I-49	52.233-3	PROTEST AFTER AWARD -- (ALTERNATE I, dated JUN 1985)	AUG/1996
I-50	52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR/1984

	Regulatory Cite	Title	Date
I-51	52.242-3	PENALTIES FOR UNALLOWABLE COSTS	MAY/2001
I-52	52.242-4	CERTIFICATION OF INDIRECT COSTS	JAN/1997
I-53	52.242-12	REPORT OF SHIPMENT (REPSHIP)	JUN/2003
I-54	52.242-13	BANKRUPTCY	JUL/1995
I-55	52.243-2	CHANGES--COST-REIMBURSEMENT (ALTERNATE V, dated April 1984))	AUG/1987
I-56	52.243-7	NOTIFICATION OF CHANGES	APR/1984
I-57	52.244-2	SUBCONTRACTS (ALT I--AUG 1998)	AUG/1998
I-58	52.244-5	COMPETITION IN SUBCONTRACTING	DEC/1996
I-59	52.245-5	GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) (Deviation, per DAR Tracking Number 99-00008, 13 July 99)	JUN/2003
I-60	52.246-23	LIMITATION OF LIABILITY	FEB/1997
I-61	52.246-25	LIMITATION OF LIABILITY--SERVICES	FEB/1997
I-62	52.247-1	COMMERCIAL BILL OF LADING NOTATIONS the notation set forth in paragraph (a) of the clause applies in this contract.` The agency name in line one of the notation shall read:US ARMY TANK-AUTOMOTIVE & ARMAMENTS COMMAND	APR/1984
I-63	52.249-6	TERMINATION (COST-REIMBURSEMENT)	SEP/1996
I-64	52.249-14	EXCUSABLE DELAYS	APR/1984
I-65	52.253-1	COMPUTER GENERATED FORMS	JAN/1991
I-66	252.203-7001	PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE CONTRACT-RELATED FELONIES	MAR/1999
I-67	252.204-7003	CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT	APR/1992
I-68	252.209-7000	ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ON-SITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY	NOV/1995
I-69	252.209-7004	SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY per DoD interim rule, Federal Register 27 Mar 98	MAR/1998
I-70	252.211-7005	SUBSTITUTIONS FOR MILITARY OR FEDERAL SPECIFICATIONS AND STANDARDS	FEB/2003
I-71	252.215-7000	PRICING ADJUSTMENTS	DEC/1991
I-72	252.215-7002	COST ESTIMATING SYSTEM REQUIREMENTS	OCT/1998
I-73	252.219-7003	SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS)	APR/1996
I-74	252.225-7012	PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES	FEB/2003
I-75	252.225-7014	PREFERENCE FOR DOMESTIC SPECIALTY METALS (ALT 1)	APR/2003
I-76	252.225-7016	RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS	MAY/2004
I-77	252.225-7031	SECONDARY ARAB BOYCOTT OF ISRAEL	APR/2003
I-78	252.227-7013	RIGHTS IN TECHNICAL DATA -- NONCOMMERCIAL ITEMS (ALT I)	JUN/1995
I-79	252.227-7016	RIGHTS IN BID OR PROPOSAL INFORMATION	JUN/1995
I-80	252.227-7017	IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS	JUN/1995
I-81	252.227-7018	RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE-- SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) PROGRAM	JUN/1995
I-82	252.227-7030	TECHNICAL DATA--WITHHOLDING OF PAYMENT	MAR/2000
I-83	252.227-7034	PATENTS--SUBCONTRACTS	APR/1984
I-84	252.227-7036	DECLARATION OF TECHNICAL DATA CONFORMITY	JAN/1997
I-85	252.227-7037	VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA	SEP/1999
I-86	252.228-7000	REIMBURSEMENT FOR WAR-HAZARD LOSSES	DEC/1991
I-87	252.233-7001	CHOICES OF LAW (OVERSEAS)	JUN/1997
I-88	252.242-7000	POSTAWARD CONFERENCE	DEC/1991
I-89	252.243-7002	REQUESTS FOR EQUITABLE ADJUSTMENT	MAR/1998
I-90	252.244-7000	SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (DoD CONTRACTS)	MAR/2000
I-91	252.245-7001	REPORTS OF GOVERNMENT PROPERTY	MAY/1994
I-92	52.222-2	PAYMENT FOR OVERTIME PREMIUMS	JUL/1990

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed zero (0) or the overtime premium is paid for work--

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdown of production equipment, or occasional production bottlenecks of a sporadic nature;

(2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;

(3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or

(4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall--

(1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;

(2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;

(3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and

(4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

(End of clause)

I-93 52.243-7 NOTIFICATION OF CHANGES APR/1984

(a) Definitions. Contracting Officer, as used in this clause, does not include any representative of the Contracting Officer. Specifically authorized representative (SAR), as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing promptly, within thirty (30) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

(1) the date, nature, and circumstances of the conduct regarded as a change;

(2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;

(3) The identification of any documents and the substance of any oral communication involved in such conduct;

(4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;

(5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--

(i) What contract line items have been or may be affected by the alleged change;

(ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;

(iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;

(iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and

(6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders, and similar actions of the SAR shall be reduced to writing promptly and copies furnished to the Contractor and the Contracting Officer. The Contracting Officer shall promptly countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within thirty (30) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

(1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;

(2) Countermand any communication regarded as a change;

(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or

(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

NOTE: The phrases contract price and cost wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

[End of Clause]

I-94 52.204-7 CENTRAL CONTRACTOR REGISTRATION OCT/2003

(a) Definitions. As used in this clause--

"Central Contractor Registration (CCR) database" means the primary Government repository for contractor information required for the conduct of business with the Government.

"Commercial and Government Entity (CAGE) code" means-

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an "NCAGE code."

"Data Universal Numbering System (DUNS) number" means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

"Data Universal Numbering System +4 (DUNS+4) number" means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

"Registered in the CCR database" means that-

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records "Active."

(b)

(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation DUNS or DUNS+4 followed by the DUNS or DUNS+4 number that identifies the offerors name and address exactly as stated in the offer.

The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.
(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.
(1) An offeror may obtain a DUNS number
(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com/ ; or
(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.
(2) The offeror should be prepared to provide the following information:
(i) Company legal business name.
(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.
(iii) Company physical street address, city, state and Zip Code.
(iv) Company mailing address, city, state and Zip Code (if separate from physical).
(v) Company telephone number.
(vi) Date the company was started.
(vii) Number of employees at your location.
(viii) Chief executive officer/key manager.
(ix) Line of business (industry).
(x) Company Headquarters name and address (reporting relationship within your entity).
(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.
(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.
(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Governments reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.
(1)
(i) If a Contractor has legally changed its business name, doing business as name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business days written notification of its intention to:
(A) Change the name in the CCR database;
(B) Comply with the requirements of Subpart 42.12 of the FAR;
(C) Agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.
(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the Suspension of Payment paragraph of the electronic funds transfer (EFT) clause of this contract.
(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractors CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the Suspension of payment paragraph of the EFT clause of this contract.
(g) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the Internet at http://www.ccr.gov/ or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

I-95 52.219-4 NOTICE OF PRICE EVALUATION FOR HUBZONE SMALL BUSINESS CONCERNS JAN/1999

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference.

(1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except-

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer. These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

[ ] Offer elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants;

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

[End of Clause]

I-96 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA JAN/1997

(a) Hazardous material , as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract). (b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert None)	Identification No.
_____	_____
_____	_____
_____	_____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet,

meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Conractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardousmaterial.

(h) The Governments rights in data furnished under this contract with respect to hazardous material are as follows;

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

I-97 52.223-11 OZONE-DEPLETING SUBSTANCES MAY/2001

(a) Definition. Ozone-depleting substance, as used in this clause, means any substance the Evironnmental Protection Agency designates in 40 CFR part 82 as--

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j(b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

WARNING: Contains (or manufactured with, if applicable) _____ * _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

*The Contractor shall insert the name of the substance(s).

[End of Clause]

I-98 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS APR/2003

(a) Definitions. As used in this clause--

(1) "Commercial item," as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

(2) "Subcontract," as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)

(1) The contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000)(15U.S.C. 637(d)(2) and (3)), in all subcontracts that offer subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,ooo,ooo for contruction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (APR 2002)(E.O. 11246);

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Dec 2001) (38 U.S.C. 4212(a));

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998)(29 U.S.C. 793);

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimum number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

[End of Clause]

I-99 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES APR/1984

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the date of the clause.

(b) The use in this solicitation or contract of any DoD FAR Supplement (DFARS) (48 CFR 2) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the name of the regulation.

[End of Clause]

I-100 252.225-7015 PREFERENCE FOR DOMESTIC HAND OR MEASURING TOOLS DEC/1991

The Contractor agrees to deliver under this contract only hand or measuring tools produced in the United States or its possessions.

(End of clause)

I-101 252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA MAY/2002

(a) Definitions. As used in this clause--

(1) Components means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) Department of Defense (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) Foreign flag vessel means any vessel that is not a U.S.-flag vessel.

(4) Ocean transportation means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) Subcontractor means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract. However, effective May 1, 1996, the term does not include a supplier, materialman, distributor, or vendor of commercial items or commercial components.

(6) Supplies means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) Supplies includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) U.S.-flag vessel means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)

(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if-

(i) This contract is a construction contract; or

(ii) The supplies being transported are-

(A) Noncommercial items; or

(B) Commercial items that-

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that--

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum--

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY	TOTAL

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h) in all subcontracts that exceed the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

[End of Clause]

I-102 252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA MAR/2000

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor--

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause, including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties

(1) In all subcontracts hereunder, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommmercial items; or

(ii) Commercial items that-

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

[End of Clause]

I-103 52.204-4009 MANDATORY USE OF CONTRACTOR TO GOVERNMENT ELECTRONIC COMMUNICATION JUN/1999
(TACOM)

(a) All references in the contract to the submission of written documentation shall mean electronic submission. All electronic submissions shall be in the formats and media described in the "Electronic Quotations/Offers/Bids Required in Response to this Request for Quotations/Proposals/Bids" clause elsewhere in this document. (See Section K for commercial acquisitions, Section L for RFPs, and Section I for RFQs.)

(b) This shall include all written unclassified communications between the Government and the Contractor except contract awards and contract modifications which shall be posted on the internet. Return receipt shall be used if a commercial application is available. Classified information shall be handled in full accordance with the appropriate security requirements.

(c) In order to be contractually binding, all Government communications requiring a Contracting Officer signature must be sent from the Contracting Officer's e-mail address. The Contractor shall designate the personnel with signature authority who can contractually bind the contractor. All binding contractor communication shall be sent from this contractor e-mail address(es).

(d) Upon award, the Contractor shall provide the Contracting Officer with a list of e-mail addresses for all administrative and technical personnel assigned to this contract.

(e) Unless exempted by the Procuring Contracting Officer in writing, all unclassified written communication after contract award shall be transmitted electronically.

[End of Clause]

SECTION J - LIST OF ATTACHMENTS

List of Addenda	Title	Date	Number of Pages	Transmitted By
Exhibit A	CONTRACT DATA REQUIREMENTS LIST (DD FORM 1423)	28-JUN-2004	002	
Attachment 001	TAILORED DRAWING PREPARATION REQUIRMENTS: PROTOTYPE WATER RECOVERY UNIT (WRU) SYSTEM	23-APR-2004	001	
Attachment 002	PERFORMANCE REQUIREMENTS: PROTOTYPE WATER RECOVERY UNIT (WRU) SYSTEM	23-APR-2004	001	

CONTRACT DATA REQUIREMENTS LIST (DD Form 1423) Form Approval OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 440 hours per response, including the time for retrieving instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188, Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract No. listed in Block E.

A. CONTRACT LINE ITEM NO.: 0002
B. EXHIBIT.....: A
C. CATEGORY.....:
D. SYSTEM/ITEM.....:
E. CONTRACT NO.....: W56HZV-04-C-0446
F. CONTRACTOR.....: LexCarb

1. DATA ITEM NO.....: A001
2. TITLE OF DATA ITEM....: Contractor's Progress, Status and Management Reports
3. SUBTITLE.....:

4. AUTHORITY.....: DI-MGMT-80909(T)
5. CONTRACT REFERENCES...: Section C.11.1
6. REQUIRING OFFICE.....: AMSRD-TAR-D/210
9. DIST. STATEMENT REQUIRED:
12. DATE OF FIRST SUB: See Block 16

7. DD250 REQ.....: LT
8. APP CODE.....:
10. FREQUENCY: See Block 16
11. AS OF DATE:
13. DATE of SUBS. SUB: See Block 16

14. DISTRIBUTION A. ADDRESSES	B. COPIES: DRAFT	FINAL
CPT Michael Dunne, Contracting Officer's Representative (COR), E-mail: DunneM@tacom.army.mil	1	1
Robert Beardslee, Contract Specialist, E-mail: beardslr@tacom.army.mil		1
James Schwerman, Administrative Contracting Officer (ACO), E-mail: James.Schwerman@dcma.mil		1
15. TOTAL:	1	1 *

* In distributing the electronic report, according to the schedule in Block 16 below, the Contractor shall deliver one (1) copy to the Government, sent to CPT Dunne's, and Messrs. Beardslee's, and Schwerman's e-mail addresses.

16. REMARKS:

a. The Contractor shall deliver a "Contractor's Progress, Status and Management Report" every other month, starting sixty (60) days after Contract award. Reports shall be due no later than five (5) working days after the end of the calendar month in which a report is due.

b. Complete the reports in accordance with (IAW) Data Item Description (DID) DI-MGMT-80227(T), "Contractor's Progress, Status, and Management Report." The COR is responsible for accepting or rejecting the "Contractor's Progress, Status, and Management Reports." See DID DI-MGMT-80227, at the internet address below, for instructions on completing the required report. Note Tailoring: Delete paragraphs 10.3g, k, and l from DID DI-MGMT-80227.

http://assist.daps.dla.mil/docimages/0001/48/17/DI80227.PD8

c. Prepare the reports in the Contractor's format. Submit the reports using any of the following electronic formats:

(1) Files readable using these Office XP or Microsoft** 97 Office Products (TACOM can currently read OFFICE 97* and lower): Word, Excel, PowerPoint, or Access. Spreadsheets must be sent in a file format that includes all formulae, macro and format information. Print image is not acceptable. Executable files are unacceptable.

(2) Files in Adobe PDF (Portable Document Format). Scanners should be set to 200 dots per inch.

(3) Files in HTML (Hypertext Markup Language). HTML documents must not contain active links to

live Internet sites or pages. All linked information must be contained within your electronic report, and be accessible offline.

(4) Other electronic formats. Before preparing your report in any other electronic format, please e-mail the COR, with an e-mail copy-furnished to amsta-idq@tacom.army.mil, to obtain a decision as to the format's acceptability. This e-mail must be received by the COR not later than ten calendar days before the draft report's due date. All alternate methods must be at no cost to the Government.

NOTE (Hyperlinks): Documents (submitted using any of the above formats) must not contain active links (hyperlinks) to any other documents that are not contained in the report. This includes links to live Internet web site or web pages. All linked information must be contained within your electronic offer and be accessible offline.

NOTE (Macros): The virus scanning software used by our e-mail systems cannot always distinguish a macro from a virus. Therefore, sending a macro embedded in an e-mail message or an e-mail attachment may cause the e-mail report to be quarantined.

NOTE (Password Protection): Files may be read-only, password protected.

d. Acceptable media: The Contractor shall submit reports via e-mail. If e-mail is not workable, other acceptable media include 100 or 250 Megabyte Zip**-disk, 3 1/2 inch floppy disk, or 650 megabyte CD ROM. Identify the software application and version used to create each file submitted.

(1) E-MAIL. Maximum size of each e-mail message shall be three and one-half (3.5) megabytes. Use the file compression described in the NOTE in paragraph 16d(4) above. You may use multiple e-mail messages if necessary, however, you must annotate the subject lines in this manner: "Message 1 of 3, 2 of 3, 3 of 3."

(2) 100 or 250 MEGABYTE ZIP**-DISK, 3 1/2 INCH DISK, OR 650 MEGABYTE CD ROM via U.S. Mail or other carrier. The Contractor shall label all submitted disks with the Contract number, the Contractor's name and address, and a contact's phone number. Exterior mailing envelopes containing disks must be addressed to the following address:

CPT Michael Dunne (AMSRD-TAR-D), MS 110
U.S. Army Tank-automotive and Armaments Command (TACOM)
6501 East 11 Mile Road
Warren, MI 48397-5000

NOTE: Please select only one medium by which to transmit each report. For instance, do no submit a report via e-mail and 100 megabyte Zip*-disk.

** Registered Trademark

1. DATA ITEM NO.....: A002
2. TITLE OF DATA ITEM....: Scientific and Technical Report
3. SUBTITLE.....:

4. AUTHORITY.....: DI-MISC-80711A(T)
5. CONTRACT REFERENCES...: Scope of Work (SOW), Section C.11.2
6. REQUIRING OFFICE.....: AMSRD-TAR-D
7. DD250 REQ.....: DD
8. APP CODE.....:
9. DIST. STATEMENT REQUIRED:
10. FREQUENCY: See Block 16
11. AS OF DATE:
12. DATE OF FIRST SUB: See Block 16
13. DATE OF SUBS. SUB: See Block 16

14. DISTRIBUTION A. ADDRESSES	B. COPIES: DRAFT	FINAL
CPT Michael Dunne, Contracting Officer's Representative (COR), E-mail: DunneM@tacom.army.mil	1	1
Robert Beardslee, Contract Specialist, E-mail: beardslr@tacom.army.mil		1
James Schwerman, Administrative Contracting Officer (ACO), E-mail: James.Schwerman@dcma.mil		1
15. TOTAL:	1	1 *

* In distributing the electronic report, according to the schedule in Block 16 below, the Contractor shall deliver one (1) copy to the Government, sent to CPT Dunne's, Mr. Beardslee's, and Mr. Schwerman's e-mail addresses.

16. REMARKS:

a. The Contractor shall deliver one (1) draft "Scientific and Technical Report," eight (8) months and one (1) week after contract award. The COR shall review the draft report and return it to the Contractor within one (1) week of receipt with comments. The Contractor shall submit one (1) final "Scientific and Technical Report" within two (2) weeks after receipt of draft comments.

b. The Contractor shall also deliver the following items according to the schedule layed out below:

(1) Provide a design verification and acceptance plan by three (3) months after award (Section C.5).

(2) Provide a draft test plan by six (6) months after award. The COR shall review the draft test plan and return it to the Contractor within one (1) week of receipt with comments. The Contractor shall submit one (1) final test plan within one (1) week after receipt of draft comments (Section C.5).

(3) Provide a comparison of water quality test results by nine (9) months after award (Section C.5.1).

(4) Provide a Level 1 layout drawing, schematic, and list of parts for the prototype water recovery unit (WRU) system by nine (9) minths after award (Section C.6).

(5) Provide a set of draft Operation and Maintenance instructions for the prototype WRU system by eight (8) months after award. The COR shall review the set of draft Operation and Maintenance instructions and return them to the Contractor within one (1) week of receipt with comments. The Contractor shall submit one (1) set of final Operation and Maintenance instructions within one (1) week after receipt of draft comments (Section C.7).

(6) Provide a spart parts list and pricing information covering operation of the prototype WRU system at the end of the fifth (5th) month after award (Section C.8).

(7) Provide a performance specification for the prototype WRU system (including all system components, the water storage container, and all installation parts) by nine (9) months after award (Section C.9).

c. Complete the reports IAW DID DI-MISC-80711A(T), "Scientific and Technical Reports." See the data item description (DI-MISC-80711A), at the internet address below, for instructions on completing the required report. Note Tailoring: Delete paragraph 10.2 from DID DI-MISC-80711A.

http://assist.daps.dla.mil/docimages/0002/27/88/80711A.PD4

d. The COR is responsible for accepting or rejecting the draft and final reports.

e. Prepare the reports in the Contractor's format. Submit the reports using any of the following

electronic formats:

(1) Files readable using these Office XP or Microsoft** 97 Office Products (TACOM can currently read OFFICE 97* and lower): Word, Excel, PowerPoint, or Access. Spreadsheets must be sent in a file format that includes all formulae, macro and format information. Print image is not acceptable. Executable files are unacceptable.

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(3) Files in HTML (Hypertext Markup Language). HTML documents must not contain active links to live Internet sites or pages. All linked information must be contained within your electronic report, and be accessible offline.

(4) Other electronic formats. Before preparing your report in any other electronic format, please e-mail the COR, with an e-mail copy-furnished to amsta-idq@tacom.army.mil, to obtain a decision as to the format's acceptability. This e-mail must be received by the COR not later than ten calendar days before the draft report's due date. All alternate methods must be at no cost to the Government.

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NOTE (Password Protection): Files may be read-only, password protected.

f. Acceptable media: The Contractor shall submit reports via e-mail. If e-mail is not workable, other acceptable media include 100 or 250 Megabyte Zip**-disk, 3 1/2 inch floppy disk, or 650 megabyte CD ROM. Identify the software application and version used to create each file submitted.

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(2) 100 or 250 MEGABYTE ZIP**-DISK, 3 1/2 INCH DISK, OR 650 MEGABYTE CD ROM via U.S. Mail or other carrier. The Contractor shall label all submitted disks with the Contract number, the Contractor's name and address, and a contact's phone number. Exterior mailing envelopes containing disks must be addressed to the following address:

CPT Michael Dunne (AMSRD-TAR-D), MS 110
U.S. Army Tank-automotive and Armaments Command (TACOM)
6501 East 11 Mile Road
Warren, MI 48397-5000

NOTE: Please select only one medium by which to transmit each report. For instance, do no submit a report via e-mail and 100 megabyte Zip**-disk.

** Registered Trademark

TAILORED DRAWING PREPARATION REQUIREMENTS:
PROTOTYPE WATER RECOVER UNIT (WRU) SYSTEM

As referenced in Section C.6, the Contractor shall submit developmental design drawings and associated lists in accordance with American Society of Mechanical Engineers (ASME) Y14.100, "Engineering Drawing and Related Documentation Practices," as tailored below for this project's drawing preparation requirements:

A. Drawing Media: Digital Data (AUTOCAD 2000 or Higher) Pro/E Version 2000i or higher

B. Drawing Format: Contractor

C. Drawing Sheet Size (and Format): ASME Y14.1

D. Application Data: Contractor Option; General Use or Multi-Use Notations Allowed

E. Drawing Detail (ASME-Y14.24M): Monodetail

F. Dimensioning and Tolerancing: English

G. Drawing Notes: Contractor's Option

H. Types of Drawings (ASME Y14.24M): Contractor Selects

I. Maintenance of Multi-Sheet Drawings (ASME Y14.35M): Drawing Revision Level (DoD Preferred)

J. Redrawn Drawings (redrawing without change) (ASME Y14.35M): Advance Revision Level

K. Maintenance of Revision History: Contractor Option

L. Adding Sheets (ASME Y14.35M): Contractor Option

M. Deleting Sheets (ASME Y14.35M): Contractor Option

N. Markings on Engineering Drawings: Special Items and Processes Do Not Apply

O. Associated Lists (ASME Y14.34M): Digital Data (Microsoft Office 97 or Higher)

P. Types of Associated Lists (ASME Y14.34M): Parts Lists; Contractor's Option

Q. Angle of Projection (ASME Y14.3M): 3rd Angle

R. Language: English Required

PERFORMANCE REQUIREMENTS: PROTOTYPE WATER RECOVERY UNIT (WRU) SYSTEM

1. This establishes performance requirements for three (3) prototype WRU systems that can be fitted onto three (3) U.S. Army M1097A2 High Mobility Multi-purpose Wheeled Vehicles (HMMWVs).

2. The required performance capabilities for the prototype WRU systems are as follows:

a. Vehicle. Each prototype WRU system shall be designed for and installed in a Government-furnished M1097A2 HMMWV. Each HMMWV will be equipped with an air conditioner system as described in Section C.2.3. Two HMMWVs will be equipped with a two-door armor kit.

b. Water Production. Each prototype WRU system shall produce 0.55 gallons of water per gallon of fuel burned at speeds of 35 to 45 miles per hour (mph) (threshold), with an objective of 0.7 gal./gal.

c. Size. Each prototype WRU system shall be packaged in the vehicle such that volume required for the system (except for electronics, water filtration canisters and displays) does not extend beyond the vehicle's exterior envelope, does not reduce ground clearance, and does not protrude into the rear cargo area.

d. Weight. Each prototype WRU system shall not exceed 450 lbs. Weight includes the dry weight of all WRU-related components added to the M1097A2 HMMWV.

e. Energy. Each prototype WRU system shall produce at least five (5) gallons of water for each gallon of fuel required to power the WRU.

f. Reliability. Each prototype WRU system shall produce 75 gallons (threshold), with an objective of 200 gallons, of purified water at 35 to 45 mph, as outlined in these performance requirements, before any WRU component requires replacement.

g. Water Purity. Each prototype WRU system shall produce drinking water that meets the Tri-Services long term consumption standards specified in the Technical Bulletin (TB) Med 577 Occupational and Environmental Health: Sanitary Control and Surveillance of Field Water Supplies, the Environmental Protection Agency's (EPA's) Drinking Water Standards, and the water must have a total organic carbon (TOC) content less than 1.0 parts per million (ppm).

h. Disinfection System. Each prototype WRU system shall have a disinfection system that meets Tri-Med 577 standards for a 2 ppm chlorine residual without the need for storing hazardous chemicals on the HMMWV, or on the prototype WRU system.

i. Canister Change Notification. Each prototype WRU system shall have a method for vehicle operators to determine when to change the water purification canister.

j. Water Quality Monitor. Each prototype WRU system shall have a method for the vehicle operators to determine if water conductivity is indicative of a properly operating WRU system. The Contractor shall implement the technical development information acquired under Contract DAAE07-02-C-L055.

k. Storage and Transportation Temperatures. Each prototype WRU system shall have the ability to be stored and transported from -25 to 140 degrees F when dry (i.e., when the WRU does not have water in it), and from 35 to 140 degrees F when wet (i.e., when the WRU has water in it). Each prototype WRU system shall have the means for draining the system from the wet state to the dry state using on-board components.

l. Dispensing Water. Each prototype WRU system shall be capable of dispensing water into both a standard military canteen and a 5-gallon water can.

m. Water Storage. Each prototype WRU system shall include a container for storing at least 5 gallons of purified water, constructed of National Sanitation Foundation (NSF) or Food and Drug Administration (FDA) approved materials. The installed water storage container shall meet the design requirements in Section C.2.1.

n. On/Off. Each prototype WRU system shall have the means of turning the system on and off from the crew position.

o. Operating Requirements. Each prototype WRU system shall be designed to meet the performance requirements at an ambient temperature of 90 degrees F and a dew point of 40 degrees F. The WRU system shall operate in temperature ranges below 90 degrees F to 35 degrees F with a dew point of 20 degrees F and above 90 degrees F to 120 degrees F with a dew point of 20 degrees F with some degradation. The WRU system shall still provide a significant yield of water in these temperature ranges.

p. Water Quality. Each prototype WRU system shall be designed to meet the performance requirements in paragraph 2 of this Attachment, up to 2000 ppm of sulfur in JP8 fuel. The WRU system shall operate at 2001 - 3000 ppm of sulfur in JP8 fuel, while maintaining water purity requirements in paragraph 2g above, with no more than 70-percent degradation in the reliability requirements in

paragraph 2f above.

q. Wiring. Each prototype WRU system's wiring harnesses and hook-ups shall be constructed using wire that complies with MIL-DTL-13486 or MIL-W-16878. All wires on commercial-off-the-shelf (COTS) items shall meet or exceed industry standards.

r. Visual Displays. All visual displays shall be compliant with blackout drive conditions.