

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT1. Contract ID Code
Firm-Fixed-Price

Page 1 Of 18

2. Amendment/Modification No.

0006

3. Effective Date

2004AUG27

4. Requisition/Purchase Req No.

SEE SCHEDULE

5. Project No. (If applicable)

6. Issued By

TACOM WARREN
 AMSTA-AQ-ADEAF
 DAVID FORSGREN (586)574-6880
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Code

W56HZV

7. Administered By (If other than Item 6)

Code

SCD

PAS

ADP PT

8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code)

9A. Amendment Of Solicitation No.

W56HZV-04-R-0037

9B. Dated (See Item 11)

2004APR09

10A. Modification Of Contract/Order No.

10B. Dated (See Item 13)

Code

Facility Code

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:
 (a) By completing items 8 and 15, and returning 2 signed copies of the amendments; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. **FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.** If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting And Appropriation Data (If required)

13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS

It Modifies The Contract/Order No. As Described In Item 14.

- A. This Change Order is Issued Pursuant To: _____ The Changes Set Forth In Item 14 Are Made In _____
 The Contract/Order No. In Item 10A.
- B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).
- C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:
- D. Other (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the Issuing Office.

14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE SECOND PAGE FOR DESCRIPTION

Except as provided herein, all terms and conditions of the document referenced in item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. Name And Title Of Signer (Type or print)

16A. Name And Title Of Contracting Officer (Type or print)

15B. Contractor/Offeror

15C. Date Signed

16B. United States Of America

16C. Date Signed

(Signature of person authorized to sign)

By _____
(Signature of Contracting Officer)

NSN 7540-01-152-8070

30-105-02

STANDARD FORM 30 (REV. 10-83)

PREVIOUS EDITIONS UNUSABLE

Prescribed by GSA FAR (48 CFR) 53.243

Name of Offeror or Contractor:

SECTION A - SUPPLEMENTAL INFORMATION

1. The purpose of amendment 0006 to Request for Proposals (RFP) W56HZV-04-R-0037 is to:

a. Change Section C paragraph C.3.1.1.15 as follows:

1. add PD paragraph 3.5.7.2.1 entitled "Army Adapters" after the words "Delete content of paragraph 3.5.7.2 and add:" as shown on the attached continuation sheets.

b. Change Section C paragraph C.3.1.1.32 as follows:

1. Change reference MIL STD 1366D to MIL STD 1366 as shown on the attached continuation sheets.

c. Change Section C paragraph C.3.1.1.33 as follows:

1. Change reference to Grounding Wires to Grounding Wire as shown on the attached continuation sheets.

d. Change Section C paragraph C.3.1.1.37 as follows:

1. Change reference to Tank Rank to Tank Rack as shown on the attached continuation sheets.

e. Change Section C paragraph C.3.1.1.1.44 last line as follows:

1. Remove extra space after the word fuel,.

*** END OF NARRATIVE A 007 ***

CONTINUATION SHEET	Reference No. of Document Being Continued	Page 3 of 18
	PIIN/SIIN W56HZV-04-R-0037	MOD/AMD 0006

Name of Offeror or Contractor:

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 Load Handling System Modular Fuel Farm (LMFF)

The Load Handling System Modular Fuel Farm (LMFF) is a Palletized Load System (PLS) and Heavy Expanded Mobility Tactical Truck Load Handling System (HEMTT-LHS) compatible petroleum storage and distribution system. The LMFF is capable of receiving, storing, filtering, and issuing kerosene based fuels and diesel fuel. The LMFF is an ISO-compatible system that can be rapidly emplaced, operated, maintained, and recovered. A single LMFF unit will be primarily set up in two configurations: a 35,000-gallon capacity fuel farm consisting of fourteen tankrack modules and two pump filtration modules and a 45,000 gallon capacity fuel farm consisting of eighteen tankrack modules and two pump filtration modules. In addition, one pump module will be operable with any number of tanktracks up to eighteen, and individual tanktracks may be used for bulk distribution missions separate from the pumping modules.

C.2 General

C.2.1 This solicitation is for the procurement of tank rack and pump modules to be fielded in the configuration of both 35,000 gallon and 45,000 gallon capacity Load Handling System Modular Fuel Farms. This solicitation will result in the award of a five (5) year Indefinite Delivery, Indefinite Quantity (IDIQ) contract. The Contractor, as an independent Contractor and not as an agent of the Government, shall provide the supplies and services required by this Statement of Work (SOW) and as required by Options issued by the Contracting Officer under this contract.

C.2.2 This Scope of Work (SOW) is for the Load Handling System Modular Fuel Farm, hereinafter referred to as the LMFF. The SOW for the LMFF will consist of a minimum ordering quantity of First Article Pump and Tankrack Modules, Contractor Support of Government Testing, a System Support Package, Data Requirements, and a Logistics Demonstration. Additionally, options exist for Contractor conducted New Equipment Training Classes for Operator and Maintainer Classes (see section B), and Contractor Technical Assistance/Field Service Representative (see Section B). Section C of the contract has been structured to this effect. Therefore; Paragraphs C.2 through C.18 applies to the base production of First Article Units and to any production effort under the 5 - year IDIQ contract. Paragraph C.19 shall apply if the option for New Equipment Training is exercised. Paragraph C.21 shall apply if the option for Contractor Technical Assistance/Field Service Representatives is exercised. (Changed by amendment 0004,0005)

C.3 The LMFF system shall meet the requirements stated in Purchase Description ATPD 2336B, dated 10 Mar 2004.

C.3.1 The Contractor shall produce and deliver each LMFF and associated data deliverables in accordance with Section B, and shall meet the delivery schedule in the Section F clause entitled "Delivery Schedule. The contractor shall deliver the LMFF with Basic Issue Items (BII) overpacked. The Government will provide the contractor with LMFF Technical Manuals, which the contractor shall overpack in every LMFF delivered to the Government.

C.3.1.1 Changes to ATPD 2336B dated 10 Mar 2004. These changes take precedence over ATPD 2336B dated 10 Mar 2004 that was issued as Attachment 002 to RFP W56HZV-04-R-0037 dated 2004APR09. (Added by amendment A001 (incorrectly as para C.3.1), paragraph numbering changed to C.3.1.1 and text added by amendment A004)

C.3.1.1.1 Delete the 4th sentence of paragraph 3.5.9.7 and replace with: "The tankrack shall be provided with an automatic shutoff control device to prevent over filling the tankrack under all bottom loading operations to include recirculating and defueling." (Added by amendment A001, changed by amendment A004)

C.3.1.1.2 Paragraph 3.5.6.2 Pump Filtration Module. Interface requirements for the additive fuel injector have been added. Replace paragraph 3.5.6.2 with the following:

The LMFF shall include a pump filtration module capable of refueling and defueling both ground vehicles and aircraft. The pump filtration module shall be capable of being transported by the HEMTT-LHS or PLS. A space of 40W x 48L x 40H shall be provided on the pump filtration module to integrate the Hammonds Fuel Additive Injector, part number TPI-4T-4A. This space shall be provided where the injector can easily be connected to the outlet of the pumping assembly. All necessary fittings shall be provided to connect the fuel additive injector to the outlet of the pumping assembly IAW 3.5.6.3. The pumping filtration module shall contain secure storage for hoses, fittings, nozzles as specified in 3.5.9.2, fire extinguishers, water containers, petroleum test kit, fuel spill control kit, strainer, and other equipment necessary to perform refueling operation. (Added by amendment A004) (Deleted and replaced with paragraph C.3.1.1.14 by amendment 0005)

C.3.1.1.3 Paragraph 3.5.6.3.4 Bottom fills and Discharge ports

The work "both" in the last sentence will be removed to avoid confusion.

The revised paragraph is:

The LMFF shall be equipped with an adequate number of 4-inch bottom discharge/suction port(s) capable of providing gravity and forced

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discharge, recirculation of filtered fuel, and bottom loading from an external pumped source rated up to 400GPM, with two discharge connections, unisex-type fittings. The port shall be equipped with a 4-inch female cam-lock fitting, IAW A-A-59326. In addition, all tankcracks shall be capable of being bottom loaded using a single point-refueling nozzle, IAW SAE-AS-5877. (Added by amendment A004)

C.3.1.1.4 Paragraph 3.5.7.2 Adapters

Replace the first sentence of paragraph 3.5.7.2 with:

The following quantity adapters and reducers shall be provided with each pump filtration module to allow interfacing with existing Army bulk storage and distribution equipment. (Added by amendment A004) (Deleted and replaced with paragraph C.3.1.1.15 by amendment 0005)

C.3.1.1.5 Paragraph 3.5.9.7 Fill and discharge

Change the word tanker to tank in the fifth sentence. The fifth sentence will read:

The fuel overflow control system shall have the capability to signal the tankcrack to shut off the flow of fuel into the tank when the fuel volume reaches 100 gallons less than the full rated capacity. (Added by amendment A004)

C.3.1.1.6 Paragraph 4.11 Corrosion Control Performance (Added by amendment A004)

Replace 4.11 with the following:

The contractor's compliance with the requirements of 3.11 and 3.11.1 shall be verified by CoC and supporting test data:

a. Corrosion Protection Testing: An accelerated corrosion test using GM9540, ASTM D 5894-96 or Government approved equivalent shall be performed to verify corrosion prevention for a 25 year period of performance (service life). See table below.

TEST	CYCLES	HOURS	TOTAL	SERVICE
		PER CYCLE	HOURS	LIFE
GM9540	120	24	2880	25 Years
ASTM D 5894-96	9	368	3312	25 Years

b. Scribe Test: Prior to the corrosion test, the item shall be scribed per ASTM D 3359. After completion of the test, the scribed area shall be scraped to determine the extent, if any, of coating undercutting/loss of adhesion.

c. All retest of failed parts shall be at the contractor's expense.

d. Due to changes in climatic conditions and the development of newer materials and processes, all accelerated corrosion tests undergo a continuous adjustment to reflect these conditions. Therefore, modifications to the testing are to be expected over time.

e. Any loss of form, fit or function shall be considered a corrosion failure and requires the same type of corrective action during or after the Acceptance Test as any other failure occurring during or after the First Article Test (FAT). Loss of coating adhesion or corrosion emanating from the scribe shall be limited to 3mm maximum at any point at the scribe. There shall be no blistering of the coating film in excess of 5 blisters in any 24 square inch area. The maximum blister size is 1mm. Expendable items (identified prior to the test) shall retain their function for their intended service life and are not subject to these criteria.

f. Recognizing that production schedules can be adversely affected by the duration required for the corrosion validation test, a waiver shall be granted so that limited production can proceed until the tests are completed. All deficiencies found during or after the completion of the tests must be corrected by the contractor on the previous and future production at contractor expense.

C.3.1.1.7 Delete paragraph 6.6 of the PD in its entirety. (Added by amendment A004)

C.3.1.1.8 (added by amendment 0005) Add to paragraph 2.2.2 (NORTH ATLANTIC TREATY ORGANIZATION (NATO) :

STANAG 3756 Facilities and Equipment for Receipt and Delivery of Aviation Kerosene and Diesel Fuels

C.3.1.1.9 (added by amendment 0005) Add to paragraph 2.2.2 (DRAWINGS):

- 13222E8212 Coupling Set, NATO, Tank Truck Adapter
- 13222E8219 Coupling, Rail Tanker, NATO
- 13219E0462 Ground Rod

Delete from paragraph 2.2.2 (DRAWINGS):

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13216E2773 Canister

C.3.1.1.10 (added by amendment 0005) Add to paragraph 2.3 (INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)):

ISO 228-1 Pipe Threads Where Pressure-Tight Joints Are Not Made on the Threads Part 1: Dimensions, Tolerances and Designation-Fourth Edition

C.3.1.1.11 (added by amendment 0005) Add to paragraph 2.3:

GENERAL MOTORS CORPORATION (GM)

GM 9540P Accelerated Corrosion Test

(Copies are available from Global Engineering Documents, an IHS GROUP company, 15 Inverness Way East, Englewood, Colorado 80112.)

C.3.1.1.12 (added by amendment 0005) Add to paragraph 2.3 (GERMAN INDUSTRIAL STANDARDS):

DIN 28450 Quick-acting Hose Couplings for Tank Trucks

C.3.1.1.13 (added by amendment 0005) Paragraph 3.3.3 Dissimilar Metals

Replace 3.3.3 with the following:

Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion.

C.3.1.1.14 (added by amendment 0005) Paragraph 3.5.6.2 Pump Filtration Module. Replace paragraph 3.5.6.2 with the following:

The LMFF shall include a pump filtration module capable of refueling and defueling both ground vehicles and aircraft. The pump filtration module shall be capable of being transported by the HEMTT-LHS, PLS, and PLS trailer. A space of 40W x 48L x 40H shall be provided on the pump filtration module to integrate the Hammonds Fuel Additive Injector, part number 4TP-4A-800MIL. This space shall be provided where the Fuel Additive Injector can easily be connected to the outlet of the pumping assembly. All necessary fittings shall be provided to connect the Fuel Additive Injector to the outlet of the pumping assembly IAW 3.5.6.3. Handling of the Fuel Additive Injector shall be accomplished without restrictions or additional kits by US Army forklifts as specified in 3.4.3. The pump filtration module shall contain secure storage for hoses, fittings, nozzles as specified in 3.5.9.2, fire extinguishers, water containers, petroleum test kit, fuel spill control kit, strainer, and other equipment necessary to perform refueling operation.

C.3.1.1.15 (added by amendment 0005) paragraph 3.5.7.2 Adapters

Delete content of paragraph 3.5.7.2 and add:

3.5.7.2.1 Army Adapters (added by amendment 0006)

The following quantity adapters and reducers shall be provided with each pump filtration module to allow interfacing with existing Army bulk storage and distribution equipment:

- (2) 2 - inch unisex to 2 - inch female cam-lock adapter
- (2) 2 - inch unisex to 2 - inch male cam-lock adapter
- (2) 4 - inch female to 2 - inch male cam-lock reducer
- (1) 4 - inch female to 3 - inch male cam-lock reducer
- (1) 4 - inch male to 3 - inch female cam-lock reducer
- (1) 6 - inch male to 4 - inch female cam-lock reducer

C.3.1.1.16 (added by amendment 0005) Add paragraph 3.5.7.2.2 NATO Standard Connector Adapters

The LMFF shall be capable of dispensing fuel to, receiving fuel from, and recirculating fuel within NATO fuel handling equipment via the 3-inch NATO Standard Connector as defined in STANAG 3756 Annex E. Each pump filtration module shall be provided with fittings as specified in 3.5.7.2.2.1 through 3.5.7.2.2.5.

C.3.1.1.17 (added by amendment 0005) Add paragraph 3.5.7.2.2.1 Coupling, rail tanker, NATO

The fitting shall be a coupling for attachment to (non-US) railroad fuel tank cars, with an angular orientation approximately as shown U.S. Army drawing # 13222E8219. It shall be provided with an inlet capable of clamping and locking onto 80 mm to 140 mm size outside diameter, male, tank car outlets. The clamping mechanism shall incorporate a tension-adjusting, quick release feature, and the coupling shall have a captivated, fuel resistant gasket. The coupling outlet shall have ISO 228/1 G3A external thread (80mm British Standard Pipe (BSP)) conforming to ISO228-1.

C.3.1.1.18 (added by amendment 0005) Add paragraph 3.5.7.2.2.2 Coupling-set, tank truck, NATO

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The fittings defined in these subordinate paragraphs delineate specific interface requirements, governed by international standardization agreements and comprise the NATO tank truck coupling set. Each shall be made of materials as specified herein, and compatible with fittings conforming to DIN 28450 (reference: U.S. Army drawing #13222E8212).

C.3.1.1.19 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.1 Coupling half, female, NATO.

The fitting shall be a cam-locking, quick disconnect, 3-inch female coupling half in accordance with A-A-59326, except with an ISO 228/1 G3A internal thread (80mm BSP) conforming to ISO 228-1.

C.3.1.1.20 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.2 Coupling half, male, NATO.

The fitting shall be a cam-locking, quick disconnect, 3-inch male coupling half in accordance with A-A-59326, except with an ISO 228/1 G3A internal thread (80mm BSP) conforming to ISO 228-1.

C.3.1.1.21 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.3 Adapter, hose coupling, NATO

The fitting shall be a coupling with ISO 228/1 G3A external threads (80mm BSP) conforming to ISO 228-1 at both ends. The fitting shall not be greater than 3.00 inches long, and shall be provided with spanner wrenching lugs, approximately 90 apart.

C.3.1.1.22 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.4 Coupling half, female, tank truck, NATO

The fitting shall be in accordance with DIN 28450, Blatt 3, size NW80, and type MK.

C.3.1.1.23 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.5 Coupling half, male, tank truck, NATO

The fitting shall be in accordance with DIN 28450, Blatt 2, size NW80, and type VK.

C.3.1.1.24 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.6 Adapter, NATO (NPSH)

The fitting shall be an adaptor with an ISO 228/1 G3A external thread (80mm BSP) conforming to ISO 228-1 at one end, and a 3-8 NPSH external thread conforming to ASME B1.20.7 at the other. The fitting shall not be greater than 3.25 inches long, and shall be provided with hammer-type lugs approximately 180 apart.

C.3.1.1.25 (added by amendment 0005) Add paragraph 3.5.7.2.2.2.7 Adapter, NATO (NPT)

The fitting shall be an adapter with an ISO 228/1 G3A external thread (80mm BSP) conforming to ISO 228-1 at one end, and a 3-8 NPT external thread conforming to ASME B1.20.1 at the other. The fitting shall not be greater than 3.25 inches long, and shall be provided with hammer-type lugs approximately 180 apart.

C.3.1.1.26 (added by amendment 0005) Add paragraph 3.5.7.2.2.3 NATO Standard Adapter or Tank Unit

This male coupling half adapter also known as Tank Unit shall be designed to permit connection via a bayonet style adapter without spillage when pressurized. The dimensions are considered interface dimensions and shall conform to Annex E of STANAG 3756 (PHE). The size (nominal 80 mm) and all other design requirements such as pressure rating, spillage, materials of construction, electrical continuity, clearance access, etc. are covered by the Annex E of STANAG 3756 (PHE). The attachment end may be a threaded end.

C.3.1.1.27 (added by amendment 0005) Add paragraph 3.5.7.2.2.4 NATO Standard Connector or Hose Unit

This female coupling half also known as the Hose Unit shall be designed to couple with the adapter/Tank Unit of the coupling in any of the three lug positions. The dimensions are considered interface dimensions and shall conform to Annex E of STANAG 3756 (PHE). The female half shall be interlocked in such a way that the product cannot flow until a seal is achieved between the adapter and this hose unit. The interlock shall ensure that flow will cease before the seal between the adapter and hose unit is broken. The attachment end of the hose unit shall be a nominal size 3, or nominal size 4, male cam-locking style coupling per A-A-59326.

C.3.1.1.28 (added by amendment 0005) Add paragraph 3.5.7.2.2.5 Reducers

- (1) 4-inch male cam-lock to 3-inch female cam-lock
- (1) 4-inch male cam-lock to 3-inch male cam-lock
- (1) 2-inch sexless to 3-inch female cam-lock
- (1) 2-inch sexless to 3-inch male cam-lock

C.3.1.1.29 (added by amendment 0005) Delete paragraph 3.5.8.1 Battery and replace with title 3.5.8.1 Battery Power Source

C.3.1.1.30 (added by amendment 0005) Add paragraph 3.5.8.1.1 Battery

All batteries, except non-rechargeable batteries as specified in 3.5.8.1.2, supplied with the LMFF shall be US Army approved 6TMF IAW ATPD 2206. Type III batteries shall be used for long-term storage (6 months or more) and Type II shall be used for immediate use/fielding as determined by the contract delivery order(s) (see 6.2). Batteries shall be connected in 24-volt configuration and be readily accessible for service, inspection, and removal. The batteries shall have sufficient capacity to start the system at -25 F three times within a 1-hour period with a minimum of 15 minutes between starts after a 5 minute run period. Insulated boots shall be installed over the battery terminals.

C.3.1.1.31 (added by amendment 0005) Add paragraph 3.5.8.1.2 Non-rechargeable battery

Non-rechargeable batteries may be used for low power consuming, wireless equipment. The batteries shall have a minimum continuous service life of three months, weigh less than one pound, and exist in the Department of Defense (DoD) inventory Defense Logistics Information System (DLIS)/Federal Logistics Information System (FLIS). Battery enclosures shall be provided and constructed so that

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battery venting or leakage will not damage any other components. Battery replacement shall not require any tools and shall not take more than one minute to safely replace. Spare batteries for one complete change-out shall be provided. Two storage container/compartments within the pump filtration module envelope shall be provided, one for new batteries and the other for used/dead batteries. Container/compartments shall be labeled NEW BATTERIES for the new batteries, and USED / DEAD BATTERIES and DO NOT USE for the used/dead batteries.

C.3.1.1.32 (added by amendment 0005) (changed by amendment 0006) Paragraph 3.4.3 Forklift compatibility. Clarification has been added. Replace paragraph 3.4.3 Forklift compatibility with the following:

Each tankrack, pump filtration module, and any loads to be handled by a forklift, shall have forklift pockets, for lifting, conforming to ISO 1496-5. Tankracks shall be empty prior to handling by a forklift. Forklift pockets shall be shielded to prevent the tankrack from accidental piercing by the forklift tines. Each tankrack, pump filtration module, and any loads to be handled by a forklift shall be capable of being entirely lifted and secured IAW MIL-STD-1366 onto the HEMTT-LHS truck, PLS truck, PLS trailer, and conventional flatbed trailers, by the following standard U.S. Army forklifts: 10,000 Lb. All Terrain Lifter Army System (ATLAS) IAW ATPD 2325 and the M10A (ref. TM 10-3930-643-10). The tankrack and the pump filtration module components shall be within the physical envelope of the ISO frame to avoid contact with the forklift carriage.

C.3.1.1.33 (added by amendment 0005) (changed by amendment 0006) Paragraph 3.5.7.5 Grounding, bonding, and clamps. Replace paragraph 3.5.7.5 Grounding, bonding, and clamps with the following:

3.5.7.5 Grounding and bonding.

The LMFF shall have complete electrical continuity (bonding) throughout the system when in operational service configuration. This includes all electrically conductive components of the LMFF that the fluid and the operator may come in contact with. All bonding and/or grounding connections shall be mechanically secure and shall measure 1 (one) ohm or less. Two manual reels each with one 15-ft grounding wire and plier-type clamps shall be provided for each tankrack and each pump filtration module.

C.3.1.1.34 (added by amendment 0005) Add paragraph 3.5.7.5.1 Grounding rods

One grounding rod shall be provided for each tankrack, each pump filtration module, and each refueling point. The grounding rods shall include an integral rod insertion device to drive the rods into compacted soil. Each grounding rod shall be of sufficient length to provide a minimum of 36 inches of ground penetration. A storage location shall be provided for grounding rods within the tankrack and pump filtration module envelopes. A storage location shall be provided for the refueling point grounding rods on the pump filtration module. (Reference: U.S. Army drawing 13219E0462 Ground Rod).

C.3.1.1.35 (added by amendment 0005) Paragraph 3.5.8.5 NATO Intervehicle cable and plug assembly.

Replace paragraph 3.5.8.5 NATO Intervehicle cable and plug assembly with the following:

A 20-ft. intervehicle cable and plug assembly, NSN 6150-01-022-6004 (Reference: drawing 11682336-1), IAW NATO STANAG 4074 shall be provided with each pumping assembly to provide emergency electrical power and emergency starting capability to the pumping assembly.

C.3.1.1.36 (added by amendment 0005) Paragraph 3.5.9.8 Gravity discharge

Replace paragraph 3.5.9.8 Gravity discharge with the following:

3.5.9.8 Auxiliary Pump

The tankrack modules shall be equipped with an auxiliary pumping capability that allows fuel to be dispensed in emergency situations, using gravity fuel flow at a minimum rate of 25 gpm. The tankrack modules shall be capable of dispensing fuel by gravity flow, while mounted or sitting on flat ground, a minimum of 99 percent of the tank volume. The auxiliary pump shall be capable of evacuating all hoses attached to the tankrack. The auxiliary pump shall include a 25-foot section of 2-inch hose equipped with sexless dry disconnect fittings and open-port nozzle equipped with a sexless fitting. The auxiliary pump shall have a removable metallic cover to protect it when not in use. Flow shall allow for gravity operations.

C.3.1.1.37 (added by amendment 0005) (changed by amendment 0006) Paragraph 4.1.3 with the following:

4.1.3 First Article Test (FAT).

A FAT is required and will be performed by the Government on three pump filtration modules and three tank rack modules. The FAT will include the test conditions, examinations, tests, and certifications set forth in Sect 4.1 through 4.17 to include Table I (also see Sect 6.3). An evaluation will be made during FAT to determine whether the LMFF is designed to reduce or eliminate as many tools, special tools, and test equipment as possible. In addition, an examination will be made and recorded to ascertain whether all tools and test equipment required to support LMFF operation, maintenance, and repair are present and adequate to support the system at the required US Army maintenance levels for the life of the system. FAT test results will be part of the final test report.

C.3.1.1.38 (added by amendment 0005) 4.5.6.1.1 Capacity

Add to paragraph 4.5.6.1.1 Capacity the sentence:

Any leak or overflow outside the confines of the tank shall constitute a failure of this test.

C.3.1.1.39 (added by amendment 0005) 4.5.6.2 Pump filtration module.

Replace paragraph 4.5.6.2 Pump filtration module with the following:

Verify conformance to the requirements of 3.5.6.2 through visual inspection and demonstration. Verify that the fuel additive injector is easily accessible, securely mounted on the pump filtration module, and can be safely transported over all types of terrain as specified in the Operational Mode Summary/Mission Profile (OMS/MP) in appendix B. Testing of the fuel additive injector shall be performed using water or as otherwise specified by the manufacturer of the fuel additive injector assembly.

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C.3.1.1.40 (added by amendment 0005) 4.5.7.2 Adapters

Replace paragraph 4.5.7.2 Adapters with the following:

Verify conformance to the requirements of 3.5.7.2 through 3.5.7.2.2 by CoC, visual inspection, and operation.

C.3.1.1.41 (added by amendment 0005) 4.5.7.5 Grounding, bonding and clamps

Replace 4.5.7.5 Grounding, bonding, and clamps with the following:

4.5.7.5 Grounding and Bonding

The requirements of 3.5.7.5 through 3.5.7.5.1 shall be verified by contractor CoC, which shall include analysis, test and evaluation, and modeling and simulation where available/appropriate. In addition, performance and suitability for intended use shall be demonstrated by operational test during the conduct of the FAT. The absence of the item or insufficient quantities of this item; absence or inadequacy of the contractor's CoC, unsuitability for intended use; inability to perform the installation, set-up/takedown, and unrestricted operation with the required number and types of the system personnel; and failure to comply with the requirements of 3.5.7.5 shall constitute failure.

C.3.1.1.42 (added by amendment 0005) Paragraph 4.5.8.1 Battery. Replace the first sentence of paragraph 4.5.8.1 Battery with the following:

Verify conformance to the requirements of 3.5.8.1 through 3.5.8.1.2 by CoC, operational test, and verification of cold starts.

C.3.1.1.43 (added by amendment 0005) Paragraph 4.6.1.4 Air Transport. Replace paragraph 4.6.1.4 Air Transport with the following paragraph:

Conformance to 3.6.1.4 shall be verified by CoC and demonstration. The tankrack in its airlift shipping configuration, full, shall not leak while the tank is tipped at 60 degree angle in each flight orientation (Port, Starboard, Aft, and Forward with respect to the aircraft). Tipping of the tank may be accomplished using ramps or a crane. The tankrack shall be held in each tipped condition for a minimum of 15 minutes and be observed for leakage. With the tankrack in each of the tilted conditions, measure weight of each corner when assembly is at 45 degrees from horizontal. Re-measure weight on each corner after returning to horizontal position. Verify that weight of opposing corners does not increase or decrease by more than 250 lbs when the tankrack is tilted at 45 degrees. Any sign of leakage, permanent deformation, or failure causing an unsafe condition as a result of this test shall constitute failure of this test.

C.3.1.1.44 (added by amendment 0005) (changed by amendment 0006) Paragraph 4.6.1.6 Rail impact test. Replace first sentence of paragraph 4.6.1.6 Rail Impact Test with the following:

To verify conformance to 3.6.1.5, the rail impact test shall be conducted IAW MIL-STD-810, Procedure VII of method 516.5, with testing of the LMFF, with fuel, on COFC flatcar and of the LMFF when mounted on its prime movers.

C.3.1.1.45 (added by amendment 0005) Paragraph 4.8.7 Salt fog. Replace first sentence of paragraph 4.8.7 Salt fog with the following:

The LMFF shall be tested for conformance to the requirements of 3.8.7 in a salt fog environment according to Procedure I of Test Method 509.4 of MIL-STD-810 in normal operating mode.

C.3.1.2 Change to MIL PRF 370J dated 7 May 02. This change takes precedence over MIL PRF 370J dated 7 May 02.

C.3.1.2.1 (added by amendment 0005) Paragraph 3.3.5.5 Quick-disconnect, sexless couplings. Replace paragraph 3.3.5.5 with the following:

The sexless couplings shall be type 1, class A or B, IAW A-A-59377. The couplings shall be reusable and sized to mate with type A, B, C, and D hoses, size 06 and 08. In addition to the specification requirements, the couplings shall be compatible with fuel as listed in 3.4.2.

C.3.2. Tiering of Specification and Standards. The following documents used for the procurement of this system(s) shall be 1) designated as first tier requirements, and all requirements therein shall be applicable to this procurement. Design and performance data identified in commercially-based standards, practices, and specifications as General Notes and "Notes (e.g. ASTM, CID and similar) shall be required for the purposes of design and performance criteria, Government and contractor-conducted testing, and other verification activities. The Government's objective in requiring what would normally be considered secondary/tertiary-level and referenced information is due to the non-availability of a traditional Government or commercial-style data package that would satisfy the procurement requirements.

a. CID (Commercial Item Descriptions IAW the Federal Standardization Manual)

b. ASME

c. SAE

d. ASTM

e. Other specified commercially-based specifications/requirements

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f. Other specified regulatory-based requirements (EPA, OSHA, UL, NSF, NOAA)

C.4 Integrated Product Team (IPT)

C.4.1 The contractor and the Government shall use an Integrated Product Team (IPT) jointly chaired by both Government and contractor as the primary management vehicle for monitoring the status of the work described in this contract. The Government and contractor shall use teleconferencing, Internet Home Pages, and shared common databases to ease communication if agreed upon by all parties. IPT members may include personnel designated by the contractor, the Contracting Officer, the Product Manager (PM), and other offices or agencies.

C.4.2 The Government proposes to enter into a voluntary Partnering arrangement with the contractor. Partnering is a commitment between Government and industry to improve communications and avoid disputes. It is accomplished through an informal process with the primary goal of providing American soldiers with quality supplies and services, on time, and at a reasonable price. Should the contractor and Government agree to voluntarily enter into a Partnering relationship, we will follow the guidance in the Army Materiel Command (AMC) Guide: "Partnering for Success". This guide is located on the Internet at:
http://www.amc.army.mil/amc/command_counsel/resources/documents/Partneringguide/partnering_guide.pdf

C.5 Data Submission Requirements

C.5.1 The contractor shall deliver all data under this contract, in English, electronically (unless otherwise specified) via Web site, electronic mail, or compact disc, and in MS Office 97 compatible format. Required data shall be delivered to the Government in accordance with the requirements of Exhibit A, the Contract Data Requirements List (CDRL). The Government will provide electronic mail addresses during the start of work meeting.

C.5.2 In addition to the addresses listed in block 14 of the CDRL, an electronic copy of the cover letter accompanying data deliverables shall be submitted to the System Acquisition Manager (SAM) and the Procuring Contracting Officer (PCO).

C.5.3 The contractor shall prepare technical data and reports as specified in the applicable Data Item Description (DID), or as described elsewhere in the contract. In the case of an inconsistency between the DID and the contract, the requirements of the contract shall prevail. Tailored DIDs referenced in the contract SOW and CDRLs (identified by (T) following the DID number) are identified in Section J as attachments to the contract. Should the contractor need to review DID that are not tailored in the Contract or Delivery Orders, refer to the database at "<http://dodssp.daps.mil/assist.htm>".

C.6 Meetings and Reviews

C.6.1 The contractor shall conduct meetings and reviews to provide the Government the means to assess the progress of the total technical effort and to address identified program issues and risks. Before such meetings and reviews, the Government and contractor shall agree upon a common agenda. Meetings and reviews shall be conducted at the contractor's facility unless otherwise jointly agreed upon between the contractor and the Government contracting agency. The Government reserves the right to call informal meetings and reviews as deemed necessary during the course of this contract, including weekly telephonic reviews. The contractor shall prepare the minutes of the meetings and reviews, including action items and suspense dates, and deliver them in accordance with:
CDRL A001

C.6.2 Resources and Materials. The contractor shall provide the necessary resources and materials to conduct the meetings and reviews effectively.

C.6.3 Start of Work Meeting. Within 30 calendar days after contract award, the Government and the contractor will hold a Start of Work Meeting. The meeting shall be held at the contractor's facility and shall include approximately twenty-five (25) Government personnel. The purpose of this meeting is to review, at a minimum, contract terms, contract conditions, contract requirements, data items, required specifications, test requirements, and logistic requirements. The contractor shall also review and demonstrate to the Government their management procedures, review technical and other status, identify program implementation processes, and establish schedule dates for near term critical meetings and actions. The contractor shall also introduce key management and contract personnel.

C.6.4 Program Status Reviews (PSR). Joint Government-contractor program status reviews shall be held quarterly for the first three years then semi-annually thereafter until completion of the contract. Typically these reviews will last one to two days. Initial program status review shall be conducted approximately 90 days after the start of work meeting. Program status reviews shall be held at the contractor's facility unless agreed to otherwise by the parties. PSRs shall address but not be limited to the following agenda items: the contractor's progress, management, technical support services (if any), integrated logistics support, systems engineering, administrative, contract compliance, program status, funding issues, problem identification and resolutions, and deliverables. Actual versus expected performance of each area shall be addressed. The contractor shall prepare presentation materials providing an overview of all agenda items.

C.6.5 Logistics and Engineering Working Group Meetings. The initial Logistics Working Group meeting and Engineering Working Group meeting shall be held concurrently with the Program Status Reviews. Logistics and Engineering Working Group meetings shall include discussion pertaining to development of technical manuals, training, provisioning, drawings, and any other logistics or engineering

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issues that need to be addressed. Additional working group meetings shall be convened as necessary.

C.7 Configuration Management

C.7.1 Configuration Control. The contractor shall be responsible for configuration control, disposition, and control of all nonconforming material throughout the program. The contractor shall establish a configuration baseline following testing and acceptance of the FAT/IO&T by the Government. This baseline will identify and document the functional and physical characteristics of the LMFF at that time.

C.7.2 Engineering Change Proposals. Changes to established baselines shall only be made after Government approval of an Engineering Change Proposal (ECP). Changes shall be identified to affected assembly serial number, or if not part of an assembly, to the affected equipment serial number. All Class I ECPs shall require Government approval prior to implementation. Class II ECPs do not require prior approval; however, the contractor shall notify the Contracting Officer, by means of an ECP, not less than 60 days prior to implementing any configuration changes. ECPs shall be prepared in accordance with Attachment 001 and delivered in accordance with: CDRL A002

C.7.3 Requests for Deviation. The contractor shall submit Requests for Deviation (RFD) from current approved configuration documentation. Authorized deviations are a temporary departure from the requirements and do not constitute a change in an approved baseline. Where it is determined that a change should be permanent, the contractor shall submit an ECP. RFDs shall be prepared in accordance with Attachment 002 and submitted in accordance with: CDRL A003

C.8 Integrated Logistics Support (ILS) Program

C.8.1 The contractor shall assist the Governments Logistics Support Contractor in developing, testing, producing, and delivering the logistic data to support the Load Handling Modular Fuel Farm (LMFF) as described in paragraphs C.8.2 through C.9.7.

C.8.2 The contractor shall plan, manage and ensure ILS considerations are an integral part of the overall system.

C.9 Contractor Support and Support Data During Publications and Provisioning Development

C.9.1 The contractor shall attend the Maintenance, Publications and Provisioning (MPP) start-of-work meeting for the Government Logistics Support contractors contract. The contractor shall also attend, at a minimum, two In-Process Reviews (IPRs) for the Government Logistics Support contractors contract. The contractors representatives in attendance at the IPR shall be subject matter experts (SME) in the operation and maintainability of the LMFF system. Location of said meetings/reviews will be determined upon selection of Governments Logistics Support contractor.

C.9.2 The contractor shall designate a point of contact (POC) to receive and respond to any issues that arise for both publications and provisioning efforts. The POC is to respond to the Government and the Government Logistics Support contractors requests for information in writing within three business days, to acknowledge receipt and establish time frame for a technical answer.

C.9.3 The contractor shall provide the Government and the Governments Logistics Support contractor ongoing technical support and information, to include at a minimum, clarification of operation, troubleshooting, maintenance, repair parts and special tools until material fielding is accomplished.

C.9.4 The contractor shall provide the Government and the Governments Logistics Support contractor access to the contractors production facility to view, photograph, measure, and witness operation of the LMFF as required, regardless of the status of the production build. This support also includes access to office space, telephone, fax, modem line and Internet access. The Government will coordinate all site visits with contractor management.

C.9.5 Logistics Management Information (LMI) Data Products. The contractor shall provide to the Government and the Governments Logistics Support contractor the following data and support for the complete development of the provisioning and publications submissions:

(1) Parts List containing at a minimum:

- a) CAGE/Source of Supply and Part Number for all items, including tools and test equipment
- b) Item nomenclature
- c) Estimated unit price for each item listed
- d) Quantity per assembly / end item
- e) Maintenance replacement rate/failure factors derived from Reliability and Maintainability (R&M) information
- f) Identify a minimum of two approved sources of supply (or justification for single source of supply).
- g) Bill of Material (BOM) before and after test

(2) Descriptive or supporting technical data for all replaceable items includes engineering drawings, brochures, schematics,

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catalog pages, commercial manuals or pamphlets to depict the following:

- a) Parts breakout of assemblies to the component level including vendor components
- b) Relationship breakdown with reference to the end item:
 - end item
 - assembly
 - subassembly
 - component
 - attaching hardware
- c) Hardware descriptive data such as:
 - thread diameter
 - quantity of threads per inch
 - fastener length
- d) Type of Material
- e) Dimensions

The LMI data shall be prepared and delivered in accordance with:
CDRL A005

C.9.6 The Government will conduct a technical manual validation/verification and provisioning conference will be conducted at the Contractors facility. The contractor shall provide the following:

- (1) Qualified personnel to perform disassembly and assembly of the unit.
- (2) Production version of the LMFF
- (3) Special and common tools
- (4) Support equipment
- (5) Facilities and office space
- (6) Mandatory replacement parts needed for assembly/disassembly tasks
- (7) Expendable supplies and materials
- (8) Spare parts consumed or destroyed during any disassembly or assembly process (such as gaskets and seals).
- (9) Technical support and information, to include as a minimum, clarification of operation, troubleshooting, maintenance and repair parts and special tool list, as provided to the Governments Logistics Support contractor.

C.9.7 After submitting LMI data, if the contractor changes form, fit or function or any parts vendor, prior to First Article Test (FAT) approval, the contractor shall provide the Government and the Governments Logistics contractor notification in writing within three business days. Contractor shall provide updated LMI data, including a summary of changes and revised BOM, within five business days after the implementation of hardware change.

C.10 Military Packaging Documentation Requirements

The contractor shall develop packaging requirements for the complete system. The system requirements are developed as part of the Shipment and Storage (S&S) instructions.

C.10.1 Shipment and Storage (S&S) instructions. The contractor shall provide and update S&S instructions. When preparing the S&S instructions, the contractor shall ensure those instructions are consistent with the transportability requirements stated in the PD and transportability report required elsewhere in this contract. The S&S instructions shall detail procedures required to prepare the system for storage and for transport after it has been in operation. The S&S instructions shall be formatted and delivered in accordance with:
CDRL A006

C.10.2 S&S processing instructions required:

a. Short Term Storage (180 days maximum in an unheated warehouse) for application when items are in transit. Short term S&S processing instructions will be sufficient to protect the items when they are intended for immediate use.

b. Long Term Storage Instructions. The Government will use these instructions to prepare a system for open storage for a period of up to 2 years. The contractor shall ensure these instructions include any cyclic maintenance and exercising requirements necessary to prevent the system from deteriorating due to inactivity.

C.10.3 Compliance with Federal and Industry Transportation Requirements. The Government ships using truck, rail, plane, and ship. The contractor shall develop packaging requirements and S&S instructions for these modes of transportation and identify unique requirements for each mode of transport. This will allow the Government to process for shipment based on the intended mode of transport. The contractor shall comply with the applicable codes and standards listed here:

- (1) Code of Federal Regulation Titles 29, 40 and 49
- (2) International Maritime Dangerous Goods Code, for vessel transport

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- (3) AFMAN 24-204, Preparing Hazardous Materials for Military Air Shipments
- (4) International Air Transportation Association (IATA) Dangerous Goods Regulations.

The contractor shall include disassembly procedures to meet the requirements of the codes and standards mentioned above.

C.10.4 Packaging Instructions for Basic Issue Items. The contractor shall ensure that the shipment and storage instructions include packaging instructions for the Basic Issue Items (BII) and Components of the End Item (COEI). The contractor shall ensure the instructions require that BII shall be packed separately from the COEI.

C.10.4.1 BII and COEI Packaging. The contractor shall identify, in the shipment and storage instructions, provisions for stowage location and security for the BII and COEI. The contractor shall provide that HAZMAT COEI shall be shipped separately from the system and packaged according to mode of transportation. The instructions shall address selection of stowage locations which deter pilferage. Compliance with S&S instructions shall not interfere with lifting, tie down or other transportation handling requirements.

C.10.5 Updates and Changes to Shipment and Storage Instructions. The contractor shall revise the shipment and storage instructions to reflect design changes that affect the system's shipment configuration, weight, or transportability. The contractor shall also provide revisions to the shipment and storage instructions for each logistics change affecting packaging instructions for BII or COEI.

C.10.6 Validation of Shipment and Storage Instructions. The contractor shall validate the shipment and storage instructions. Both long term and short-term storage instructions shall be validated at this time. The purpose of validation is to verify the adequacy of the preservation, packaging, packing and stowage of BII/COEI, preservation procedures for shipment and storage, and the cyclic maintenance requirements for systems in long-term storage. The Government representative will verify and witness validation procedures. The contractor shall notify the Government 14 days prior to scheduled validation. The final submittal of the Shipment and Storage Instructions (CDRL A006) shall reflect the corrections required as a result of the validation.

C.10.7 Packaging Requirements. The contractor shall develop packaging data for spare and repair parts, as determined during the provisioning process. This shall consist of coded packaging data (select group items per MIL-STD-2073) and Special Group Items requiring Special Packaging Instructions (SPIs). The contractor shall provide Logistics Management Information (LMI) Data Products for packaging data systems entry as specified in MIL-PRF-49506 (see DI-ALSS-81529), and Attachment 004 titled Logistics Management Information (LMI) Packaging Data Products. Data is required for all parts that are provisioned (P-source coded) and field level kits (KF-source coded).

C.10.7.1 Coded Packaging Data/Select Group Items. Select group items are items where packaging can be adequately described using the codes in Appendix J of MIL-STD-2073. The Government will provide the Contractor with quarterly reports showing status of the packaging program. Data is critical to populating the National Stock Number Master Data Record (NSNMDR) and the Federal Logistics Information System (FLIS) Government data files and shall be 90% accurate. The contractor shall rework submittal errors within 20 days after rejection by the Government. The contractor shall provide the necessary personnel, facilities, equipment, material, and the electronic data interface. The contractor shall include information for each of the items so TACOM can determine the adequacy of the packaging submittal. This includes item drawings and data, as finalized at the provisioning conference, such as Source, Maintenance & Recoverability codes, Unit of Issue codes, Unit of Measure, Measurement Quantity, and copies of applicable Material Safety Data Sheets. The contractor shall furnish item drawings, photo documentation and notes sufficient for reviewing the packaging designs. Submission shall be in accordance with:

CDRL A007

C.10.7.2 Special Packaging Instructions (SPI). The contractor shall prepare SPIs for each reparable item, each hazardous material item, each fragile, sensitive, critical item, and any item that cannot be adequately packaged/defined as a Select item, following MIL-STD-2073-1D. Compliance with SPIs shall assure meeting performance requirements of ASTM D4169, Distribution Cycle 18, Assurance Level I, with Acceptance Criterion 3 (Product is damage free and package is intact). Each SPI submittal shall have a test report, including photographs, attached showing the condition of the package and part before and after the testing. Acceptable photographic evidence shall show the product is undamaged from all angles. SPI shall be in a format that can be viewed, changed, and commented upon (for example, Microsoft Word 6.0, see CDRL A008 and DID DI-PACK-80121B). The contractor shall provide read/write access to SPI. All data submitted shall be contractor validated and 95% accurate. The contractor shall rework submittal errors within 20 days after rejection by the Government. Submission shall be in accordance with:

CDRL A008

C.10.7.3 Excluded Items. Excluded items are those items with packaging data already in the TACOM Packaging File "PACQ", FEDLOG, Federal Logistics Information System (FLIS), and those assigned a Contractor and Government Entity Code (CAGE) of: 1T416, 21450, 80204, 96906, 10060, 24617, 80205, 99237, 80244, 81343, 81346, 81348, 81349, 81352, or 88044. Also EXCLUDED are items for:

- (1) not mission capable supply
- (2) depot operational consumption
- (3) not-for-stock supply.

C.10.7.4 Change Notices. The contractor shall assess engineering and logistic changes for packaging impact, provide revisions and additions to the packaging information when there is a packaging impact, and provide packaging impact statements with change notices with a 90% accuracy rating. The Government will verify contractor impact statements.

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C.11 Safety Engineering and Health.

C.11.1 Safety Engineering Principles. The contractor shall address the Safety and Health requirements of the PD in technical reviews. The contractor shall follow good safety engineering practices in establishing the LMFF design and operational procedures, to include modifications to commercial components. The contractor may use MIL-STD-882D as a guide in determining whether safety engineering objectives are met. As a minimum, the contractor shall:

a. Identify hazards associated with the system by conducting safety analyses and hazard evaluations. Analyses shall include operational, maintenance, and transport aspects of the LMFF.

b. Eliminate or reduce significant hazards by appropriate design or material selection. If hazards to personnel cannot be avoided or eliminated, take steps to control or minimize those hazards.

C.11.2 Safety Assessment Report (SAR). As a result of system safety analyses, hazard evaluations, and any independent testing, the contractor shall perform and document a safety assessment and health hazard assessment. The safety and health hazard assessment shall identify all safety features of the hardware, system design and inherent hazards and shall establish special procedures and/or precautions to be observed by our test agencies and system users. The contractor shall identify health hazards associated with the system and incorporate them into the SAR. MIL-STD-882D provides guidance in the preparation of the SAR and Health Hazard Assessment. In preparing the health hazard portion of the SAR, the contractor shall provide a description and discussion of each potential or actual health hazard issue of concern for each subsystem or component. The contractor shall include classification of severity and probability of occurrence, and when the hazards may be expected under normal or unusual operating or maintenance conditions. The contractor shall include in the SAR copies of Material Safety Data Sheets (MSDS) for all hazardous materials incorporated into the system. The use of such materials shall be in accordance with the requirements set forth in ATPD 2336B, dated 10 Mar 2004. The final SAR is subject to Government approval. The Contractor shall prepare the SAR in accordance with:
CDRL A009

C.12 Environmental Requirements

C.12.1 The contractor shall not use cadmium, hexavalent chromium, asbestos or Class I or Class II Ozone-Depleting Substances, or other highly toxic or carcinogenic materials without Government approval. The contractor shall not use materials that are identified in the Registry of Toxic Effects of Chemical Substances, published by the National Institute for Occupational Safety and Health, as materials that will produce toxic effects via the respiratory tract, eye, skin or mouth. Moderately toxic materials may be used provided the design and control preclude personnel from being exposed to environments in excess of that specified in 29 CFR 1910, Occupational Safety and Health Standards.

C.12.2 The contractor shall manage the efforts described by this contract to ensure that all aspects of the contract execution, including, but not limited to the following contractor activities: design, manufacturing, testing, and storage activities, are in compliance with Federal, State and Local environmental regulations and requirements. The contractor shall notify the PCO immediately, if the Government gives any direction that could result in permit violations.

C.12.3 The contractor shall prepare a Hazardous Material Management Report which, at a minimum, shall identify all hazardous materials (as defined in FED-STD- 313D, paragraph 3.2) required for system production, and sustainment, including the parts/process that requires them. This report should be prepared in accordance with National Aerospace Standard 411, section 4.4.1, and shall be briefed at all Program Review Meetings.

C.13 Transportability Report. The contractor shall submit a transportability report for the LMFF that includes data on recommended procedures for positioning and securing the LMFF modules for transportation by highway, rail, marine, and air and slinging procedures for lifting the modules in accordance with:
CDRL A010

C.14 Logistics Demonstration and Plan

C.14.1 Logistics Demonstration Plan. The Government and contractor shall jointly develop a Logistics Demonstration (LD) plan. The LD Plan shall contain the Government and contractor plans and procedures for demonstrating the logistic supportability of the system. The plan shall contain a statement of demonstration objectives and the qualitative and quantitative requirements to be demonstrated. The contents of the plan shall contain a description of the demonstration conditions. The following areas shall be addressed:

(a) A listing of tasks to be demonstrated.

(b) Demonstration conditions including the following:

(1) The principal operating modes, operating time and cycling conditions to be imposed.

(2) A description of the demonstration facilities and instrumentation requirements, including location.

(3) The mode of operation during the demonstration considering configuration and mission requirements.

(4) Demonstration constraints such as manpower (by number and skill level), test equipment and their

relationship to the eventual use of the items.

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(c) The types and quantities of equipment and materials to be used including government furnished equipment.

(d) The maintenance concept.

(e) Provisions for a pre-demonstration phase to prepare facilities, personnel and equipment for the formal demonstration.

(f) Expected results, including the following:

- (1) The method to be used to report test levels.
- (2) The data expected from each test along with the recording methodology and definition of provisioning data elements to be collected.
- (3) Analytical methods and calculation procedures to be used to analyze demonstration data.
- (4) The criteria for classifying demonstration results as successes or failures. Definition of failure must relate to expected symptoms that will be observed by operators and maintenance personnel.

(g) The plan of action to be used when demonstration failures occur.

(h) The participating agencies including:

- (1) Organization.
- (2) Degree of participation by each in terms of managerial, technical, maintenance and operating personnel.
- (3) Assignment of specific responsibilities.
- (4) Qualifications, quantity, sources, training and indoctrination requirements needed for the personnel participating in the LD.

C.14.2 Logistics Demonstration. The Government will conduct a Logistics Demonstration (LD). The LD shall be conducted over ten (10) business days. A LD is a nondestructive disassembly and re-assembly of the LMFF tankrack and pumping module. System peculiar Test Measurement and Diagnostic (TMDE) and support equipment, as well as the system support package, is also tested to determine their logistic status. The LD will include performance of all the operational tasks and scheduled maintenance tasks required for the LMMF:

- (a) The achievement of maintainability goals
- (b) The adequacy and suitability of tools and test equipment
- (c) Maintenance instructions and personnel skill requirements
- (d) The selection and allocation of repair parts, other equipment, and tasks to appropriate maintenance levels; and the adequacy of maintenance time standards.

C.14.3 The contractor shall supply all expendable and durable items required to perform the LD tasks. The contractor shall provide technical and engineering support, as required to assist the Government in the performance of the LD effort. The contractor shall provide the facilities to support the LD. These facilities shall include an operations site, a shop area equipped with lifting equipment and all the tools and diagnostic equipment required to perform all operations and maintenance tasks.

C.14.4 The contractor shall develop and conduct an introduction to the vehicle for Government support personnel and data collectors prior to the Logistics Demonstration. Training dates will be negotiated between the contractor and the Government. The training will cover system operation and controls required to safely operate the vehicle. The trainings shall be at least 50% hands-on training. The maximum length of the training class is 8 hours. The training shall be conducted at the test site. The contractor may use commercially available material for this course, or use material developed to be used for the test training personnel. The projected class size for this training is 12 students, with the option for the Government to have additional observers.

C.15 Contractor Support Of Government Testing

C.15.1 The contractor shall provide qualified technical personnel to support Government conducted tests required in this contract on an as needed basis to provide advice, troubleshooting, maintenance assistance, and repair of the LMFF when requested by the Government. The contractor personnel shall be at the test site within 48 hours of notification by the Government. The contractor shall obtain specific requirements, if any, for access to Government test facilities 30 days prior to the start of testing. If a security clearance is needed the contractor shall be responsible for ensuring all coordination is made with the appropriate personnel. The contractor may be required to provide personal vital statistics, including documentary evidence, such as a birth certificate and such other evidence to affect a security clearance.

C.15.2 System Support Package (SSP).

C.15.2.1 The contractor shall deliver a SSP to support both the FAT and IOT&E testing. The SSP shall include:

- (1) Parts needed for scheduled maintenance or replacement items that will be consumed during the life of the tests
- (2) Unique, non-military standard, expendable supplies such as petroleum, oils, and lubricants
- (3) Basic Issue Items and Components of End Items as required by its design per system
- (4) Any tool or Test Measurement and Diagnostic Equipment (TMDE) required to perform maintenance and any diagnostic maintenance procedures, to include vendor or manufacturer software programs and/or hardware that are not identified in the Army Supply Catalogs.
- (5) One each, Hammonds Fuel Additive Injector, part number 4TP-4A-800MIL. The Government will take possession of this SSP item after completion of testing in accordance with clause F.1. (added by amendment 0005)

C.15.2.2 The contractor shall provide a list of the SSP contents in accordance with:

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CDRL A011

C.15.3 The contractor shall provide a replacement for any part or item that fails to perform its function during the test within 48 hours of notification.

C.15.4 Following completion of the tests, the contractor shall submit a list of remaining parts with the current price information to the Government. The Government reserves the right to provide the unused/remaining parts as Government Furnished Material (GFM) under this contract. If so, an equitable adjustment to the contract shall be made.

C.15.5 If re-testing is necessary as the result of contractor failures, the contractor shall provide the necessary SSP items to support this additional testing at no cost to the government.

C.16 Test Unit Refurbishment Cost Reimbursement

C.16.1 Following completion of the Logistics Demonstration, FAT, and IOT&E, the Government in conjunction with the contractor will examine the test units to determine if it is feasible to refurbish the test units. The Contractor shall submit a cost proposal for refurbishment cost by unit. Final decision of refurbishment shall remain solely with the Government. Should the Government direct refurbishment of any or all units, the contractor shall refurbish the units to the current (all approved corrective actions and engineering changes) production baseline. Refurbishment shall be completed within ninety (90) days of Government notice. Thirty days following completion of each unit, the contractor shall submit a proposal for equitable adjustment. All refurbishment costs will include transportation costs from the test site to the contractors facility.

C.16.2 The effort shall include but is not limited to the contractor:

- (1) Replacing all oils and lubricants
- (2) Replacing all filters
- (3) Repainting the exterior of the units as required

C.16.3 Following refurbishment the contractor shall present the units to the Government for acceptance.

C.16.4 All effort under this paragraph shall be paid under a cost reimbursement CLIN of the contract.

C.17 Retrofit Of Units Built Prior To FAT Approval. The contractor shall, following PCO notification that FAT has been approved, retrofit all LMFF modules (excluding test units) built or in process at time of notification to the configuration baseline established after successful completion of the FAT. Configuration changes made at the direction of the Government shall be subject to an equitable adjustment. Configuration changes made by the contractor shall be at no additional cost to the Government.

C.18 Training Requirements

C.18.1 General Operator and Maintainer Courses. The contractor shall develop training material (courseware) to cover one course for operator and one course for maintenance tasks for the LMFF. The contractor shall be responsible for initial training and all courseware to support it. Training and courseware shall be on the operation, maintenance, and repair of all components and ancillary equipment (if any) unique to the LMFF. Trainees may either be Government personnel or Government support contractors. The training shall include any necessary equipment to support operation, Preventive Maintenance Checks and Services (PMCS), and operator and unit maintenance of the LMFF. Instruction shall consist of approximately 40% classroom and 60% practical exercise, and teach operation, setup and disassembly, PMCS, inspection, testing, troubleshooting, and safety procedures.

C.18.2 First Article Test (FAT) Operator and Maintainer Training. Training to support the FAT shall consist of one operator course and one maintainer course in accordance with C.18.1. The contractor shall conduct FAT training prior to the beginning of the FAT (See clause E-4) for a maximum of 20 students at Yuma Proving Ground, AZ. The Government reserves the right to have additional personnel present during conduct of course. These courses shall be targeted to the personnel who will operate and maintain the system. The operator course shall not be more than 40 hours in length; the maintainer course shall not be more than 40 hours in length. The total time of the FAT training shall not exceed 80 hours. The contractor shall deliver the LMFF, all lesson materials, training literature, training aids, special tools & test equipment, and all tools necessary to disassemble and assemble, to the training site not later than seven days prior to the training.

C.18.3 FAT Data Collector Orientation. This orientation is a general overview of the system. Data requirements are not applicable. The contractor shall develop and conduct an introduction to the system for Government support personnel and data collectors prior to FAT (See clause E-4). Orientation dates will be negotiated between the contractor and the Government. The orientation will cover system operation and controls required to safely operate the system. The orientation shall be at least 50% hands-on. The maximum length of the orientation class is 8 hours. The orientation shall be conducted at the test site. The contractor may use commercially available material for this course, or use material developed to be used for the test training personnel. The projected class size for this orientation is 12 students, with the option for the Government to have additional observers.

C.18.4 Initial Operational Test and Evaluation (IOT&E) Operator and Maintainer Training. Training to support the Initial Operational

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Test and Evaluation (IOT&E) shall consist of one operator course and one maintainer course in accordance with C.18.1. The contractor shall conduct IOT&E training for a maximum of 20 students at Ft. Hood, TX prior to the beginning of the IOT&E (See clause E.1.2). The Government reserves the right to have additional personnel present during conduct of course. These courses shall be targeted to the personnel who will operate and maintain the system. The IOT&E courses shall be taught by the contractor utilizing draft courseware. The operator course shall not be more than 40 hours in length; the maintainer course shall not be more than 40 hours in length. Total time of the IOT&E training shall not exceed 80 hours. The contractor shall deliver all lesson materials, training literature, training aids, special tools & test equipment, and all tools necessary to disassemble and assemble, to the training site not later than seven days prior to the training.

C.18.5 IOT&E Data Collector Orientation. This orientation is a general overview of the system. Data requirements are not applicable. The contractor shall develop and conduct an introduction to the system for Government support personnel and data collectors prior to IOT&E (See clause E.1.2). Orientation dates will be negotiated between the contractor and the Government. The orientation will cover system operation and controls required to safely operate the system. The orientation shall be at least 50% hands-on. The maximum length of the orientation class is 8 hours. The orientation shall be conducted at the test site. The contractor may use commercially available material for this course, or use material developed to be used for the test training personnel. The projected class size for this training is 12 students, with the option for the Government to have additional observers.

C.18.6 Training Course Outline. The contractor shall deliver a training course outline for all training courses in accordance with DI-ILSS-80872(T). The outline is a schedule of events and includes a breakdown of individual topics showing the time allotted, materials required (TV, VCR, etc.), facility requirements, reference materials, type of instruction (practical exercise, lecture, demonstration, video, etc.) and tools required for each topic. Commercial format is acceptable; a sample outline will be provided to the contractor at the start of work meeting. The Training Course Outline shall be formatted and delivered in accordance with:
CDRL A012

C.18.7 Training Materials. The contractor shall deliver an Instructor Guide and a Student Training Guide for all training courses in accordance with DI-ILSS-80272(T). Training Materials shall contain equipment and component description, functional data, training handbooks that include, by sub-component for LMFF operation, setup and disassembly, inspection, testing, troubleshooting, and safety procedures. All training materials shall be formatted and delivered in accordance with:
CDRL A013

C.18.8 Training Course Completion Report. The contractor shall deliver a Training Course Completion Report for all training courses in accordance with DI-ILSS-80872 (T). The contractor shall data fax or e-mail to the Government a list of students in attendance on the first day of training. The Government will send completed Certificates of Training to the instructor after the Government receives the list of students in attendance, to be presented at the end of the class. The contractor may also provide corporate certificates if desired. The Government will provide the contractor with course critiques that the contractor shall administer to each student at the end of each class conducted. For each class the Government will provide a student attendance list, to be administered by the instructor. The contractor shall submit the critiques and completed student attendance list on later than 10 days after completion of each class. Training Course Completion Report shall be formatted and delivered in accordance with:
CDRL A014

C.18.9 Instructor and Key Personnel (I&KP) Operator and Maintainer Training. The contractor shall provide I&KP training and shall utilize developed courseware. I&KP training shall consist of courses for actual Army operators and maintainers. The contractor shall conduct a total of two classes consisting of one class for Army operators and one class for Army maintainers, for a maximum of 20 students each. The Government reserves the right to have additional personnel present during the conduct of course. Training will be conducted at Ft. Lee, VA. Each course shall not exceed 40 hours. These courses shall be targeted to instructor and key personnel who will operate and maintain the system. Following completion of I&KP training, approved Government comments shall be incorporated into the courseware to yield a final product. If Distance Learning is available, the contractor shall maximize the use of distance learning to reduce platform instruction through videotape, Internet web based, computer based, CDROM, and interactive CDROM training programs. The contractor shall deliver all the lesson materials, training literature, training aids, special tools and test equipment, and all tools necessary to disassemble and assemble, to the training sites not later than seven days prior to the training.

C.19 New Equipment Training Classes - Option.

C.19.1 The Government may require the contractor to conduct New Equipment Training (NET) to take place at Government sites, at the using units locations, at the prices stated in Section B and under the option clause H.1.1. Trainees may either be Government personnel or Government support contractors. Class size shall be no more than twelve (12) students. Course requirements and course content shall utilize Government approved training materials. Both operator and maintainer classes shall not be more than 40 hours in length. The Government will provide the contractor 30 days notification for CONUS classes. The Government will provide the contractor 90 days notification for OCONUS classes. It is estimated that a total of 40 classes (20 operator and 20 maintainer) over the 5 year contract will be required. Duration and number of courses will be defined upon exercise of option/delivery order. The per class rate is exclusive of subsistence, lodging, and incidental expense incurred for NET. The Government will pay these expenses on a cost reimbursable basis.

C.20 (RESERVED, Changed by amendment 0004)

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C.20.1 (RESERVED, changed by amendment 0004)

C.20.2 (RESERVED, changed by amendment 0004)

C.21 Contractor Field Service Representative Requirements (FSR) Option

C.21.1 If the option under paragraph H.1.3 for Field Service Representative is exercised, the contractor shall provide technically qualified personnel to provide support to the Total Packaging Fielding team (defined as representatives of the Government) during the handoff to the U.S. Army receiving units or other activities designated by the Government.

C.21.2 Total Package Fielding/Handoff Support. The contractor shall provide technical qualified personnel to accomplish deprocessing of the end item and its components, assist in unit joint inventory, prepare unit shortage list, and the quality deficiency reports (QDR, SF 368). Completed customer documentation shall remain with the Government TPF personnel.

C.21.2.1 Deprocessing. The contractor shall perform on-site preparation of equipment at hand-off site, including complete operator and maintainer preventive maintenance checks & services (PMCS). Upon completion of deprocessing, the equipment shall be 100% fully mission capable.

C.21.2.2 Joint Unit Inventory. The Government materiel fielding team, contractor, and unit gaining representative shall conduct a joint inventory of all major items and components. The customer documentation packages will be completed and turned over to the Government Material Fielding Representatives. The Government will provide the contractor with the joint inventory form (DA Form 5684-R).

C.21.2.3 Shortage List. The Material Fielding Team and contractor shall prepare a shortage list (DA 2062) of all missing items prior to fielding with a description of the item, nomenclature, NSN, part number, quantity and date of availability. This list shall be attached to the joint inventory.

C.21.3 The Field Service Representative shall be paid on man-days as reflected in Section B of the contract. Travel expenses and per diem will be paid on cost reimbursable basis in accordance with JTR.

C.21.3.1 The Contractor shall provide qualified Contractor Field Service Representative(s) (FSR) in support of Total Packaging Fielding who shall advise/make recommendations to orient and instruct key Government personnel regarding operations, maintenance, repair, and supply of contractor parts for the LMFF, including all components.

C.21.3.2 The PCO shall designate the times and locations of the service to be performed by e-mail, but will not supervise or otherwise direct activities. Within a half working day of notification, if possible, the contractor shall notify the TACOM Contract Specialist of the transportation costs (best commercially available round trip airfare, if air transportation is necessary, and hours of travel required to and from the site) to be included in the order. Following receipt of the information and negotiation, the contract will be equitably adjusted prior to the FSR commencing travel or effort.

C.21.3.3 The Contractor will obtain specific requirements, if any, for access to Government facilities located in CONUS 30-days prior to each fielding and 90 days prior to fielding in OCONUS. If a security clearance is needed at the site where the FSR will perform his/her services, the contractor shall be responsible for insuring all coordination is made with the appropriate personnel. The Contractor may be required to provide personal vital statistics related to the FSR, including documentary evidence, such as a birth certificate and such other evidence to effect a security clearance. It is recommended, though not a contract requirement, that the contractor initiate clearances for potential FSRs following award.

C.21.3.4 Within ten working days of completion of an assignment, the FSR shall prepare and deliver via e-mail a report, in contractor format, which synthesizes his/her activities in accordance with:
CDRL A016.

C.21.4 Man-Day of Service. The FSR shall work no more than eight (8) hours per day, excluding travel time, unless authorized by the PCO. A man-day of service includes any period during which the FSR is delayed or prevented from performing any task only if the delay or non-performance is solely the fault of the Government.

C.21.4.1 Travel time for initial travel from the contractor facility to the work site, for travel between work sites, and for travel back to the contractor's facility shall be paid as a daily rate of service and may be over/above the eight hours allowed per work day.

C.21.4.2 The man-day rate is exclusive of subsistence, lodging, and incidental expense incurred by the FSR while performing the services. The Government will pay these expenses on a cost reimbursable basis.

C.21.4.3 The man-day rate of service is exclusive of all transportation costs, which includes airfare and local rental car in and around the job site. The Government will pay the contractor on a cost reimbursable basis for auto rental rates for the site of the service as well as airfare, if air transportation is necessary, during performance of services under orders issued in accordance with this scope of work.

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C.21.4.4 The man-day of service includes all Government delays, travel time (all-inclusive), and report preparation completed at the duty location. In addition to payment for actual days worked, the Government will pay for official U.S. holidays if it is necessary for the representative to be present on those days to complete the technical assistance assignment that would be normal workday (s) at the FSRs facility. When the FSR is on site on a Saturday or Sunday but is not working, the Government will pay only the per diem and local transportation costs. The granting of vacation time off, holidays other than official US holidays, sick and emergency leave is solely the responsibility of the contractor and shall not be paid for by the Government under terms of this contract. It is immaterial whether the same representative completes an assignment, but the Government will not pay additional travel costs or time if the contractor decides to rotate personnel during the course of an assignment, unless authorized by the PCO.

*** END OF NARRATIVE C 001 ***