

**AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT**

1. Contract ID Code  
Firm-Fixed-Price

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2. Amendment/Modification No. P00012	3. Effective Date 2013FEB08	4. Requisition/Purchase Req No. SEE SCHEDULE	5. Project No. (If applicable)
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6. Issued By U.S. ARMY CONTRACTING COMMAND PAMELA TAIARIOL WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL  EMAIL: PAMELA.TAIARIOL@US.ARMY.MIL	Code W56HZV	7. Administered By (If other than Item 6) DCMA HUNTSVILLE 1040 RESEARCH BLVD, SUITE 100 MADISON AL 35758-2040	Code S0107A
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8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code)  ASTEC INDUSTRIES, INC. ASTEC IND. 1725 SHEPHERD RD CHATTANOOGA, TN 37421-2947	<input type="checkbox"/>	9A. Amendment Of Solicitation No.
	<input type="checkbox"/>	9B. Dated (See Item 11)
	<input checked="" type="checkbox"/>	10A. Modification Of Contract/Order No. W56HZV-11-D-0112
	<input type="checkbox"/>	10B. Dated (See Item 13) 2011SEP26
Code 61790	Facility Code	

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers

is extended,  is not extended.

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

**12. Accounting And Appropriation Data (If required)**

NO CHANGE TO OBLIGATION DATA

**13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS  
It Modifies The Contract/Order No. As Described In Item 14.**

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

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

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

SEE SECOND PAGE FOR DESCRIPTION

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

15A. Name And Title Of Signer (Type or print)	16A. Name And Title Of Contracting Officer (Type or print) TRISH PIERCE TRISH.PIERCE@US.ARMY.MIL (586)282-0716		
15B. Contractor/Offeror  (Signature of person authorized to sign)	15C. Date Signed	16B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)	16C. Date Signed 2013FEB08

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MOD/AMD P00012

**Name of Offeror or Contractor:** ASTEC INDUSTRIES, INC.

## SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: PAMELA TAIARIOL  
Buyer Office Symbol/Telephone Number: CCTA-HBF-C/(586)282-3523  
Type of Business: Large Business Performing in U.S.  
Surveillance Criticality Designator: C  
Contract Expiration Date: 2016SEP23  
Kind of Modification: Administration Notice

\*\*\* End of Narrative A0000 \*\*\*

1. This Modification P00012 to Contract W56HZV-11-D-0112 is a unilateral action.
2. This modification is in response to PCO letter D0112-13-023 dated 31 January 2013 that authorizes the use of prohibited hazardous materials on certain coated components in accordance with the approved Request for Deviation, provided with the PCO letter. This modification formally incorporates the aforementioned RFD authorization.
3. Revise Section C, paragraph C.7 (Narrative C0001), as follows:

## FROM:

C.7 Hazardous Material Management Program (HMMP)

The Contractor shall prepare a HMMP report IAW CDRL A005 and National Aerospace Standard 411, Section 4.4. The Contractor shall not use hazardous materials as defined IAW Section 3.14.2 of the PD.

## TO:

C.7 Hazardous Material Management Program (HMMP)

The Contractor shall prepare a HMMP report IAW CDRL A005 and National Aerospace Standard 411, Section 4.4. The Contractor shall not use hazardous materials as defined IAW Section 3.14.2 of the PD, except as authorized by PCO letter D0112-13-023 dated 31 January 2013 and incorporated into this contract by Modification P00012.

4. As a result of this Modification P00012, funding is neither increased or decreased.
5. Except as specifically stated above, all other terms and conditions of Contract W56HZV-11-D-0112 remain unchanged and in full force and effect.

\*\*\* END OF NARRATIVE A0011 \*\*\*

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SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.1 Hardware Deliveries

C.1.1 Asphalt Mixing Plant (AMP)

The Contractor shall deliver an Asphalt Mixing Plant (AMP) that meets all the technical requirements of Purchase Description (PD) "Mixing Plant, Asphalt, Drum Mix Type, Portable, Electric-Motor-Driven, 150 Ton per Hour Capacity" PD No. ATPD-2386 (Attachment 001). The PD also specifies the FAT Requirements. Delivery Orders will specify the quantity, delivery dates, destinations, packaging requirements, Basic Issue Items, Initial Service Kits, Spare Parts Kit, and special tools.

C.1.2 Basic Issue Items (BII)

The Contractor shall over-pack in an environmentally and physically secure location (e.g., the plant control trailer) a complete set of BII with each AMP. BII are essential to place and maintain the AMP in operation, and to perform routine operator maintenance and services. BII include those select operator tools, operator publications, and safety equipment (i.e. fire extinguishers) authorized for the AMP. The Contractor shall list BII by National Stock Number (NSN) in a separate operator's manual appendix.

C.1.3 Initial Service Package (ISP)

The Contractor shall provide an ISP for each AMP. The Contractor shall over-pack the list and the components of the ISP with each AMP in accordance with (IAW) the packaging instructions developed for the Technical Manuals (TMs). The ISP shall consist of all service parts/items required to meet warranty service intervals and perform the first scheduled maintenance. The Contractor shall mark each item with the nomenclature, part number and NSN (if assigned). The Contractor shall over-pack in an environmentally and physically secure location (e.g., the plant control trailer) a complete ISP with each AMP. A complete ISP inventory list shall be included identifying each item by nomenclature, part number and NSN (if assigned).

C.1.4 Spare Parts Kit (SPK)

The Contractor shall provide a spare parts kit for each system that includes items that are likely to be replaced due to normal wear or unscheduled maintenance in the first twelve (12) months of service. Determination of what parts are provided shall be made upon commercial experience.

C.1.5 Components of End Item (COEI)

The contractor shall provide the COEI for each AMP. COEI are components that are part of the end item but must be removed from the AMP and separately packaged for military transportation. These components are listed by NSN separately in the appendix to the operator's manual. The contractor shall ensure that all proper COEI arrive with each AMP. The contractor shall over-pack each COEI IAW with packaging instruction developed in the TMs.

C.2 Data

The Contractor shall deliver all data in English. Data delivered under this contract shall be submitted electronically via CD ROM or electronic mail in MS Office compatible format.

C.3 Meetings and Reviews

The Contractor and Government will periodically schedule meetings and reviews to review and discuss overall program status as well as specific deliverables, e.g., publications. Ten (10) business days prior to meetings, the Contractor shall develop and submit an agenda to the Government for review and acceptance. Meetings will be held at either a Contractor or a Government facility as specified in each sub-paragraph. The Contractor shall prepare minutes of each meeting IAW CDRL A001.

C.3.2 The Contractor shall participate in the following meetings:

C.3.1 Start of Work Meeting

Within 45 calendar days of contract award, TACOM will host a Start of Work meeting at the Detroit Arsenal in Warren, Michigan. The Start of Work meeting may last up to three (3) business days. The Government will present an Integrated Logistics Support (ILS) Schedule (Attachment 002) at the start of work meeting for the joint Government and Contractor to review. The Contractor shall present a plan to manage and develop engineering and logistics products and services.

C.3.2. Pre-Test Meeting

A Pre-Test Meeting shall take place at Aberdeen Proving Ground, MD at least 40 business days prior to start of FAT. The meeting shall last one day and be used to review testing, Contractor support of testing, and operator training to support the testing.

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C.3.3 Program Status Review (PSR)

Program Status Reviews (PSRs) will be held quarterly, beginning 90 calendar days after the Start of Work meeting until completion of all data deliverables. The meetings will encompass the Contractors production status, data deliverable status, and progress on all logistics requirements. Logistics discussions during the PSR will be under the purview of the Supportability Integrated Product Team (SIPT). The SIPT will address all supportability issues. The SIPT is a working level IPT established IAW AR 700-127 and is responsible for all planning and execution of the ILS program. The Contractor shall make available adequate space, facilities, and personnel for Government scheduled PSRs at no additional cost to the Government.

C.3.4 In-Process Review (IPR)

In-Process Reviews (IPR) will be held IAW the Government approved ILS Schedule. The meetings will encompass the progress on all logistics requirements under the purview of the SIPT. The SIPT will address all supportability issues concerning Publications, Maintenance, and Training. The Contractor shall make available adequate space, facilities, and personnel for Government scheduled IPRs at no additional cost to the Government.

C.3.4.1 Publications In-Process Review (IPR)

During preparation of equipment publications these IPRs will be used to clarify requirements, provide guidance to the Contractor and to ensure that the publication is written to conform to this SOW. The Contractor shall provide properly formatted representative samples of each section for every TM required on CDRL A016 through A020. The samples will be reviewed for compliance with Attachment 012. IPRs are not a part of the Verification Conference and shall not be used in place of the Verification Conference. The Government will notify the Contractor 15 business days prior to each IPR. The IPR shall be held at the Contractor's site.

C.3.4.2 Maintenance Analysis In-Progress Review (IPR)

During preparation of Maintenance Analysis/Level of Repair Analysis requirements these IPRs will be held to clarify requirements, provide guidance to the Contractor and to ensure that the maintenance deliverables are written to conform to the SOW. The Contractor shall provide properly formatted representative samples of every deliverable required in CDRL A008 through A012. The samples will be reviewed for compliance with attachments referenced in CDRL A008 through A012. IPRs are not a part of the Verification Conference and shall not be used in place of the Verification Conference. The Government will notify the Contractor 15 business days prior to each IPR. The IPR shall be held at the Contractor's site.

C.3.4.3 Training In-Progress Review (IPR)

During preparation of training material these IPRs will be held to clarify requirements, provide guidance to the Contractor and to ensure that the training material is written to conform to the SOW. The Contractor shall provide properly formatted representative samples of every deliverable required in CDRL A028 through A030. The samples will be reviewed for compliance with attachments referenced in CDRL A028 through A030. IPRs are not a part of the Verification Conference and shall not be used in place of the Verification Conference. The Government will notify the Contractor 15 business days prior to each IPR. The IPR shall be held at the Contractor's site.

C.3.5 Integrated Logistics Support (ILS)

TACOM will host a weekly teleconference to discuss ILS issues. The Contractor shall provide technical and managerial representatives to attend these teleconferences as needed.

C.4 Candidate List for Item Unique Identification Device (IUID)

The contractor shall develop an initial listing of components, to include the end item, that meet the criteria for IUID IAW MIL-STD 130, Attachment 003 and CDRL A002. One or more of the following criteria must be met for IUID marking:

- (a) Embedded item that is DoD serially managed
- (b) Unit cost of \$5000.00 or more
- (c) DoD serially managed
- (d) Mission essential
- (e) Controlled inventory

Additional information on assets which meet the criteria for IUID can be found within the DoD Guide to Uniquely Identifying Items at the following URLs:

- <http://www.acq.osd.mil/dpap/IUID/attachments/DoDIUIDGuide.pdf>
- <http://www.acq.osd.mil/dpap/pdi/uid/index.html>

C.5 Transportability Report

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The Contractor shall submit a Transportability Report IAW CDRL A003. The Transportability Report shall include data on recommended procedures for configuring, positioning, and securing each trailer of equipment for transport by truck, marine, and if applicable air and rail car. The Transportability Report shall also show slinging procedures for lifting each trailer of the systems, and procedures, man-hours and all tools required for disassembly and re-assembly when transported by highway, marine and if applicable, air and rail.

C.6 Safety Engineering and Health Hazards

C.6.1 Safety Engineering Principles

The Contractor shall follow good safety engineering practices as set forth in ATPD 2386. The Contractor can use MIL-STD-882D as a guide in determining whether safety engineering objectives are met. The Contractor shall do the following:

(a) Identify hazards associated with the system by conducting safety analysis and hazard evaluations. Analyses shall include operational, maintenance, and transport aspects of the AMP, along with potential interface problems with planned subsystems.

(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) Locate equipment components and controls so that access to them by personnel during operation, maintenance or adjustments shall not require exposure to hazards. Examples of hazards to be considered include: high temperature, chemical burns, electrical shock, cutting edges, sharp points, or concentrations of toxic fumes above established threshold limit values. All moving parts, mechanical power transmission devices, exhaust system components, pneumatic components and hydraulic components which are of such a nature or so located as to be a hazard to operating or maintenance personnel shall either be enclosed or guarded. Protective devices shall not impair operational functions.

(d) Assure that suitable warning and caution notes are included in instructions for operation, maintenance, assembly and repairs and that distinct markings are placed on hazardous components of equipment.

C.6.2 Safety Assessment Report (SAR)

As a result of system safety analyses, hazard evaluations, and any of the independent testing, the Contractor shall perform and document a safety and health hazard assessment. The safety and health hazard assessment shall identify all safety features of the hardware, software, system design and inherent hazards and shall establish special procedures and/or precautions to be observed by Government test agencies and system users. The Contractor shall prepare a SAR IAW CDRL A004. The Contractor shall identify Health Hazards associated with the system and incorporate them into the SAR. In preparing the health hazard portion of the SAR, the Contractor shall provide a description and discussion of each potential or actual health hazard for each subsystem or component. A health hazard is an existing or likely condition, inherent to the operation, maintenance, transport, or use of materiel that can cause death, injury, acute or chronic illness, disability, or reduced job performance of personnel by exposure to physiological stresses. 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. Include in the SAR, copies of Material Safety Data Sheets (MSDS) for all hazardous materials incorporated into the system. Identify all data sources for the report and identify hazard severity, hazard probability and risk for each hazard

C.7 Hazardous Material Management Program (HMMP)

The Contractor shall prepare a HMMP report IAW CDRL A005 and National Aerospace Standard 411, Section 4.4. The Contractor shall not use hazardous materials as defined IAW Section 3.14.2 of the PD, except as authorized by PCO letter D0112-13-023 dated 31 January 2013 and incorporated into this contract by Modification P00012.

C.8 Testing

C.8.1 Contractor Certification and Inspection

The Contractor shall conduct certifications and inspections IAW the PD. The Contractor shall submit a First Article Test Unit Report (FATUR) IAW E.1 of the SOW. The FATUR shall include actual test data, record of inspections, certifications, and any other information necessary to prove that the Contractor's portion of the requirements established in the PD have been met.

C.8.2 First Article Test AMP

The Contractor shall provide one (1) AMP for Government FAT 227 calendar days after award. The AMP shall be used to verify the test elements that are listed in the PD. Upon successful completion of FAT, the AMP shall be refurbished and shipped as part of the production quantity.

C.8.3 Logistics AMP

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The Contractor shall provide one (1) AMP for logistics development 298 calendar days after award. The AMP shall be used to verify supportability in a time-phased process using elements of technical manual verification and other associated logistics events. The supportability elements that will be verified during this process are as follows:

- (a) Logistics Management Information (LMI)
- (b) Maintenance Concept
- (c) Manpower, Personnel & Training
- (d) Safety, Human Factors, Health Hazards & Survivability
- (e) Safety of operation and maintenance procedures
- (f) Compatibility of TMDE
- (g) Technical Manuals (Contractor validation and Government verification)
- (h) Repair Parts and Special Tools List
- (i) Military Modifications
- (j) Logistics Demonstration

Upon completion of this process, the AMP shall be refurbished and shipped as part of the production quantity.

#### C.8.4 Contractor Support Of Government Testing

The Contractor shall make available, a System Support Package (SSP) for use during the FAT. The SSP shall support the system and shall include:

- (a) Commercial operator manuals.
- (b) Spare and repair parts, and service items needed to perform periodic services for the duration of the test, and supplies for maintenance and operation.
- (c) Qualified technical personnel to support Government testing on an as needed basis to provide advice, troubleshooting, maintenance assistance, and repair of the vehicle when requested by the Government. The Contractor must be at the test site within 24 hours of notification by the Government and without any additional cost to the Government.
- (d) Training of test personnel for FAT.
- (e) The Contractor shall replace any part which fails to perform its function during the test, and correct any deficiency detected. All costs for parts and labor are the Contractors responsibility. The Contractor shall provide parts and/or deficiency corrections within 24 hours of notification. If the Contractor does not provide parts or deficiency correction within 24 hours, the Contracting Officer has the right to stop the test until the Contractor completes the corrective action. The Contracting Officer also has the right to extend the approval or disapproval of the test and system delivery schedule by a period equal to the delay caused by the Contractor's failure to provide parts or corrections, at no additional cost to the Government. If a test failure requires rescheduling the test, the Contractor is responsible for any cost incurred for the re-testing and the Government reserves the right to extend the time for approval of the first article test.

#### C.8.5 Corrective Action Responses (CARs) For Test Incident Reports (TIRs) Generated From Government Testing.

During the course of Government testing, the Government will generate TIRs and enter them into the VISION data base. The Contractor will be given read and write access to the VISION data base if the required security clearances are available. In the event the required security clearances are not available the Government will send the TIRs to the Contractor electronically. The Contractor shall respond electronically by either entering their corrective action in VISION or by email to the responsible point of contact. The Contractor's response shall include its analysis of the incident and corrective action taken or proposed to prevent any recurrence of the incident. TIRs are classified by the test agency as critical, major, minor, and information. The Contractor shall respond to all critical, major, and minor incidents. The Contractor shall respond to informational incidents only upon Government request. The Government will provide all necessary electronic addresses. The Contractor shall deliver all CARs IAW CDRL A006.

#### C.8.6 System Refurbishment

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Upon successful completion of the FAT and satisfying all logistics requirements, the FAT AMP and the Logistics AMP shall be refurbished and shipped as part of the production quantity. The Contractor shall transport the FAT AMP, which was used for performance testing, from the Government test site, at the Contractors expense. The Logistics AMP shall be shipped from the logistics subcontractors facility to the Contractors manufacturing facility, at the Contractor's expense. The Contractor shall completely inspect the AMPs and submit a detailed proposal for refurbishment of the AMPs to a like new condition. The proposal shall detail all repairs that are required. The proposal will be submitted within 30 days after FAT approval. We will negotiate the refurbishment effort after Contractor proposal submittal. The negotiated refurbishment effort will not include any configuration changes required as a result of test failures. These changes are the Contractor's responsibility. Upon PCO acceptance of the Contractor proposal, the Contractor shall make the repairs specified in the proposal.

#### C.9 AMP Configuration Changes

The Contractor shall be responsible for maintaining configuration control of the AMP. The Contractor shall establish a production configuration baseline for the system after successful completion of FAT. This baseline will identify and document the functional and physical characteristics of the system. The Contractor shall notify and receive approval from the Government prior to implementing any configuration changes that impact form, fit, or function IAW CDRL A007.

##### C.9.1 Engineering Changes - Contractor Initiated

The Contractor shall submit a notification of change for any configuration change. The contractor shall identify whether the change impacts form, fit or function or not. The Contractor shall submit requests for approval of changes to the configuration baseline to the Contracting Officer at least 60 business days before the proposed application date in a Configuration Change Report IAW CDRL A007. The Contractor shall submit the report with two sections, one for form/fit/function changes and one for non-form/fit function changes. The request for change shall include the following:

- (a) Rationale to support the necessity of making the change;
- (b) Any test results, planned testing, or other information to show acceptability;
- (c) Identification of the affected parts and assemblies [old part number, new part number, vendor CAGE code, and Additional Reference Number (vendor part number)] and supporting data to evaluate the proposed change, such as drawings, sketches, calculations, specifications, manufacturers data sheets, and other data necessary to define the change you are proposing;
- (d) Identification of any logistics impact to include changes to manuals, provisioning, maintenance procedures, repair parts, special tools and test equipment, packaging, and transportation;
- (e) Any proposed decrease in contract price; and
- (f) Identification, by serial number, of the systems affected.
- (g) Requirement for retrofit to already produced systems.

##### C.9.2 Government Review

The Government may require the Contractor to perform additional tests to verify acceptability of any proposed change. The Government will determine the extent of testing up to and including a complete FAT for that change. The Contractor will perform the tests at no additional cost to the Government. Further, any production or delivery delays caused by additional testing and inspection will not be the basis for an excusable delay as defined in the default clause of this contract. Such delays shall not form the basis for adjustment in contract price or delivery schedule.

##### C.9.3 Responsibility for Failure Due to Changes

The Government's acknowledgement of the Contractor's change does not relieve the Contractor from its responsibility to furnish all items in conformance with the contract performance requirements.

##### C.9.4 Responsibility for the Cost of Changes

The responsibility for the cost of changes is as follows:

- (a) This is a firm-fixed-price contract. There will be no price increases as a result of a Contractor initiated configuration change.
- (b) The Government is not responsible for additional testing or software costs associated with any Contractor initiated configuration change.

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(c) When a change results in reduced Contractor costs, the Government may, at the sole discretion of the Contracting Officer, require an equitable downward adjustment to the contract price.

(d) The Government is not liable for any costs the Contractor may incur, due to delay in contract performance, as a result of any of the Contractor's requests for change.

**C.9.5 Responsibility for Data**

Within 45 business days of making the change, the Contractor shall submit, at no cost to the Government, revisions to all affected contractual data deliverables, whether they affect form, fit, or function or not.

**C.9.6 Engineering Changes - Government Initiated**

In the event the Government desires a change to the end item configuration, the PCO will request, in writing, a technical/price proposal from the Contractor. Once the proposal is accepted by the Government, the contractor shall submit a Configuration Change Report IAW CDRL A007 documenting the change to the Product Baseline Configuration.

**C.9.7 Definitions**

The following are definitions of Form, Fit, and Function:

**Form:** Fits and functions in the same way as the item it replaces (interchangeable, substitutable) and may include components that are of different materials than the replaced components, but do not affect fit or function (interchangeable, substitutable). Replacement, repair, service or maintenance of the item is exactly the same as the item it replaces.

**Fit:** Item goes onto, into or attached, to the equipment exactly as the item it replaces. No difference in mounting, interface or operation between replaced and replacing parts. There is an exact fit match.

**Function:** Item operates exactly as the item it replaces, with no functional difference between the old, replaced item and the new, replacing item. When appropriate, the replacing item shall be inspected, replaced, repaired or otherwise maintained in exactly the same method as the item it replaces.

**C.10 Logistics**

**C.10.1 Logistics Management**

The Contractor shall plan and manage an Integrated Logistics Support (ILS) program to ensure supportability for the AMP through testing and fielding IAW Attachment 002. The Contractor shall appoint an ILS Manager responsible for the entire logistics scope of this contract.

**C.10.2 Integrated Logistics Support (ILS) Development**

The Contractor shall conduct Supportability Analyses to develop logistics products described in this contract. The Contractor shall use MIL-PRF-49506, Performance Specification, Logistics Management Information (LMI), in identifying content, format, delivery and related guidance for logistics data except as otherwise identified in this contract. The Contractor shall submit documentation on the required due date as detailed in the applicable Scope of Work (SOW) paragraphs and Contract Data Requirements Lists (CDRLs). The Contractor shall validate all documentation prior to submittal to the Government. Government receipt of data deliverables does not constitute acceptance. Government acceptance of data deliverables hinges on the completeness, accuracy, compatibility of submitted documentation, and the applicable military standards and specifications.

**C.10.2.1 Maintenance Analysis (MA)**

The Maintenance Analysis shall be documented in the Contractors format IAW Two-Level Maintenance (TLM) concept, and will identify the maintenance functions, level of maintenance, manpower, spare and repair parts and support equipment required for each replaceable and repairable item. The maintenance analysis will serve as source data for development of the Maintenance Allocation Chart (MAC), Supplemental Provisioning Technical Documentation (SPTD), TMs, Army Manpower and Requirements Criteria (MARC), Level of Repair Analysis (LORA), and National Maintenance Work Requirement (NMWR) Candidate List. The Contractor shall use the principles of Condition Based Maintenance (CBM) for the development of all Preventative Maintenance Checks and Services (PMCS). The maintenance analysis shall be documented in end item hardware breakdown sequence, using LSA Control Numbers (LCNs). Instructions for conduct of the analysis are contained in Attachment 004. The Maintenance Analysis shall be delivered IAW CDRL A008.

**C.10.2.1.1 Level of Repair Analysis (LORA)**

The Contractor shall conduct a Level of Repair Analysis (LORA) in Contractor format, (Governments COMPASS model recommended), for the



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entire AMP and include all potential repairable items/components (i.e. Line Replaceable Units (LRUs), assemblies, and subassemblies) IAW CDRL A008. The COMPASS Model is available free of charge to Government Contractors (Attachment 005). The LORA shall be performed and reported to support the most efficient and effective method of repairing the system and developing maintenance procedures for the TM delivered under this contract. This analysis shall determine the maintenance level at which the item should be repaired or replaced, with an evaluation threshold of \$500 for Field and \$1500 for Sustainment. If the Contractor uses the COMPASS model the Contractor shall perform Non-Economic, Economic and Sensitivity evaluations. The LORA and other analysis shall be used to identify those components, assemblies, modules that can be economically repaired by the wholesale supply system. The results of the Government Approved LORA shall be incorporated into the Maintenance Analysis Summary.

C.10.2.1.2 Draft MAC

The Contractor shall prepare and submit a draft report formatted and containing all the elements of a MAC IAW CDRL A009 as part of the draft Maintenance Analysis Review. The Maintenance Analysis shall also include the long lead time item list, Basic Issue Item (BII) list, Components of End Item (COEI) list, and Expendable and Durable Items List (EDI).

C.10.2.1.3 National Maintenance Work Requirement (NMWR) Candidate List

The Contractor shall prepare and submit a NMWR candidate list that shall be a product of the Maintenance Analysis IAW Attachment 006 and CDRL A010 as part of the Maintenance Analysis Review. All components coded for repair at the sustainment level of maintenance with a unit price in excess of \$1500 will be a NMWR candidate. The Contractor shall annotate these components on the Maintenance Analysis and provide them as a separate list at the first Maintenance Analysis review. The Government will review and approve the final list of NMWR candidates at the final Maintenance Analysis review.

C.10.2.1.4 Support Tools and Test Equipment (STTE)

The Contractor shall deliver a list of STTE IAW CDRL A011, utilized to maintain the AMP. The source data for this list will be the Maintenance Analysis. The list shall be in tabular form and shall identify special tools and Test, Measurement, and Diagnostic Equipment (TMDE) not contained in the General Mechanics Tool Kit (GMTK) catalog (Attachment 007), the Forward Repair System (FRS) catalog (Attachment 008), or the Service Refrigeration Ordnance Tool Kit (SROTK) catalog (Attachment 009). In addition, the list shall identify all required TMDE items being used from the GMTK, FRS, and SROTK. The list shall provide Nomenclature, Cage Code (CAGEC), National Stock Number (NSN) if assigned, Part Number (PN), level of maintenance, and price of each item on the list. Maximum use of common tools, support equipment, and TMDE normally organic to the user is preferred.

C.10.2.1.4.1. Special Tools

The following sub-paragraphs are included to clarify special tools for Army use. Special tools are not identified as components in authorized Sets, Kits, and Outfits (SKO) Supply Catalogs. The following are samples of Special tools:

(a) Fabricated tools that are made by the Contractor from stocked items of bulk material, such as metal bars, sheets, rods, rope, lengths of chain, hasps, fasteners, and so forth. Fabricated tools are drawing number controlled and documented by LCNs in Repair Parts and Special Tools Lists (RPSTLs) and located in TMs as appendices. Fabricated tools are used on a single end item.

(b) Tools that are supplied for military applications only (e.g., a cannon tube artillery bore brush) or tools having great military use but having little commercial application.

(c) Tools designed to perform a specific task for use on a specific end item or on a specific component of an end item and not available in the common tool load that supports the end item/unit (e.g., a spanner wrench used on a specific Ford engine model and on another engine in the Army inventory).

(d) Tools and TMDE required to maintain or diagnose the AMP that is not available in the units authorized SKO Supply Catalog.

C.10.2.2.4.2 The Contractor shall provide special source and calibration documentation for all new special tools and TMDE. .

C.10.2.2.5 Critical Parts List (CPL)

The Contractor shall prepare and submit a CPL IAW Attachment 010 and CDRL A012. The CPL identifies critical parts the Government should stock to ensure an operational readiness rate of 90% for the AMP based on commercial experience. In addition to the information required in Attachment 010, identify the Average Monthly Demand (AMD) for each item. Also identify items that are either Initial Service Package (ISP) or Spare Parts Kit items. Items listed on the CPL shall consist of the following:

(a) Scheduled service items (filters, belts, etc). Identify the service interval for each of these items (i.e., 50 hours, monthly, annual, etc.).

(b) High use/high demand items (parts needing frequent replacement or prone to rapid wear). Include the reason for the frequent replacement (i.e., extreme heat, constant ground contact, etc.)

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(c) Essential items (essentiality code of 1, 5, or 6) whose failure will render the AMP inoperable, or are required for safety or legal reasons. Identify the essentiality code for each of these items.

(d) Items that have a production lead time of more than 3 months, identify the production lead time for each of these items.

(e) Items that are not readily stocked and only produced as ordered identify the production lead time for each of these items.

#### C.10.3 Diagnostics

##### C.10.3.1 Electronic Diagnostic Testability Analysis (DTA)

The Contractor shall perform a testability analysis of the AMP diagnostic capability, to include number and types of diagnostic tests and diagnostic fault codes available for all AMP components, assemblies, systems, and sub-systems. The analysis shall identify all diagnostic fault codes for each component, assemblies, systems and subsystems and place them on a tabular format spread sheet. The codes shall be called out with the component, assemblies, systems and subsystems they support. The columns of the spread sheet shall consist of component, fault code/description, tests being performed, test equipment and parameters.

(a) The report shall include a description of on-board electronic diagnostic systems that may be interrogated for the purpose of maintenance and troubleshooting via an on-board diagnostic display screen.

(b) The Contractor shall maximize the use of embedded Built-in-Test (BIT)/ Built-in Test Equipment (BITE) diagnostic capabilities, and fully document and support embedded system software.

(c) For the generators only, all data buses and diagnostic connectors for each electronic control module shall be identified in detail, to include how the AMP shall meet the PD-TMDE goal to backbone all electronic diagnostic communication into one main data bus (SAE J1939) which can be accessed by one main diagnostic connector (SAE J-1939-13).

(d) The analysis shall be documented in an Electronic Diagnostics Testability Analysis Report and delivered IAW CDRL A013.

#### C.10.4 Provisioning

##### C.10.4.1 Provisioning Parts List (PPL)

The Contractor shall develop and submit PPL for all parts, STTE, BII, Expendable and Durable Items and Additional Authorized List (AAL) items identified for use on or with the AMP. Each incremental submission shall have at least 800 lines, but no more than 1500 lines, unless approved in advance by the Government. Each incremental submission shall include at least one major assembly. Prime part numbers and Commercial and Government Entity (CAGE) Codes will reflect the original equipment manufacturers information unless that part is modified, changing form, fit, and function. PPL shall be prepared IAW MIL-PRF-49506, Attachment 011 and CDRL A014.

##### C.10.4.2 Engineering Data for Provisioning (EDFP)

The Contractor shall provide EDFP that shall consist of illustrations such as company drawings or commercial parts book pages that clearly identify each new item, the items part number and CAGE Code, physical characteristics and function of the item. The Contractor shall furnish an illustration that is legible and representative for each P and XC source-coded part number being provisioned. Illustrations shall be annotated with the affected Provisioning Line Item Sequence Number (PLISN) and Provisioning Contract Control Number (PCCN) for the system. Illustrations are not required for items accompanied by a copy of provisioning screening which indicates this item has previously been assigned a valid National Stock Number (NSN). EDFP shall be submitted IAW CDRL A015.

##### C.10.4.3 Material Master/Provisioning Bill Of Material (PBOM)

The Contractor shall submit all LSA-036 LMI provisioning data (PPL) electronically in either MIL-STD-1388 or MIL-STD-1552 format. The Government will discuss each method at the Provisioning Guidance Conference as part of the start of work meeting (C 3.2.1). All submissions of the LMI PPL data must be compatible with TACOM Logistics Modernization Program (LMP), and must pass all edits. The Contractor shall correct all rejects within 5 business days.

##### C.10.4.4 Provisioning Screening

The Contractor shall conduct provisioning screening on each item on the PPL for standardization or NSN identification of all P source-coded items. This screening will be used to select valid part numbers, NSNs, and current unit of measure/issue prices for provisioning purposes. The Contractor shall screen common hardware items (nuts, bolts, screws, washers, lock washers, rivets, etc.) by technical characteristics. The screening results must be available to review at each provisioning conference. The Contractor shall conduct provisioning screening using FLIS, WEBFLIS, or by batch submittal part numbers to DLIS.

##### C.10.4.5 Provisioning Conferences

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The Contractor shall host provisioning conferences IAW Attachment 002. Each provisioning conference shall not exceed 5 business days. The Contractor shall provide at least three (3) Internet connections (Ethernet/wireless) for use by Government attendees.

**C.10.5 Technical Publications**

The Contractor shall develop Department of the Army Technical Manuals (DATMs) to support the AMP IAW the technical manuals preparation requirements and the delivery requirements as described below. Information in the technical manual(s) shall be developed IAW data obtained from the maintenance analysis and shall reflect production configuration baseline upon successful completion of FAT. The Contractor shall develop procedures in the same sequential order as the Government approved MAC. All publications shall be developed IAW Attachment 012.

**C.10.5.1 The following manuals shall be developed:**

- TM 5-3895-xxx-10 Operator Manual
- TM 5-3895-xxx-23 Field Maintenance Manual
- TM 5-3895-xxx-24P Field and Sustainment Maintenance Repair Parts and Special Tools List
- LO 5-3895-xxx-13 Lubrication Order
- TB 5-3895-xxx-xx Long Term Storage Technical Bulletin

C.10.5.1.1 The operator manual shall be prepared and delivered IAW the latest MIL-STD-40051-2 at time of contract award, CDRL A016, Attachment 012, and Attachment 013 (TM Matrix A-II of MIL-STD-40051-2).

C.10.5.1.2 The maintenance manual shall be prepared and delivered IAW the latest MIL-STD-40051-2 at the time of contract award, CDRL A017, Attachment 012, and Attachment 014 (TM Matrix A-IV of MIL-STD-40051-2).

C.10.5.1.3 The RPSTL manual shall be prepared and delivered IAW the latest MIL-STD-40051-2 at time of contract award, CDRL A018, Attachment 012, Attachment 014 (TM Matrix Table A-VI of MIL-STD-40051-2), and Attachment 015 (RPSTL Requirements).

C.10.5.1.4 The Lubrication Order shall be prepared and delivered IAW MIL-PRF-63004 D, CDRL A019, Attachment 012, and Attachment 013.

C.10.5.1.5 The Long Term Storage Technical Bulletin shall be prepared and delivered IAW CDRL A020, Attachment 012, and Attachment 013.

**C.10.5.2 Data Rights**

The Contractor shall furnish copyright releases for all copyrighted data used to develop the technical manual(s) (see DFARS 252.227-7015) to allow Distribution Statement A: Approved for public release; distribution is unlimited. to be placed on the TM cover(s) and title block page(s). The Contractor shall ensure the Government has the unlimited right to use and distribute the TM(s) and electronic data files delivered under this contract in hardcopy and by means of an electronic media. Refer to DOD FAR Supplement, Warranty of Data; paragraph 252.246-7001 for warranty of data requirements and invocation stipulation.

**C.10.5.3 Equipment Publications Development Status Reports**

The Contractor shall develop and deliver quarterly status reports IAW CDRL A021. The summary shall include a brief statement of the overall project status, covering the accomplished technical activities and development, objectives of efforts, summary results of efforts, identification of major problems/deficiencies with impact, and recommended solutions.

**C.10.5.4 Contractor Validation**

Validation is a Contractor responsibility. The Contractor shall conduct a Validation of the Preliminary Technical Manual (PTM) submittal of the AMP Operator Manual, Field Maintenance Manual, Field and Sustainment Maintenance Repair Parts and Special Tools List, Lubrication Order, and Long Term Storage Technical Bulletin produced IAW CDRL A016 through A020 and Attachment 012. The Contractor shall conduct 100% performance validation on all DATMs. The Validation effort shall be held at the Contractors facility unless otherwise specified by the contracting activity. The Government reserves the right to observe the Validation effort.

**C.10.5.4.1 Validation Plan**

The Contractor shall develop and submit a Validation Plan to the Government no less than 60 business days prior to conducting the Validation. The Validation Plan shall specify what TM content is to be validated and when and where that content is to be validated. The validation plan shall describe the validation method(s) used for each type of TM content. If the Government determines your Validation Plan will not ensure technical accuracy and adequacy of all TM deliverables, you will be required to change the plan to ensure your validation efforts result in an acceptable level of Quality Assurance (QA). The Validation Report shall be submitted IAW CDRL A022.

**C.10.5.4.2 Validation Report**

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The Contractor shall develop and deliver Validation Reports based on the validation results in Contractor format. This Validation Report shall include the dates of the Validation effort, an overview of the effort, specific tasks validated, changes identified as a result of the Validation, and personnel involved. The validation report shall certify that validation has been completed and that the TM deliverable has had QA applied with use of the publications defects list. The Validation Report shall be submitted IAW CDRL A023.

C.10.5.5 Logistics Demonstration (LD) Support

Approximately 30 business days after completion of the validation for the -23 Technical Manual (TM) the Government plans to conduct a separate AMP LD. The Government will conduct the LD at the Contractors facility.

C.10.5.5.1 The Contractor shall develop a LD Plan IAW CDRL A024, using DA PAM 700-56, as a reference. In addition to the data required by the Data Item Description (DID), the recommended format is:

- (a) General
- (b) Scope
- (c) System description
- (d) LD strategy
- (e) Participation organizations, responsibilities, and milestones for delivery of the System Support package (SSP)
- (f) Procedures, detailed plans, and milestones for demonstration activities
- (g) Reports (describe who will provide input and due dates)
- (h) References
- (i) Acronyms
- (j) Distribution

C.10.5.5.2 For planning purposes the LD will be approximately 60 calendar days in duration (40 business days, Mon-Fri). The Contractor shall provide one production representative AMP for LD. The Contractor shall make available the necessary personnel, facilities, equipment, tools, test equipment, supplies and pertinent documents required to support the LD. The Contractor shall perform any changes to the TMs during the LD in real-time (any minor changes to illustrations to support narrative information can lag by 24 hours). However, the Contractor shall provide art markups in real-time, as they occur. During the LD the Government will provide personnel to perform Operator and Maintainer Preventative Maintenance Checks and Services (PMCS) and Operator and Maintainer Troubleshooting (TS). The Government will provide a specific list of TS tasks to perform during the LD, based on the LD plan. The Contractor shall identify the applicable work packages and provide marked up copies for the TM validation for use during the LD. The Contractor shall develop a method of inserting non-destructive faults into the AMP for those applicable TS tasks and shall insert those faults during performance of the applicable work packages.

C.10.5.5.3 After the conclusion of the LD the Contractor shall develop a LD Report IAW CDRL A025, using DA PAM 700-56, as reference. The LD Report shall be in the same format as the LD Plan and include the LD strategy, details on the conduct of the LD, data collection, analysis results, all quantitative and qualitative findings, and a description of all necessary follow-on actions. The LD Report findings may include development and operational test data, validation findings, and data derived from the LD.

C.10.5.6 Government Verification

Verification is a Government responsibility. The Contractor shall make available the necessary personnel, facilities, equipment, tools, test equipment, supplies, and pertinent documents required for Government Verification. Verification will take place at the Contractors facility unless otherwise specified by the contracting activity. The Verification will test the usability and accuracy of the validated Preliminary Technical Manuals (PTMs) for the target mechanics, including tool requirements, facilities and time estimates in the Maintenance Allocation Chart. The Government will verify the accessibility of the system for operation and maintenance procedures. The Verification will be performed using production configuration equipment. The Contractor shall perform any changes to the TMs during the Verification in real-time (any minor changes to illustrations to support narrative information can lag by 24 hours). However, the Contractor shall provide art markups in real-time, as they occur. The Contractor shall correct all errors found during Government reviews and Verification in all publications deliverables at no additional costs to the Government IAW CDRL A016 through A020.

C.10.6 Packaging Data Development

C.10.6.1 LMI - Packaging Data Development:

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The Contractor shall, for component items pertaining to the AMP, develop and provide to the Government LMI-packaging data for all provisioned items with a Source, Maintenance & Recoverability (SMR) code of P excluding PR and PZ. Packaging shall be developed IAW MIL-STD-2073-1D, Attachment 016, and Attachment 017. All items shall be classified as Selective group or Special group. LMI-packaging data is required IAW MIL-PRF-49506 and will provide for the entry of information to the Governments computer data base. The LMI-packaging data shall be in an ASCII delimited text format using commas as delimiters. Quotation marks may be used as text qualifiers but are not required. The Contractor shall provide new or corrected LMI-packaging data for any revision created by a Configuration change. Contractor shall provide facilities, equipment, materials, and access to the provisioned items for packaging development at no addition cost to the Government. With each data submission, the Contractor shall include verification support data for each of the LMI-packaging data items, which shall provide the Government a reasonable means to determine the adequacy of the Contractor prepared packaging analysis and data submittal. This shall include item drawings and copies of applicable Material Safety Data Sheets for Hazardous Material items. Any HAZMAT items shall be considered Special Group Items and have packaging designed to meet the requirement of the HAZMAT regulations.

#### C.10.6.1.1 Excluded Items

Excluded Items are those items with packaging data already in the TACOM Packaging File PACQ, FEDLOG, FLIS, and those assigned a Contractor and Government Entity Code (CAGE) of: 1T416, 21450, 80204, 96906, 10060, 24617, 80205, 99237, 80244, 81343, 81348, 81349, 81352, and 88044. Excluded items do not require packaging data to be developed.

#### C.10.6.2 Selective group

Items classified as Selective group shall not have a unit pack weight exceeding 40 pound and a dimension greater than 40 inches. In addition, the unit pack length and girth combined shall not exceed 84 inches. A Selective group item shall not require disassembly for packaging and reconfiguration is limited to folding or coiling. Items classified as repairable, recoverable, containing hazardous material or assigned a shelf life shall not be considered Selective group.

#### C.10.6.2.1 Selective (coded) Packaging Data

The Contractor shall develop Selective Packaging Data for each item classified as Selective group. The data shall be developed, maintained and updated IAW CDRL A026. At the Contractors request, the Government will provide a MS ACCESS application to the Contractor that provides data formatting and edit features for coding of packaging data products IAW MIL-STD-2073-1D.

#### C.10.6.3 Special Group

The Contractor shall classify items as Special group if drawings, figures, or extensive narrative instructions are needed to describe packaging requirements. Items excluded from the Selective group shall be classified as Special group. This will include but is not limited to kits, sets and items of separate parts, items requiring disassembly, repairable items, items requiring special handling or condemnation procedures, items containing hazardous material, items assigned a shelf life, electrostatic discharge sensitive items, fragile, sensitive, and critical items.

#### C.10.6.3.1 Special Packaging Instructions (SPI)

The Contractor shall develop a SPI for each item classified as Special Group. The format and content of SPI shall be IAW LMI Packaging Data Development and CDRL A027. The TACOM LCMC managed items include items such as those being considered as National Maintenance Work Requirement (NMWR) candidate items. SPI developed for AMP (e.g. engines, burner, electric motors and, similar assemblies) shall be packaged IAW MIL-STD-2073-1D Appendix C, Level A packaging. The SPI for the engine shall include preservation procedures and validation with coordination from the TACOM-LCMC packaging office in Warren, MI. ATPD 2232 can be used as a guide and is found at <https://www.ilsc.army.mil/tdps/archive.asp?docnum=ATPD%202232>

Packaging processes and materials shall be described for cleaning, drying, preserving, unit, intermediate (as applicable), and exterior packing, marking, and unitization. Figures and narrative data shall be developed to describe the form, fit, and function of packaging in sufficient detail for reproduction. SPI shall be in a format that can be viewed, changed, and modified. The Contractor shall provide read/write capability and access to SPI. The Contractor shall furnish item drawings, photo documentation and notes sufficient for review of the packaging design. SPI shall be validated and include a test report IAW. The SPI shall be delivered IAW CDRL A027.

#### C.10.6.4 Validation Testing of Preservation Processing and Packaging

The Contractor shall perform Validation testing of SPI candidate IAW ASTM D 4169 Distribution Cycle 18, Assurance Level I, with Acceptance Criterion 3 (product is damage free and packaging is intact), but exclude the following tests: Low Pressure Hazard and Environmental Hazard. Each SPI submitted shall have a validation test report, including photographs illustrating the before and after testing results including the item and packaging application. Acceptable photographic evidence shall show the product is undamaged from all views. Items with previously approved documented test results may be exempt from validation testing. Test results shall be submitted concurrently with SPI submittal and IAW CDRL A027.

#### C.10.6.5 Technical Bulletin (TB) for Shipment and Storage Instructions (S&SI)

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C.10.6.5.1 The contractor shall provide and update Shipping and Storage Instructions (S&SI). When preparing the shipment and storage instructions, the contractor shall ensure those instructions are consistent with the transportability requirements. TB shall be delivered IAW CDRL A020.

C.10.6.5.2 Long Term Storage - The instructions will be used to prepare a system for open storage for a period up to 2 years. The Contractor shall ensure these instructions shall include any cyclic maintenance/exercising requirements necessary to prevent the system from deteriorating due to inactivity.

C.10.6.5.2.1 Long Term Storage Instructions

(a) Long Term Storage Instructions shall include special preservation, packaging, packing, marking, electrostatic discharge (ESD) protective and control measures and instructions on special use of corrosion-preventive compounds, moisture barriers, and desiccant materials. Instructions are needed for placing the equipment in and for removing it out of storage. Prepare instructions for the preservation, packaging, packing, and marking of the Basic Issue Items (BII), and Components of the End Item (COEI). Provide for protection/security against pilferage of these items

(b) Large items that cannot withstand exposure to the elements shall be consolidated into containers. Examples include ISO and MILVAN containers. Packing lists shall be IAW MIL-STD-129P.

(c) Include de-preservation instructions for all levels of preservation.

(d) MIL-STD-3003 is Standard Practice for the Preparation of Shipment and Storage of Wheeled vehicles and may be used as a guiding document.

C.10.6.5.3 Compliance with Federal and Industry Transportation Requirements: The Government ships using truck, rail, plane, and ship. The contractor shall develop shipment and storage 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 instructions shall display where and how the AMP items are stored for shipment, including tie-down procedures. 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, and (3) AFMAN 24-204, Preparing Hazardous Materials for Military Air Shipments. The contractor shall include disassembly procedures to meet the requirements of the codes and standards mentioned above.

C.10.6.5.4 Packaging Instructions for Basic Issue Items (BII) and Component of the End Item (COEI): The contractor shall ensure that the shipment and storage instructions include packaging instructions for the BII and COEI. The contractor shall ensure the instructions require that BII will be packed separately from the COEI. The instructions will identify provisions for stowage location and security for the BII and COEI. However, HAZMAT COEI will be packaged and shipped separately from the system IAW CFR Title 49. The contractor shall ensure the stowage locations shall deter pilferage and shall not interfere with lifting, tie down or other transportation handling requirements.

C.10.7 Training

C.10.7.1 Tester Training

C.10.7.1.1 Training for Test Personnel for First Article Test (FAT) (See Section E)

The Contractor shall provide 80 hours of training to support Government FAT at Aberdeen Proving Ground. Training shall take place within 30 days of the arrival of the FAT AMP at Aberdeen Proving Ground, a specific time frame will be determined during the Pre Test Meeting. Training shall include setup/teardown, proper operating procedures, equipment and instrument familiarization, safety precautions, operator and maintainer Preventive Maintenance Checks and Services (PMCS), maintenance tasks, and all necessary materials and equipment required to support testing of the AMP. A commercial operators manual and training materials shall also be provided to supplement training.

C.10.7.1.2 Training for Test Personnel for Logistics Demonstration (LD)

The Contractor shall provide training to support Government LD IAW ILS Schedule (Attachment 002). Training shall include proper operating procedures, equipment and instrument familiarization, safety precautions, operator and maintainer Preventive Maintenance Checks and Services (PMCS), maintenance tasks, and all necessary materials and equipment required to support demonstration of the AMP. A commercial operators manual, and training materials shall also be provided to supplement training.

C.10.7.2 New Equipment Training

C.10.7.2.1 Development of Training Materials

The Contractor shall develop two training courses, an operator course and a maintainer course for the system. The courses shall be developed using the current skills, knowledge and abilities (SKA), of the target audience. The training shall be structured to provide

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no more than 30% classroom and at least 70% hands-on equipment. The classes will be structured to have a minimum of 5 students and a maximum of 10 students.

C.10.7.2.1.1 Training Course Control Outline

The Contractor shall develop for each AMP course, operator and maintainer, a separate Training Course Control Outline IAW CDRL A028.

C.10.7.2.1.2 Training Materials

The Contractor shall deliver an Instructor Lesson Plan (written in third person narrative style) and a Student Training Guide for each AMP training course. The training packages for the system shall contain each element of the Training Course Control Outline fully developed, finalized and delivered.

(a) Operator course. The Operator course shall be designed for operators of the AMP, covering setup/teardown, complete operation and safety of the system, preparation for transport, complete tie down for shipment, proper use of tools, equipment, and BII, Operator Preventive Maintenance Checks and Services (PMCS) and trouble-shooting. Training shall be consistent with procedures established in the appropriate system technical manual. The Operator course of instruction shall be developed for 80 hours duration. During training the Contractor shall conduct a hands on pass/fail test at the end of each module. At the end of each class, the Contractor shall administer a comprehensive written examination, 80% or better shall be considered a passing grade.

(b) Maintainer course. The Maintainer course shall be designed for the maintainers of the AMP and cover minimal operation characteristics, complete field level PMCS, troubleshooting, diagnosis and repair of equipment components to include system unique control systems, engine, fuel, braking, electrical, hydraulic, pneumatic, controls, and ancillary systems. The course shall be directed toward new technologies and items not currently in the Army system and different from the current system in the field. Training shall be consistent with procedures established in the appropriate technical manual. The maintainer course of instructions shall be developed for 40 hours duration.

C.10.7.2.1.2.1 Course Material Format/Media & Deliveries

The Contractor shall submit materials developed and used for conducting Operator and Maintainer Training for Commercial Customers with Supplemental Data/Information added to meet the Armys Requirements. Training Materials shall consist of Contractor handbooks, in-house training material, pamphlets, training literature, utility manuals, software manuals, maintenance manuals, logic diagrams, schematics, flow block diagrams, equipment description and functional data, testing procedures, visual aids, and other documents suitable for use in development of training programs. Visual aids may consist of videos, slides, transparencies, wall charts, schematics, illustrations, pictures, drawings, and cutaways of components. No classified information is to be included in the training materials. The Contractor shall deliver all course control documents and training materials in an editable commercial electronic format: (Microsoft Word for documents and PowerPoint for presentations). Materials submitted must not conflict with the content of the system technical manuals. Training materials shall be developed and delivered IAW CDRL A029.

C.10.7.2.1.2.2 Automated Systems Approach to Training (ASAT) Course Material Format Deliveries (OPTION)

After final acceptance of all training material the Government will make a determination for the requirement of the Contractor to input the final approved operator and maintenance NET instructor Lesson Plans training materials into the ASAT database or current system. If the Government elects to have the Contractor input the training materials into ASAT or current system it will be done IAW CDRL A030.

C.10.7.2.2 Conduct of Training Programs

C.10.7.2.2.1 Instructor Certification

The Contractor shall ensure that all training (Test, LD, Instructor & Key Personnel Training (I&KPT), and NET) will be conducted by instructors certified by the International Board of Standards for Training Developers and Instructors (IBSTDI) or military equivalent.

C.10.7.2.2.2 Instructor and Key Personnel Training (I&KPT) Class

The Contractor shall conduct I&KPT at a Contractor location. The Contractor shall conduct this class to verify training material for NET. The audience for I&KPT will be Army instructors/trainers and Logistics Assistance Representatives (LARs). The Contractor shall provide systems, equipment, facilities, tools (special and common) and replacement parts consumed during training. The Contractor shall perform any changes to the training material during the I&KPT in real-time (any minor changes to illustrations to support narrative information can lag by 24 hours). However, the Contractor shall provide art markups in real-time, as they occur.

C.10.7.2.2.3 New Equipment Training (NET) Classes

The Contractor shall conduct NET classes by delivery order. The contractor shall conduct NET with each system fielded, which shall be sent to the various states provided in section H.5. One NET class shall be required for each system. The Contractor shall conduct NET with the fielded system and the approved training materials developed under this contract. The exact location shall be determined upon

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issuance of each delivery order. A minimum of 5 and a maximum of 10 students will attend each class. The training day will be no more than 8 hours in length and will be Monday through Friday unless other arrangements are requested by the receiving unit. The Contractor shall provide a copy of the approved student training materials to each student and a copy of the instructor and student training materials to the unit training officer.

C.10.7.2.2.4 Student Training Administration

The Contractor shall prepare and submit the following for each NET class conducted. The data shall be submitted IAW CDRL A031.

(a) On the first day of each training class the Contractor shall submit a list of students in attendance to the Government.

(b) At the end of the operator class, the Contractor shall provide the results of the operator performance test and written examination for each student to the unit training officer.

(c) The Government will provide the training certificate master file for the Contractor to administer. At the end of the class, the Contractor shall present each student with a Certificate of Training. The Contractor may also administer a corporate certificate if desired.

(d) At the end of the class, each student will complete a class critique. The Government will provide a sample critique sheet and the Contractor shall administer them. Within ten (10) business days after completion of the class, the Contractor shall submit the completed critiques to the Government.

(e) Within ten (10) business days after completion of the class, the Contractor shall submit a student roster to the Government. The roster shall include the name of the class, start and end date, instructor(s) name and signature, location of the class, student name, military rank (if military), military occupational skill (MOS), home station address, students Army Knowledge Online (AKO) email address, record of daily attendance for each student, and instructors notes.

C.10.8 Quality Assurance (QA)

The Contractor shall be responsible for 100% technical accuracy and adequacy of all data delivered. The Contractor shall implement a system of Quality Assurance IAW TACOM clause 52.246-4025. Government receipt of data deliverables does not constitute acceptance. Government acceptance of data deliverables hinges on the completeness, accuracy, compatibility of submitted documentation, and the applicable military standards and specifications. Deliverables that are technically inaccurate, incomplete, or otherwise determined unusable as submitted will be returned to the Contractor for correction and resubmittal at no additional cost to the Government.

C.10.8.1 Provisioning Quality Assurance

The Contractor shall be responsible for the quality of all LMI/Provisioning deliverables. The level of acceptance for approval is 100% accuracy for each deliverable. All information shall be complete, technically accurate and usable by TACOM and Defense Logistics Information Systems (DLIS) for NSN assignment.

C.10.8.2 Publications Quality Assurance

The Contractor shall be responsible for the quality of the equipment publications deliverables. All delivered TM information shall be complete, technically accurate and useable by US Army soldiers. The Government shall assess the quality of the deliverable IAW Attachment 018.

C.11 AMP Deprocessing and Hand Off

C.11.1 Deprocessing

The Contractor shall deprocess all equipment deliverables under this contract after delivery to the unit and assure they are ready to operate prior to New Equipment Training (NET). Deprocessing actions shall be determined by the contractor but typically include:

(a) Unpackaging any items required for operation of the system and installation on the system. Unpackaging BII, ISP, and Spare Parts Kits to the extent necessary to perform inventory.

(b) Filling or checking oil reservoirs (e.g., engine and hydraulic) to assure they are at proper level.

(c) Filling fuel tanks and checking cooling systems for proper level.

(d) Charging of batteries and assuring all electrical wiring is intact and functional.

(e) Verify tire air pressure is at the correct level.



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(f) Verify all surfaces requiring lubrication are lubricated.

(g) The Contractor shall provide a complete inventory of material shipped with the system, e.g., BII, technical publications, special tools, initial service packages, and spare parts kits.

(h) The Contractor shall provide one-hour familiarization course for 6-8 people from the receiving unit on first system delivered so they can safely move the system until the actual System Training is conducted. Familiarization shall include daily and weekly service locations and checks.

**C.11.2 Hand off**

The Contractor shall perform the hand-off at the conclusion of NET. Hand off consists of performing a joint inventory with the receiving unit, signing of the issuing document (DA Form 3161 which is provided by the Government), and activating the system warranty. Activating the warranty includes stamping the effective date (date of hand-off) on the system warranty data plates, discussing with the unit the terms and details of warranty administration, and pointing out the warranty information included in the TMs. The Contractor shall prepare a report which contains the warranty implementation date by system type, system serial number, shipping destination, and Department of Defense Activity Address Code (DODAAC) IAW CDRL A032.

**C.11.3 Equipment Control Record (DA Form 2408-9)**

The Contractor shall prepare and submit a DA Form 2408-9, Equipment Control Records (Government furnished form) for each system it delivers. The Contractor shall prepare the form IAW the instructions in DA PAM 750-8, paragraph 5-7 c (3), Acceptance and Registration, to report acceptance of the each AMP into the U.S. Army inventory. Attachment 019 contains a blank copy of DA Form 2408-9. The Contractor shall have the Defense Contract Management Command (DCMC) Quality Assurance Representative (QAR) complete blocks 22 and 23 as the person accepting the item into the Army inventory. After the DCMC QAR completes blocks 22 and 23, the Contractor shall submit completed copies of the DA Form 2408-9 IAW DA PAM 750-8, paragraph 5-7 f(5) Accepted Methods of Data Submission. Submission of completed copies shall be made within five (5) business days after acceptance as follows:

(a) Submit the control copy (copy # 1) LOGSA and addressed to:

Commander  
USAMC Logistic Support Activity  
ATTN: AMXLS-RRR  
Redstone Arsenal, AL 35898-7466  
E-mail: tedb@logsa.army.mil

(b) Submit the TACOM copy (copy #2) to:

Commander  
U.S. Army Tank-automotive and Armaments Command  
ATTN: AMSTA-LC-CJCA/MS 326  
6501 East 11 Mile Rd.  
Warren, MI 48397-5000  
E-mail: mailto:DAMI\_Loaders@conus.army.mil

(c) Place Log Book copy (copy # 3) in a dry, protected location on the system, secured and shipped with each system.

**C.12 Contractor Technical Assistance**

The Contractor shall provide Contractor Technical Assistance CONUS and OCONUS during non-contingency operations. The Contractor shall provide the man-days of service specified in the delivery order. This effort will consist of, operator and maintenance sustainment training, troubleshooting, safety, plant adjustments, Preventative Maintenance Checks and Schedules (PMCS), plant controls, and plant set-up and tear-down. The Contracting Officer shall designate the times and locations of the service to be performed. The Contracting Officer or authorized representative shall notify the Contractor within 10 business days of Delivery order/award in advance of CONUS travel and 20 business days in advance of OCONUS travel of the date representative(s) are required. Instructions and established itineraries will be provided as necessary.

**C.12.1 Technical Representatives**

The Contractor shall provide Technical Representatives who are thoroughly experienced and qualified to advise and make recommendations, orient, and instruct key Government personnel with respect to operation, training, maintenance, and repair of the AMP and its components.

**C.12.2 Man-Days**

The Contractor shall price man-days of service for locations in both CONUS and OCONUS.

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(a) The man-day rate does not include travel costs (airfare, local car rental, lodging, meals, and incidental expenses) of the Representative while performing the services.

(b) A man-day is 10 hours. The representative is to work no more than 10 hours per day, 50 hours per week, unless otherwise negotiated. A man-day of service includes periods during which the representative is delayed or prevented from performing tasks, only if the delay or non-performance is solely the Government's fault. Man-days of service include travel time for initial travel from Contractor's facility to site of work, travel between sites of work, and return travel to Contractor's facility. It shall also include time that the Technical Representative spends preparing required written reports at the work site which can be verified by the Government.

(c) Saturday/Sunday. When work is performed on a Saturday/Sunday, a man-day shall be charged at the Saturday/Sunday man-day rate IAW Section B.

(d) Holidays. The Government will pay for federal holidays in addition to the actual days worked at the man-day rate established. The Government is not responsible for vacation, other holidays or sick leave pay.

(e) Emergency Leave. The Government is not responsible for emergency leave that the Contractor may grant to the Technical Representative while performing work under this contract. The Government is only responsible for actual days worked by qualified Contractor representative, whether or not the assignment is completed by the same representative. The negotiated price for travel costs will include only one complete roundtrip transportation and travel costs between sites of work per assignment.

**C.12.3 Technical Representative Reports**

Each Technical Representative shall prepare a report IAW CDRL A033 following completion of each assignment covering their activities.

**C.13 WARRANTY**

**C.13.1 Requirement for Commercial Warranty**

The Contractor shall provide the Contractors standard commercial warranty with all applicable pass through warranties. The warranty shall be incorporated in the contract. The warranty period will not begin until handoff of the machine has been made to the receiving unit.

**C.13.2 Warranty Performance Report**

The Contractor shall submit a Warranty Performance Report IAW CDRL A034. The report shall reflect all of the warranty claims processed on each system within the appropriate reporting period. In addition to the data required by the Data Item Description (DID), the report shall include the number of operating hours on the system at the time of fault.

\*\*\* END OF NARRATIVE C0001 \*\*\*