

**STATEMENT OF WORK (SOW)  
FOR DEVELOPMENT AND PRODUCTION OF INTEGRATED PRODUCT SUPPORT DELIVERABLES  
FOR PRODUCT MANAGER-FORCE SUSTAINMENT SYSTEMS (PM-FSS) PROJECT TECHNICAL  
MANUAL (TM) 10-XXXX-XXX-12&P**

**SECTION 1. Description/Specifications.**

**C.1.1 Statement of Work (SOW).** The contractor shall furnish all the necessary personnel, materials, services, and facilities (except as otherwise specified herein) and otherwise do all the things necessary for or incident to the performance of the work as set forth herein.

**C.1.2 Background.** PM-FSS is the Army's premier developer of force sustainment systems providing expeditionary, modular, and scalable life support capabilities that can quickly deploy and redeploy across the globe. Functional areas within the PM-FSS capabilities are Field Feeding, Field Services, Aerial Delivery, Shelters, and Force Provider. Each PM-FSS functional area maintains a portfolio of legacy or new equipment end item/systems/subsystems requiring full spectrum Logistics Product Data (LPD) consisting of supportability analyses, Technical Manuals (TMs), Technical Bulletins (TB), repair parts provisioning, packaging, special packaging, training and technical data. This Statement of Work (SOW) adopts new guidance contained in the Product Support Manager's (PSM) Guidebook that is still emerging.

**C.1.3 Scope.**

**C.1.3.1 PM-FSS Project.** This SOW establishes the scope for the development of Integrated Product Support (IPS) for designated PM-FSS projects. The scope of this SOW covers the development of life-cycle logistics support for PM-FSS legacy and new equipment end item/system/subsystem projects. The contractor shall develop and produce the following as specified by this SOW, associated Contract Data Requirements List (CDRL), listed authorities, and exhibits:

CDRL	AUTHORITY	TIT	SOW PARA/ATT
A002	TA-STD-0017 DI-SESS-81495B	Failure Modes, Effects, and Criticality Analysis (FMECA)	C.3.2.1
A003	TA-STD-0017	Maintenance Task Analysis (MTA)	C.3.2.2
A004	DI-PSSS-81872A	Level of Repair Analysis (LORA)	C.3.2.3
A005	MIL-STD-40051-2D	Maintenance Allocation Chart (MAC)	C.3.3
A006	MIL-STD-40051-2D	Technical Manual (TM)	C.3.7
A007	DI-CMAN-80792B DI-TMSS-81818 DI-TMSS-81819A	Validation Report Validation Plan Technical Manual Validation Certificate	C.3.7.9.14 C.3.7.9.2 C.1.3.4, C.6.1
A008	DI-SESS-81715	Provisioning Parts List (PPL)	C.3.6
A009	DI-SESS-81874	Engineering Data for Provisioning (EDFP)	C.3.5
A010	DI-PACK-80121C	Special Packaging Instructions (SPI)	C.3.7.16.4
A011	DI-SESS-81758A MIL-STD-2073-1E	Logistics Product Data (LPD) for Packaging Standard Practice for Military Packaging	C.3.7.16 C.6.1
A012	TRADOC Pamphlet 350-70-14	Graphic Training Aid (GTA)	C.3.7.17
A013	SAE TA-STD-0017	Fault Tree Analysis (FTA)	C.3.2.1.1

**C.1.3.2 Requirements.** Contractors shall refer to this SOW and to the Department of Defense's DD Form 1423 – CDRL of each data item to determine the government's work requirements. Proposals shall demonstrate experience developing quality IPS contract deliverables in support of the PM-FSS equipment item(s) specified in the solicitation.

**C.1.3.3 Maintenance Strategy.** The contractor shall be responsible for the development of the supportability analysis required to support logistics development. This analysis includes Level of Repair Analysis (LORA), Failure Modes, Effects, and Criticality Analysis (FMECA), Fault Tree Analysis (FTA), and Maintenance Task Analysis (MTA).

**C.1.3.4 Technical Manuals (TM), and Repair Parts and Special Tools List (RPSTL).** The contractor shall be responsible for the development of a new Operator and Field Maintenance Manual including Repair Parts and Special Tools List (RPSTL). The contractor shall be responsible for developing a TM validation plan and report and submitting a validation certificate.

**C.1.3.5 Provisioning.** The contractor shall be responsible for providing a Maintenance Allocation Chart (MAC) with Engineering Drawing Tree, Provisioning Parts List (PPL), and Engineering Data for Provisioning (EDFP) to support the provisioning process.

**C.1.3.6 Packaging.** The contractor shall develop any required Special Packaging Instructions (SPI) and LPD packaging data to support the end item.

**C.1.3.7 Schedule.** Schedules to accomplish work requirement under this SOW are contractor-proposed according to each CDRL and are government-approved. Exceptions to CDRL-driven schedule development are:

- a. When a contractor deliverable or government response of a data product falls on a weekend or holiday; in this case, delivery will be defaulted to the next business day. Example: The due date of May 1, 2022 is a Sunday, so the delivery date would become Monday, May 2 instead.
- b. When a scheduling event is anticipated to require three (3) or fewer days to complete, it should occur during a non- holiday, Monday–Friday workweek.
- c. When a scheduling event is anticipated to require greater than three (3) days to complete, it should begin on a non-holiday Monday.
- d. Contractor deliverable submissions to the government are due by 1300 Eastern Time (ET) on the scheduled due date.

**C.1.3.8 Contract Deliverables.** All contract submission files shall be sent electronically without restrictions that would prevent the government from reproducing or editing the information unless otherwise specified in this SOW or accompanying CDRLs. Electronic deliveries must be submitted using the DoD Secure Access File Exchange (SAFE) service, accessed via <https://safe.apps.mil>. A Common Access Card (CAC) and card reader are required. Each submission shall be sent with a letter of transmittal and follow requirements in this SOW or accompanying CDRLs.

## **SECTION 2. Meetings, In-Process Reviews (IPRs), and Events.**

The government requires the following meetings, reviews, and events throughout the life of this contract to provide guidance and ensure program development and quality of the contractor-developed logistical support data products.

- a. Logistics Guidance Conference
- b. Bi-weekly teleconference IPRs
- d. Maintenance Task Analysis (MTA) IPRs
- e. Maintenance Allocation Chart (MAC) IPRs
- f. Government Provisioning Conference
- g. Contractor TM Validation
- h. Government TM Maintainability Evaluation (ME)
- i. Government TM Verification

The following SOW paragraphs give guidance to the support required from the contractor at meetings, IPRs, and events. The contractor or a contractor-designated representative, as directed by this SOW, shall be a required attendee for all meetings, IPRs, and events.

**C.2.1 Logistics Guidance Conference.** To ensure mutual understanding of the end item and to discuss logistical support requirements that exist between the contractor and government, a logistics guidance conference shall be held to discuss the logistics data product(s), as well as contractor and government responsibilities, roles, and scope of work, and to assign appropriate Points of Contact (POCs). The logistics guidance conference shall be a primary event to discuss and clarify requirements of the SOW, schedule, and tasks.

A logistics guidance conference shall be held within thirty (30) days of contract award, on a date and time mutually agreed upon between the government and contractor. The government shall facilitate the review. The logistics guidance conference is a combined discussion of all government requirements and data products, including provisioning/maintenance, technical publications, training, and packaging. The stated government contract data product requirement(s) will determine the contractor personnel attendance. The contractor shall provide appropriate representation at this review to ensure a thorough understanding of the support requirements of all functional areas. The government will provide the necessary government Furnished Information (GFI) to the contractor at the logistics guidance conference.

**C.2.2 Bi-weekly Teleconference IPRs.** Bi-weekly IPRs between the contractor and government shall be held by teleconference. Postponement or cancellation of IPRs may occur with concurrence of the government representatives. If the government rejects a submission, the government may require an additional IPR at the contractor or government facility to resolve problems with the rejected deliverable. IPRs may be requested by the contractor or the government to resolve questions or clarify requirements.

**C.2.3 MAC IPRs.** The contractor shall participate in MAC IPR(s). Contractor personnel responsible for development of the MAC shall be present, shall assist with content clarification, and shall be engaged during the MAC reviews. IPRs will be held via telecommunication, but the initial MAC IPR event may be in-person at a government facility.

**C.2.4 Government Provisioning Conference.** The government shall hold the provisioning conference at a place, time, and date dictated by the program schedule as indicated by CDRL A007 and mutually agreed upon by the contractor and government. The contractor shall participate in the government provisioning conference. Contractor personnel responsible for the development of the provisioning deliverables shall be present, shall assist with content clarification, and shall be engaged during the provisioning conference.

**C.2.5 Contractor Validation.** The contractor shall conduct a validation of the TM submission and submit a Validation Plan and Report In Accordance With (IAW) this SOW and CDRL A007. This validation shall be held at the contractor's facility, unless otherwise specified by the contracting activity. The contractor shall notify the government no fewer than thirty (30) days prior to conducting the validation. The government will schedule observers as needed. The contractor shall provide for necessary administrative and technical support for the government observation of the validation effort.

**C.2.6 Government Maintainability Evaluation (ME).** The contractor shall participate in Maintainability Evaluation (ME) IPRs and shall provide contractor support at the ME event in the form of the technical writer assigned to the project. Personnel are expected to assist in content clarification, be present and engaged for the performance of the tasks and produce on-the-spot rewrites within 24–48 hours to allow for re- performance of the tasks at the direction of the government. IPRs shall be held via telecommunication, and the ME event will be in-person at a government facility.

**C.2.7 Government Verification.** The contractor shall participate in verification planning meetings and shall provide contractor support at the verification conference in the form of the technical writer assigned to the project. Personnel are expected to assist in content clarification, be present and engaged for the performance of the tasks and produce on-the-spot rewrites within 24–48 hours to allow for re-performance of the tasks at the direction of the government. Verification planning meetings shall be held via telecommunication, and the verification conference will be in-person at a government facility.

### **SECTION 3. Contractor Tasks.**

**C.3.1 General Summary.** The contractor shall provide the services of developing the logistics support for the end item following Army instructions and directives.

**C.3.2 Supportability Analysis.** Supportability analysis includes the integration of various analytical techniques with the objective of designing and developing an effective and efficient logistics support infrastructure. Some techniques used in supportability analysis are FMECA, FTA, MTA, and LORA.

**C.3.2.1 Failure Modes, Effects, and Criticality Analysis (FMECA).** The FMECA is a reliability evaluation and design review technique that examines the potential failure modes within a system to determine the effects of failures on equipment or system performance. The FMECA consists of essentially two analyses: Failure Modes Effects Analysis, which analyzes possible failures and their root causes, and Criticality Analysis, which analyzes

the criticality of each effect on mission completion, environmental impacts, health hazards, and system safety. This information is ranked by severity and probability. The FMECA is performed using a “bottom-up” approach, which begins with looking at the effects of failure at the lowest level of the system hierarchy and then tracing upward to determine the end effect of each failure on system performance.

The output results from the FMECA provide recommendations for the creation of corrective actions, preventive maintenance, and other maintenance actions, which, in turn, provide the basis to perform the MTA. The results of those analyses provide information to conduct the LORA.

**C.3.2.1.1 Fault Tree Analysis (FTA).** The FTA provides a complementary approach to the FMECA. The FTA is a “top-down,” systematic method for defining a single undesirable event and determining all possible reasons that would cause the event to occur. The output results from the FMECA/FTA provide recommendations for the creation of corrective actions, Preventive Maintenance, and other maintenance actions, which, in turn, provide the basis to perform the MTA. The results of those analyses provide information to conduct the LORA.

**C.3.2.2 Maintenance Task Analysis (MTA).** The MTA shall be documented in contractor format IAW Two-Level Maintenance (TLM) (i.e., to include field and sustainment level tasks) and will identify the Maintenance Functions, level of maintenance, manpower requirements, spare and repair parts, and support equipment required for each replaceable and repairable item. Functional Group Codes (FGCs) will not be used. The following shall be included:

- a. All maintenance functions/tasks to be performed: Provide a list of each maintenance function and its associated maintenance task(s).
- b. Manpower requirements for each maintenance task to include the following:
  1. Skill level of technician
  2. Identification of either Crew/Maintainer/Below Depot/Depot
  3. Number of technicians: Identify number of technicians required to perform each maintenance task
  4. Number of labor hours to perform each task: Identify the estimated time required to perform each task
  5. Identification of the Military Occupational Specialty (MOS) required for each maintenance task.
- c. Required tools or special tools/equipment to perform the task.
- d. Identification of common tool sets and/or individual special tools to perform each task.
- e. Required lubricants, solvents, kits, safety equipment, or piece parts: Identify any petroleum oils and lubricants that may be required to perform each maintenance task.
- f. Any environmental factors or safety concerns to equipment and personnel that should be addressed when performing the task (e.g., NOTES, CAUTIONS, WARNINGS): Identify any additional considerations, such as safety-related warnings or cautions or other concerns in performing the task.

**C.3.2.3 Level of Repair Analysis (LORA).** The LORA is an analytical methodology used to determine the most cost-effective maintenance policy for repairing, replacing, or discarding an item based on economic and non-economic considerations.

**C.3.2.3.1 General:** When conducting a LORA, consideration must be given to both economic and non-economic factors. The results of a non-economic analysis should serve as constraints on the LORA decisions when conducting the economic analysis. A non-economic LORA addresses preempting factors that override cost considerations or existing LORA decisions on similar systems. These factors determine the maintenance level(s) where repair or discard can be performed. This evaluation is performed without consideration of costs; however, any recommendations or conclusions based upon this evaluation should also include an economic analysis that will assign economic value to the non-economic decisions. Preempting factors are normally a restraint, stipulation, or special requirement that forces the repair or discard decision to a specific maintenance level or limits the support alternatives available. Non-economic issues concerning safety, environmental, and any other issues must be discussed between the contractor and government. Any non-economic issues identified must have associated costs assigned and be incorporated into the government’s Computerized Optimization Model for Predicting and Analyzing Support Structures (COMPASS) model, which is available free of charge. The report must then be rerun to update the output maintenance policy.

**C.3.2.3.2 Requirements:** The contractor will perform a LORA for the end item using COMPASS. Engineering estimates may be used in the absence of actual reliability data but will not be used exclusively. The contractor will make every effort to obtain accurate industry-known reliability data. The maintenance policy file as output from COMPASS along with all required supportability analyses shall be used as the baseline documents when creating the MAC. The contractor shall perform all supportability analyses IAW CDRLs A002, A003, A004, A013.

**C.3.2.3.3 Software:** COMPASS is the Army-approved model to conduct the LORA. The contractor shall use this program to perform the LORA. This program is available to all U.S. government offices and their contractors working under a current contract. Refer to section 6 for the link to obtain COMPASS software. A Systems Access Request form will need to be submitted by the contractor through the system and approved prior to installation.

**C.3.2.3.4 Import Spreadsheet:** The contractor at their discretion may use the Import Spreadsheet to assist with data input. Refer to section 6 for the link to obtain COMPASS import spreadsheet.

### **C.3.3 Maintenance Allocation Chart (MAC).**

**C.3.3.1 Preparation of the MAC.** The contractor shall utilize the MTA and LORA to determine the operational, maintenance, and support functions of the system for the appropriate levels of maintenance: operator or field. The contractor shall ensure that all logistics documents created under this effort agree with each other and that there is consistency among all products, particularly as required by MIL-STD. The contractor shall develop and prepare the MAC in top-down generation breakdown sequence in the logical order of disassembly, starting with the end item, and containing all functional groups that require maintenance. The process of breakdown is established from the engineering drawing structure in a Next Higher Assembly (NHA) progression, until the lowest repairable assembly/subassembly in each family tree group is identified. All repairable components must have a functional group or subgroup assigned that aligns with the applicable maintenance work package. The RPSTL identifies all repair parts required for the maintenance process. Contractor shall prepare the MAC two-level maintenance format IAW MIL-STD-40051-2D and AR 750-1, aligned with TM requirements.

The basic entries in the MAC shall be a list of functional groups applicable to the end item that require maintenance. The term “functional group” applies to repairable assemblies and subassemblies. The end item group shall be numbered “00,” with each subsequent group number ascending from there. Parts that are not subject to maintenance shall not be listed in the MAC.

All item names of MAC functional groups shall be official nomenclature IAW the Defense Logistics Agency (DLA) H6 Item Name Directory. Reverse word order shall be used in the MAC.

**C.3.3.2 Initial MAC.** The initial MAC with engineering drawing tree shall be submitted IAW CDRL A005 after the contractor receives acceptance of the FMECA and LORA. The purpose of the MAC is to ensure the maintenance concept being produced by the LORA is expressed accurately in the MAC, follows the logical order of disassembly, and is compliant with MIL-STD-40051-2D. Based on the MAC, the contractor shall also provide a recommended listing of all maintenance work packages (Operator/Maintainer) to support all maintenance functions listed on the MAC. An IPR with all government and contractor stakeholders shall be conducted within fifteen (15) calendar days after government receipt of the initial MAC with engineering drawing tree submissions.

**C.3.4.2 Provisioning Process and Interface.** This section describes how the RPSTL for the TM evolves during the provisioning process and how it interfaces with the other provisioning-oriented documents (e.g., the MAC and PPL).

**C.3.4.2.1 Preparation of the RPSTL.** The RPSTL must be developed as an extension of the PPL, and both must align with a properly prepared MAC. RPSTL figure titles shall align with the MAC functional groups and be in correct reading order.

**C.3.4.2.2 PPL and MAC Preparation Interface.** When the PPL and MAC are prepared in top-down generation breakdown format, FGCs must be assigned to all items on the PPL during the provisioning process and must agree with the MAC group numbers before RPSTL preparation can begin. These

groups then become the basis for the RPSTL Table of Contents and figure/listing captions. The names used in the RPSTL must equate to the group number of the item called out in the MAC; all repairable items must have a group or subgroup number assigned. The structure of the FGCs is tied to the indenture structure of the PPL. For example, the A indenture item (system/end item) would have an FGC equivalent to 00; B would be 01; C would be 0101. For ease of preparation and revision of the MAC, and since the FGCs will appear on the PPL, the MAC should be structured according to the indenture codes for all assemblies in order to ensure traceability of NHA relationships. If some groups are subsequently determined to be non-repairable, they may also be deleted later. A repairable item that appears as a one-line entry in the PPL will have an entry in the MAC. At a minimum, all repairable items must be listed in the MAC.

Compatibility between the MAC and PPL is a prerequisite for preparing the RPSTL; any disagreement between the two documents must be resolved. To ensure compatibility, the MAC must not be considered final until it is cross-referenced against the PPL and the FGCs have been verified.

**C.3.4.3 Functional Group Code (FGC).** An FGC is a basic (usually two-position) group code assigned to identify major components, assemblies, and subassemblies to a functional system. Subordinate sub-functional groups/subassemblies are coded to relate back to the basic (top position) FGC in a sequential, NHA relationship (i.e., top-down breakdown structure).

a. Top-down is accomplished by sequencing all parts comprising the end item in a lateral and descending “family tree/generation breakdown.” This breakdown shall consist of the end item, including all components, listing every assembly, subassembly, and part that can be disassembled, reassembled, and/or replaced. All parts shall be listed in their relation to the end item, component, assembly, or installation system in which they are contained and to their own further subassemblies and parts. The only exception is welded components, which will not be broken down into piece parts.

b. Breakdown is accomplished by starting with the end item as the “Top Level Assembly” (A) and descending, by subsequent indenture level (B, C, D, etc.), resulting in a complete depiction of the end item. Major assemblies, subassemblies, or components would normally be at the “B” indenture level, etc., utilizing as many levels as necessary until the last item(s) is/are depicted. When more than one group is to be depicted at the same indenture level, standard practice and best maintenance procedures will dictate which group will appear first (e.g., a cylinder head assembly would normally necessitate removal prior to removing the cylinder block assembly; therefore, the cylinder head assembly would appear prior to the cylinder block in the breakdown sequence.)

**C.3.4.4 Indenture.** This top-down breakdown relationship is shown by means of an indenture code in the RPSTL and PPL. The indenture code indicates that the item is either associated with, contained in, or part of the preceding item identified with an indenture code of the preceding alpha character.

**C.3.4.5 Maintenance Code.** The maintenance code entered in the third position of the Source, Maintenance and Recoverability (SMR) code in the RPSTL shall be used to identify the lowest category of maintenance that is authorized to remove, replace, and use the spare or repair parts. SMR codes are defined in AR 700-82. All items on the MAC shall specify the maintenance level(s) to which a function is authorized: field or sustainment. If the Maintenance Function is a replacement function only for a repair part, the repair part shall not be listed in the MAC, unless not listing the repair part would result in omission of the NHA group number; in this case, the part shall be listed in order to list the NHA functional group number.

**C.3.4.6 Preparation of Maintenance Instructions.** Maintenance instructions shall be prepared and subdivided into individual work packages that support the functional groups of the MAC. The maintenance instructions provide information to enable the technician to receive, process, inspect, clean, service, test, repair, and replace the weapon system/equipment and associated Weapons Replacement Assemblies/Shop Replacement Assemblies (WRAs/SRAs) to an acceptable performance standard. Maintenance tasks shall be developed IAW the LPD, MAC, which serves as the maintenance plan, and SMR code developed for the weapon system/equipment and components. Maintenance work packages shall be arranged to coincide with the FGC sequence followed in the MAC, which applies to both field and sustainment levels.

**C.3.4.7 Engineering Drawing Tree.** The contractor shall provide a top-down generation breakdown engineering drawing tree of the end item with sufficient detail so that the government can verify the functional groups and NHA for each item listed on the MAC. The indenturing structure represented on the drawing tree shall provide sufficient detail so that the government can verify the NHA for each item listed on the PPL and associated EDFP. The drawing tree shall clearly show to which functional group the assembly, subassembly, and/or part belongs and the NHA. The engineering drawing tree shall be an accurate representation of the Technical Drawing Package (TDP) and shall include all assemblies, subassemblies, and repairable components. The following elements shall be provided as a minimum on the drawing tree:

- a. CAGE/Part Number
- b. Item Name
- c. Next Higher Assembly (NHA)
- d. Indenture Level/Code
- e. Functional Group Code (FGC)
- f. PLISN (if known)

The contractor may include, at their discretion, any other pertinent information they feel is relevant to the drawing tree.

**C.3.4.8 Government Review, Approval, and Acceptance of the MAC.** The contractor shall submit the initial MAC with engineering drawing tree to the government IAW CDRL A005 requirements. After government review and acceptance of the MAC breakdown, the approved government MAC shall form the base line for the associated TM and provisioning effort. Any revision made to the MAC after government acceptance shall be presented and reviewed at an IPR and approved by the government. MAC acceptance or rejection shall be in the form of a memo through the government Program Manager.

**C.3.4.9 Media.** The contractor shall prepare and deliver the MAC and drawing tree in Microsoft Office products or equivalent electronic format.

**C.3.4.10 Overview of Army Maintenance Strategy.** The two-level MAC designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component within the Army maintenance system. The MAC shall include all maintenance significant components, assemblies, subassemblies, and modules for field and sustainment level maintenance. No item shall be deleted from or added to the MAC without government approval. If a maintenance function is a replacement function only for a repair part, the item shall not be listed in the MAC, unless not listing the item would result in deletion of the group number, in which case the item shall be listed in order to retain the functional group number. Assemblies or subassemblies requiring a test procedure before replacement shall also be listed on the MAC.

**C.3.4.11 MAC IPR.** The MAC IPR will be scheduled on a date and time dictated by program schedule and mutually agreed on by the contractor and government. The length of the review will be determined by the contractor and the complexity of the system. The purpose of the IPR is for the contractor to tour the equipment with the government representative, to explain its function, and to get a better understanding of the end item and its components. The government representative can then provide a preliminary review of the MAC, including functional group breakdown, maintenance functions, and maintenance levels (i.e., field and sustainment), and can provide input to the contractor of the end item. The contractor should be prepared to discuss both field and sustainment level tasks, as applicable, as outputted from the supportability analyses. The IPR also provides the opportunity to review the maintenance plan philosophy from the contractor as output from the LORA (maintenance concept) and to address upfront any potential issues with the MAC prior to the submittal of the initial MAC.

**C.3.4.11.1 Contractor Personnel.** The contractor shall provide appropriate personnel to support the IPR, present the required content to the government, and respond to government comments and questions.

**C.3.4.11.2 Contractor Briefing.** The contractor shall present a detailed briefing of the theory and principles of operation of the end item and/or sub-components, the MAC functional group breakdown, maintenance actions and processes, maintenance times, equipment troubleshooting strategy, and logic. The contractor shall provide a top-down breakdown engineering drawing tree of the end item to government personnel. The contractor may use block

diagrams, drawings, functional flow charts, and/or schematics to support the functional breakdown of the system and subcomponents. The contractor shall determine the agenda and may use appropriate office media (e.g., charts, slides, handouts) to present the supporting information.

**C.3.4.11.3 Contractor Furnished Documentation.** Contractor-provided aids in the government evaluation of the MAC are listed below. Presentation of this documentation at the MAC IPR ensures government understanding and reasoning of the composition of the MAC. Documents not provided must be addressed by the contractor at the IPR. These documents aid the government evaluation of the submitted MAC.

- a. Schematic diagram of equipment functional groups and relationships
- b. Top-down generation breakdown drawing tree of the end item
- c. Troubleshooting logic diagram of the end item

**C.3.5 Engineering Data for Provisioning (EDFP).** The contractor shall develop and prepare EDPF for all items recommended by the contractor to be SMR “P” coded but that currently are not assigned a National Stock Number (NSN), including Components of End Item (COEI), Basic Issue Items (BII), tools/special tools, and expendable/durable items. The contractor shall also develop and prepare EDPF for all items recommended to be SMR “XD” coded. EDPF consists of Provisioning Technical Documentation (PTD) and/or Supplemental Provisioning Technical Documentation (SPTD) to ensure sustainment and maintenance support throughout the product’s life cycle.

EDFP is data acquired by the contractor to support the assignment of SMR codes to each item on the PPL/RPSTL. EDPF is also used for assignment of item management codes, prevention of the proliferation of identical items in the government inventory, maintenance decisions, and item identification necessary in the assignment of an NSN. EDPF, PTD, and SPTD, as defined, may be used interchangeably within this SOW.

PTD is the generic term for the various provisioning lists and provisioning data as defined in this SOW for EDPF. SPTD is considered part of PTD. PTD is used by the government for identification, selection, and determination of initial requirements and cataloging of support items to be procured through the provisioning process. PTD shall provide technical identification of items for maintenance of end items to include location within the NHA (e.g., internal location of an electrical component within an engine starter assembly). If the drawing, commercial literature, specification, or standard does not identify the location of the part within the end item, then a sketch or illustration must be attached to that specific document. TM and RPSTL illustrations will be sufficient to meet this requirement when provided with EDPF.

SPTD is technical data used to describe repair parts and/or equipment and consists of data such as specifications, standards, drawings, photographs, sketches, descriptions, quantities, and the necessary assembly and general arrangement drawings, schematic diagrams, wiring and cable diagrams, etc., needed to indicate the physical characteristics, location, and function of the item. SPTD shall be provided for all SMR “P” coded items listed in the RPSTL, COEI, BII, tools/special tools, and expendable/durable tables without an NSN. SPTD shall clearly indicate the physical characteristic(s) and/or specification(s) of the item or assembly (e.g., color, type of paint, dimensions, radius, thickness, dimensions, inlet/outlet dimensions, pressure range, length, width, height, shape, surface treatment, thread size, thread type, type of material, wall thickness, amperage, voltage).

SPTD should be provided in the following order of precedence:

- a. Original Equipment Manufacturer (OEM)
- b. Government or recognized industry specification or standard
- c. Commercial Item Description (CID)

At a minimum, SPTD shall clearly and completely identify and describe the item, who manufactures the item (CAGEC) or from whom the item was purchased, and cost of the item.

Items procured from OEM sources that are altered or modified shall have a unique and separate drawing that indicates what modification was performed on the provisioned item and the contractor’s CAGEC and contractor unique part number. EDPF shall include the necessary information to identify the item prior to its alteration including the original part number and the name and CAGEC of the source of the original part.



Supplier/Distributor part numbers and EDPF will not be accepted (unless otherwise directed). All technical data must be from the OEM. Military Specification (MIL-SPEC), Military Standard (MIL-STD), and Federal Specification (FED-SPEC) for items that are non-definitive must include documentation of class, type, size, shape, color, and/or dimensions for that standard.

**C.3.5.1 Government Rejection of Data Product.** The government will reject any submitted EDPF, if the technical documentation of the individual EDPF is not sufficient in clearly outlining technical specifications and dimensions of the provisioned item. EDPF submitted without a CAGEC for any item will be rejected.

**C.3.5.2 Marking of EDPF.** EDPF shall be clearly marked with the Provisioning Contract Control Number (PCCN), Provisioning Control Code (PCC), Provisioning List Item Sequence Numbers (PLISNs), CAGEC, Manufacturer's Part Number, and NHA PLISN. Technical data and EDPF shall match the data/drawing to the PLISN on the PPL for all applicable items. If EDPF for any item has more than one page, all pages shall be marked IAW information contained in this paragraph. EDPF for each individual item shall be submitted as separate PDF files. EDPF that has more than one page for any individual part may be sent as one file. Names for each file shall be as follows: PLISN (Part Number) (Item Description). [For example: A010 (B12G56RE) (Hose Assembly)]

**C.3.5.3 Media.** The contractor shall prepare and deliver PTD and/or SPTD technical documentation electronically using PDF format IAW CDRL A009. All submitted data products shall be written in English, and PTD and/or SPTD shall be organized in alphanumeric order by the PLISN sequence and consistent with the MAC and RPSTL.

**C.3.5.4 Data Rights.** EDPF submitted when the contractor or OEM has proprietary data rights shall be marked in such a manner as to identify the rights, limited or unlimited. These markings shall be IAW Defense Federal Acquisition Regulation Supplement 252.227-7015, Rights in Technical Data.

**C.3.6 Provisioning Parts List (PPL):** The contractor shall develop and prepare a PPL with all data elements selected by the government from GEIA-STD-0007-B. The PPL shall be provided in GEIA-STD-007B format. The contractor shall provide the PPL at the government Provisioning Reviews in addition to the scheduled previous submissions.

The PPL shall be in a top-down generation breakdown structure consistent with the MAC. The MAC, RPSTL, and PPL organization shall be consistent and of the same sequence. The MAC is the base document that is used to sequence and generate the PPL. The RPSTL then becomes an Output product of the PPL.

The PPL shall be a complete list of all replaceable or repairable assemblies, subassemblies, and repair parts. The list structured at the end item, component, or assembly level shall contain the end item, component, or assembly equipment and all support items that can be disassembled, reassembled, or replaced and, when combined, constitute the end item, component, or assembly equipment. The PPL shall also include all COEI, BII, tools/special tools, and expendable/durable items as defined within the respected tables.

The contractor shall identify on the PPL all interchangeable part numbers, drawing numbers, and specification numbers for each item listed in the PPL. All SMR coded "P" items that will be provisioned as a result of the Provisioning Conference shall be supported with applicable EDPF to receive an NSN. The contractor shall provide OEM data for all items on the PPL.

**C.3.6.1 Submission Requirements.** An initial Provisioning Parts List (PPL) shall be submitted by the contractor concurrent with the initial submission of the TM (CDRL A006) and the initial submission of EDPF (CDRL A009).

The contractor may submit a proposed PPL, consisting of 15–20 PLISNs, containing all data elements specific to the equipment for a courtesy review by the government to receive feedback in order to identify any potential concerns consistent with correct and accurate coding and to verify the contractor's understanding of parent/child relationships. This process will aid the contractor and government in addressing any potential issues or concerns with the PPL prior to the initial submission.

Government shall conduct a provisioning conference prior to receiving the final submission of the PPL. The

provisioning conference shall be held at a location mutually agreed upon by the government and contractor. The final submission of the PPL is due after completion of the provisioning conference IAW CDRL A008.

**C.3.6.2 Media.** The contractor shall prepare the PPL electronically as a GEIA-STD-0007B output file format.

**C.3.6.3 Input Media Requirements for Provisioning Data.** United States Army Tank-automotive and Armaments Command (TACOM) Life Cycle Management Command, Integrated Logistics Support Center (ILSC), Soldier-Product Support Integration Directorate (S-PSID) uses the Army Material Command (AMC)-developed Logistics Modernization Program (LMP) applications program to process provisioning data. This program is designed to accept files that meet the following criteria:

- a. GEIA-STD-0007-B File Format.
- b. No header data present within PPL file (e.g., AAAA, AAAB, etc.).

**C.3.6.4 Government Acceptance.** The PPL shall contain all data fields selected from GEIA-STD-0007-B before acceptance by the government. Exhibit 1 is provided as a supplement to this SOW. The PPL will be manually reviewed by a government representative to ensure accuracy of the PPL along with PowerLog-J. The PPL must also pass the LMP Staging Area Validation operation with an error rate of less than (<) 2% before final acceptance by the government.

**C.3.6.5 Source, Maintenance and Recoverability (SMR) Codes.** All NSN items shall be Source coded "P." Procured and non-procured items should be coded IAW Army Regulation 700-82. The government will determine the final SMR coding of each provisioned item on the basis of the individual application.

**C.3.6.6 Essentiality Code.** This Code is used to indicate an item's essentiality in relationship to an Army mission or the extent to which failure of the component spare/repair parts affect the ability of the end item to perform its intended mission. The essentiality code is significant to the provisioning process in that it affects the support item requirement determination process when availability computational models are utilized. To determine the essentiality code for support items, the contractor will evaluate the function of each support item in terms of its essentiality to the operational readiness of the end item or system.

**C.3.6.7 PLISN Numbering.** The end item model record shall be numbered AAAA. Subsequent end item model records shall be numbered AAAB, AAAC, and so on, with individual Usable on Codes (UOCs) for each model record. This information should be provided to the contractor at the Logistics Guidance Conference.

The contractor shall follow the government structure of model records (i.e., part numbers, UOCs, and sequence). The contractor shall coordinate with the government representative and structure the model records as the government has structured the files within the Provisioning Master Record (PMR) within LMP. Submissions structured in a different manner will be rejected and must be corrected.

Other than model record PLISNs, all PPL items shall start with PLISN A010 (Figure 1, Item 1), and each following item incremented by 10 (e.g., A010, A020, A030, through A990). After A990, continue with B010, B020, through B990, and then continuing with all letters of the alphabet (excluding I and O) as the first position character. The contractor must request any desired deviation of PLISN numbering through an address to the government at a contractor-requested IPR.

**C.3.6.8 Approved Item Name (AIN).** The contractor shall use an AIN for all entries in the PPL and TM processes and procedures involving repair parts. The contractor shall review the H6 Federal Name Directory and select the most appropriate nomenclature for the item. The selected AIN shall be used in all TM maintenance processes and procedural references. Contractor-naming will be reviewed at the government provisioning conference to determine government acceptance or rejection of the submitted AIN. Any desired deviation from an AIN may be addressed at the provisioning conference. If the nomenclature is changed, the contractor shall update the TM references, PPL, and RPSTL(s) with the government-approved AIN of the provisioned item.

**C.3.6.9 Proprietary Names.** Trade names, copyrighted names, and/or proprietary names that would require the use of a product or process of one company shall not be used throughout the TM.

**C.3.6.10 Prescreening of Part Numbers.** The contractor shall research and prescreen all submitted repair parts (CAGEC and Part Number) and technical characteristics for existing NSNs within the DOD supply system and shall include this information on the PPL. The contractor shall keep a record of all NSN research efforts and final results. The NSN record shall be presented at the government provisioning conference. Confirmation of screened NSNs on the PPL will take place at the government provisioning review by the DLA. The DLA screening of the PPL will be utilized to update the TM and NMWR references, PPL, and RPSTL(s). The DLA screening results will take precedence over all other references. On near matches between the PPL reference number and the DLA screening results, the government will determine the correct reference number and configuration for the PPL. The contractor shall update the PPL and RPSTL with the government-approved SMR, CAGEC, part number, NSN, and description of the provisioned item.

**C.3.6.11 Bulk Items.** These items will be accounted for in their normal position within the top-down generation breakdown sequence, when maintenance practices establish a need for a “Make From” item. Bulk items are materials utilized to fabricate a repair item and purchased in bulk quantities (e.g., wire, fabric, hoses, PVC, gaskets, sheet metal, etc.). Bulk items shall be listed for all items that are source coded “M” (Make From). Bulk items are listed in the PPL by the equipment drawing number or location where the item is to be installed and identified by a unique CAGEC and part number. Additional remarks in the description column identify color, size, length, or shape of these items. The stocked bulk item (the bulk material from which the component is manufactured) shall appear in the PPL at the end of the PLISN structure by the bulk CAGEC and part number. Bulk items shall be listed in a bulk items list at the end of the PPL in functional group 99 and be “B” indented. The NHA for the bulk material shall be the model record(s). The bulk items list shall contain the total dimensional quantity of each item used on the end item (e.g., length, square foot, etc.).

MIL-SPEC, MIL-STD, FED-SPEC, Commercial, or Performance Standards for bulk items that are non-definitive must include documentation of class, type, size, shape, color, and/or dimensions.

Items selected to be made from bulk material shall also be reviewed to determine if the technical ability and tools to cut, make, assemble, and support the bulk material are available at the selected maintenance level.

**C.3.6.12 Make Items.** Items are coded as “Make From” items with an “M” series SMR Code, because it is not practical or cost effective to purchase small, modified quantities of a bulk material. Manufactured Items must have an exclusive, unique CAGEC and part number listed on the “A” Card. The unique CAGEC and part number is for the modified or cut-to-length part. Make From parts do not have NSNs. The PLISN listing the actual bulk item shall reflect the actual CAGEC, part number, and NSN for the bulk material used to make the parts. If a portion of bulk item appears more than once, each appearance shall require a PLISN listing of that portion at that location.

**C.3.6.13 Part Numbers and Component Color.** Repair parts that are procured either as bare metal or in different colors (i.e., black, green, or tan) from the source of supply shall have a part number that distinctly indicates the color of the repair part, assembly, or subassembly (e.g., XXXX-1 for green and XXXX-2 for tan). The part number indicated on EDFP must be recognized as valid by the source of supply. Repair parts and assemblies shall have the color of the part described on the remarks card of the PLISN entry of that item in the PPL and RPSTL. The government will determine color of repair parts stocked in the Army supply system.

**C.3.6.14 Common Hardware.** The contractor shall make maximum use of existing government numbers for all common hardware items. In all cases where they exist, the contractor shall use American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), MIL-SPEC, MIL-STD, FED-SPEC, commercial, or other government standard numbers for items such as, but not limited to, nuts, bolts, washers, wire, rope, screws, lubricants, springs, roll pins, and clevis pins. MIL-SPEC, MIL-STD, FED-SPEC, commercial, or performance standards that are non-definitive must include documentation of class, type, size, shape, color, and/or dimensions.

The contractor shall make maximum use of existing commercial or industry specifications or commercial or industry descriptions for all common and commercial items that do not have government numbers or specifications.

Common hardware shall have the dimensional characteristics described on the remarks card of the PLISN entry of that item in the PPL and RPSTL.

**C.3.6.15 Government Rejection of Data Product.** A PPL submitted solely with contractor unique part numbers for common hardware (e.g., nuts, bolts, washers, screws) will be rejected. A PPL submitted with placeholders or inaccurate prices will be rejected. A PPL with no CAGEC for any item will be rejected.

**C.3.6.16 Long Lead Time Items.** The contractor shall identify any item on the PPL that is a Long Lead Time Item (LLTI). An LLTI causes extended production or procurement lead time due to its complexity of design, complicated manufacturing process, or limited production capability. An LLTI is one that would require more than 180 days to deliver the item to the government.

**C.3.6.17 Components of End Item (COEI).** All COEI shall be listed in the PPL. All repairable COEI that are listed separately in the MAC shall be listed in the MAC in their normal top-down breakdown place. Non-repairable COEI that are not listed separately but that have a Work Package (WP) associated with them (replace only) shall also be listed in the PPL in their normal places. All other COEI that are not repairable, have an associated WP, and are not listed separately on the MAC shall be listed after the bulk material and are to be “B” indentured, with the NHA as the model record(s). The contractor shall also provide EDPF for all “P” coded COEI to obtain an NSN.

**C.3.6.18 Basic Issue Items (BII).** All BII shall be listed in the PPL after all non-repairable COEI are listed. BII are to be “B” indentured with the NHA as the model record(s). The contractor shall also provide EDPF for all “P” coded BII to obtain an NSN.

**C.3.6.19 Expendable / Durable Items.** All identified expendable/durable items shall be listed at the rear of the PPL, after all non-repairable COEI and BII listed. Expendable/durable items are to be “B” indentured with the NHA as the model record(s). The contractor shall provide EDPF for all “P” coded expendable/durable items that require an NSN. Any chemicals or compounds that require NSNs need to have safety data sheets also included as part of their EDPF.

**C.3.6.20 Tools / Special Tools.** All identified tools/special tools shall be listed at the rear of the PPL, after all non-repairable COEI, BII, and expendable/durable items listed. Tools/special tools are to be “B” indentured with the NHA as the model record(s). The contractor shall provide EDPF for all “P” coded tools/special tools that require an NSN.

**C.3.6.21 Government Provisioning Conference.** The government provisioning conference will be held at a place, time, and date dictated by the program schedule and mutually agreed on by the contractor and government. The number of PLISNs on the End Item shall determine the review length. As general guidance, the contractor should plan support for five (5) business days per 300 assemblies/subassemblies/repair parts (PLISNs) on the PPL/RPSTL.

**C.3.6.21.1 Purpose.** The purpose of the provisioning conference is to acquire and use EDPF, PTD, and SPTD to identify supply support for the end item (EI) and to complete provisioning actions associated with the provisioning decision process (i.e., selecting, coding, computing, cataloging, procuring, and distributing support items). The provisioning conference will be used as a tool to identify and verify the items on the RPSTL, concurrently listed on the PPL and supported with EDPF, against the government-approved production model of the end item.

**C.3.6.21.2 Objective:** The primary objectives of the Army provisioning activities are to ensure that minimum initial stocks of support items and associated technical documentation are available at using organizations, maintenance facilities and supply activities. Ensure logistics data are updated with field experience to ensure maintenance sustainment throughout the fielding process. The initial stocks are required to sustain the programmed operation of systems and EI until normal replenishment can be accomplished. Equipment will be provided to support the stated system availability or System Readiness Objectives (SRO). Determination of logistics support for the EI is to be determined by the government and provided at the least initial investment cost.

**C.3.6.21.3 Government Review:** The government will do an item-by-item review of each RPSTL assembly, subassembly, or repair part to consider whether item will be procured, not procured, or procured at the next higher level of assembly consistent with the maintenance concept. The contractor shall present EDPF, PTD, and/or SPTD to support all sources of supply of each item on the PPL/RPSTL. The government will review and evaluate the

adequacy of engineering data for full item descriptions of all procured items. The government will evaluate contractor research of an existing NSN and concur or non-concur. The government will review each CAGEC and part number to determine if there is an existing NSN within the DOD supply system.

The Defense Logistics Information Service (DLIS) and government equipment specialist will determine if the item names are correct. Additional information may be added to the description in the RPSTL and PPL to further identify and describe the provisioned item. The government will determine and be responsible for any established NSN cataloging data requiring correction in the DOD supply system. All EDFP, PPL, RPSTL, and TM data reviewed at the government provisioning conference will be corrected or updated by the contractor with the guidance received at the provisioning conference.

**C.3.6.21.4 Document Support:** The contractor shall provide copies of the MAC, TM, RPSTL, EDFP, and PPL at the government provisioning review, as required in the government provisioning conference plan.

**C.3.6.21.5 Contractor Technical Support.** The contractor shall provide representatives responsible for provisioning products and a technical consultant or Field Service Representative (FSR) with expert technical knowledge of the end item and familiarity with all aspects (i.e., operation, maintenance processes, repair part(s), and demand rates) of the end item and related equipment. The FSR must be prepared to answer questions and point out, if requested by the government team, the location and function of the provisioned item. This facilitates a relationship review of RPSTL items on the contracted end item by the government team. There will be no teardown or disassembly of the end item, unless requested.

**C.3.6.21.6 Contractor Data Collection.** The contractor shall be prepared with necessary personnel, supplies, and equipment to capture text, data field, and illustration change(s) identified during the provisioning conference of the RPSTL, PPL, and/or EDFP. The contractor shall prepare a master markup of the PPL, RPSTL, and/or EDFP reflecting any change or update identified during the review. A copy of the master markup shall be delivered to the government representative at the close of the provisioning conference.

The contractor shall make all directed changes or updates to the RPSTL, PPL, and EDFP, depending upon government guidance and cataloging decisions made at the provisioning conference. Updated and/or corrected data shall be included in the next submission of deliverables, such as the TM, PPL, and EDFP. The final submissions of the TM, PPL, and EDFP will not be accepted without inclusion of all technical data changes captured during the government provisioning review.

The contractor shall record the following for each PLISN on the PPL during the provisioning conference. The contractor shall provide a copy of this record to the government at the conclusion of the provisioning conference.

- a. PLISN items identified with existing NSN, CAGEC, and part number
- b. PLISN items reviewed and accepted with acceptable EDFP
- c. PLISN items reviewed and rejected with insufficient EDFP, noting the deficiency
- d. Nomenclature, CAGEC, part number, and federal supply class for each PLISN

**C.3.6.21.7 Government Provisioning Conference Plan.** A detailed provisioning conference plan will be made available to the contractor thirty (30) calendar days prior to the scheduled review that outlines the agenda, attendees, and specific contractor and government roles and responsibilities. The government will facilitate the conference and determine the conference schedule with concurrence by the contractor.

### **C.3.7 Technical Manual (TM).**

**C.3.7.1 TM Requirements Matrix Compliance.** The TM content requirements matrix (Exhibit 2) from MIL-STD-40051-2D shall be used to organize and develop technical content. All items marked "R" in the matrix are required to support the equipment and shall be included in the order established in the matrix. All shaded items shall be included as required to support the equipment and, if included, shall be included in the order established in the matrix. All items marked "P" in the matrix are prohibited and shall not be included in the TM. Prohibited rear matter

items marked “P” that are needed for a valid XML deliverable will contain non-representative placeholders instead of any DA 2028s or any authentication page.

**C.3.7.2 Maintenance Allocation Chart (MAC).** The contractor shall use the MAC as the baseline for creating the TM. All maintenance procedures identified in the approved MAC shall have corresponding maintenance, troubleshooting, and Preventive Maintenance Checks and Services (PMCS) procedures within the TM, as applicable. The MAC introduction and MAC tables shall be developed to conform to format and content requirements as detailed in MIL-STD 40051-2D. All item names of the MAC functional groups shall be official nomenclature, in reverse word order, and consistent with RPSTL nomenclature.

**C.3.7.3 Repair Parts and Special Tools List (RPSTL).** The contractor shall produce RPSTL information and illustrations to support the repair and replacement of parts. The RPSTL assemblies and subassemblies shall be in the same sequential order as in the approved MAC. The contractor shall produce line art for RPSTL illustrations. Digital photographs shall not be used in place of RPSTL line art. The RPSTL text, illustrations, callouts, and indexes shall be IAW this SOW and conform to MIL-STD 40051-2D format requirements. The RPSTL parts list shall be updated to reflect part number changes as provided.

**C.3.7.4 Alphabetical Index.** Index shall be a detailed index with topics, subtopics, and page references, and shall be formatted in two columns with a subject column and a work package and page number column. Index tags shall be used to designate content information for use in the index. An index automatically generated from TM headings will not be accepted.

**C.3.7.5 TM Development.** The TM shall be developed in eXtensible Markup Language (XML) IAW MIL-STD-40051-2D and the most recent version of the Document Type Definition (DTD) and stylesheet (C.9.5 Government Furnished Information). The XML source files shall:

- a. Be a valid XML source file tagged IAW MIL-HDBK-2361D;
- b. Comply with the generally accepted XML industry standard definition of a “valid XML document.” All XML entity references shall be converted to relative file paths. XML external reference (xref) tagging shall be used to reference figures, tables, work packages, procedural steps, tools, and materials;
- c. Consist of a single, independent XML file with all referenced external graphic files;
- d. Permit the government to parse and compose the XML using Arbortext Editor release 7.0 or later to produce the PDF submission document for review.

The TM shall use unique alpha-numeric identification numbers to identify each work package (see 4.7.9.1 in MIL-STD 40051-2D) and maintain a worksheet listing all work packages in the TM, and as a minimum, will list in tabular format the following information:

- a. Work package title
- b. Work package identification number
- c. Work package sequence number

### **C.3.7.6 Submission Requirements**

**C.3.7.6.1 Cover Page.** All TM submissions (the initial, second, third, and Final Reproducible Copy (FRC)) shall include a cover page in contractor format, identifying the current state of the TM development. At minimum, the page shall contain:

- a. A list of the deliverables in the submission;
- b. Summary of communication/correspondence that resulted in contract clarification or modification;
- c. Thorough account of any official markup provided to the contractor to be incorporated. At a minimum, this account shall indicate whether or not the contractor resolved each markup, as well as provide short justifications of why any specific markups were not incorporated. If any edits are incomplete, then the contractor shall provide that written explanation in the returned PDF.

**C.3.7.6.2 Submission Files and Format.** All submissions shall be delivered as well-formed XML. The contractor shall deliver each XML instance along with source data, to include illustrations, supporting files, and associated information required to maintain, edit, or re-author the publication to include:

- a. One digital PDF file compatible with Adobe Creative Cloud unaltered from how it publishes from the contractor-generated XML and no larger than 100 MB,
- b. A valid XML source file tagged in accordance with MIL-STD-40051-2D (see also MIL-HDBK-2361D), consisting of a single, independent XML file with all referenced external graphic files,
- c. A work package identification worksheet in electronic format (MS Word or Excel),
- c. Graphic files in a directory separate from the XML source files, and
- d. A graphics worksheet in electronic format (MS Word or Excel).

All submission files shall be sent electronically using DoD SAFE. Delivery shall be a single, flattened XML file and include all referenced external graphic files. XML files will be validated for usability, functionality, and any automated compilation process to be accepted by the government.

### **C.3.7.7 TM Submissions.**

**C.3.7.7.1 Initial Submission.** The initial submission of the TM must show content development and task analysis that trace to the logistics support analysis and approved maintenance plan. The initial submission shall be derived from the two-level MAC and shall meet all format and style requirements as detailed in the MIL-STD-40051-2D and provided TM requirements matrix. The initial submission shall be due IAW the government-approved schedule and CDRL A006. It shall be sufficient for use by representative Soldiers during operation, maintenance, and troubleshooting to support the contractor-led TM validation. The validation will take place after government acceptance of the initial submission IAW the government-approved schedule.

The initial submission shall have fully-developed and technically-accurate WPs present in all the applicable publication chapters IAW MIL-STD-40051-2D. The fully-developed WPs shall have accurate references to the WPs in the Supporting Information chapter. For example, the maintenance WPs shall contain the task heading as obtained from the MAC and the initial setup as required for the task. The fully-developed WPs will have a common assembly/subassembly. This is to demonstrate the contractor's execution and understanding of the linkage and flow through PMCS, Troubleshooting, Operator and Maintainer Maintenance, the supporting RPSTL, and the required supporting information. The initial submission shall include RPSTL text and illustrations. The government will review and provide feedback with acceptance or rejection IAW CDRL A006. WPs shall include the more technically challenging, complex, or safety-critical items as needed for the contractor-led TM validation (CDRL A007).

**C.3.7.7.2 Second Submission.** The second submission of the TM shall be derived from corrected copy of the initial submission and shall include the corrections from the government review and from the validation event. The second submission should contain the adjudication of previous government markup and have all content fully developed and present. The submission shall be developed to meet all format and style requirements as detailed in MIL-STD- 40051-2D and provided TM requirements matrix. The second submission shall be sufficient for use during operation, maintenance, and troubleshooting to support the government-led maintainability evaluation.

**C.3.7.7.3 Third Submission.** The third submission of the TM shall be derived from corrected copy of the second submission and shall include the corrections from the government review and government-led maintainability evaluation as well as data from the provisioning conference and accepted final PPL/EDFP. The submission should contain the adjudication of previous government markup. TMs shall be developed to meet all format and style requirements as detailed in MIL-STD-40051-2D and provided TM requirements matrix. The third submission will be used for the government-led verification.

**C.3.7.7.4 Final Reproducible Copy (FRC).** The FRC shall include final resolution of all comments and recommendations made as a result of testing, government review from verification, any maintenance IPRs, and any nomenclature changes made as a result of the provisioning process and provisioning conference. The FRC should contain the adjudication of previous government markup. TMs shall be developed to meet all format and style requirements as detailed in the listed MIL-STD and provided TM requirements matrix. The FRC deliverable shall

include all source files used to develop each TM. The contractor shall ensure the PDF output conforms to the government-provided preflight profile and the FRC deliverable shall have no Adobe pre-flight check errors according to that government-provided preflight profile. The FRC shall be due IAW the government-approved schedule and CDRL A006, as applicable.

**C.3.7.7.5 Distribution Statement.** The TM deliverables shall be developed with the distribution statement provided at the Logistics Guidance Conference.

### **C.3.7.8 Graphics and Illustrations.**

**C.3.7.8.1 Format and Quality.** File format for graphics, illustrations, symbols, and icons shall be Scalable Vector Graphics (SVG) files, which are XML-based vector images. File format for line art must be in vector format. Digital graphics shall be produced so that black and white print production will not result in any loss of resolution or quality. Photos must have sufficient lighting and contrast so as not to be dark, fuzzy, or pixelated when displayed. All graphics file formats must support layers and must be compatible with Adobe Creative Cloud as well as being acceptable to Arbortext 7.0 (or higher) XML editor. All callouts, text, legends, or other items in a graphics file must be on a separate layer from the base image. Vector graphics (SVG) are the preferred format for graphics used in Army technical publications. If raster-based graphics are unavoidable, they must be appropriately sized: 150 dpi for black-and white images, and 300 dpi for color images.

Graphics formats chosen shall be editable. Graphics shall be obtained in the format they were created in as well as any that are exported for use in the TM. Graphics shall be resizable. Additional information regarding graphics format is provided in MIL-HDBK-1222.

Photographs, graphics, and illustrations shall adhere to MIL-STD 40051-2D and MIL-HDBK-1222F requirements. The contractor shall use graphics including line drawings, photographs, engineering drawings, diagrams, charts, and graphs, as directed by the government to ensure that procedural and descriptive text is sufficiently supported with accurate and clear illustrations. The contractor shall ensure that personnel in photos, when visible, are attired in proper U.S. Army work/utility uniforms. The contractor shall also ensure that all personnel shown are wearing proper safety attire and are conforming to Army safety standards.

**C.3.7.8.2 Graphics Size Limitations.** To account for margins and figure titles, the maximum graphic image size used on the XML graphic tag for A4 style pages shall be 8 inches H  $\times$  7 inches W. The maximum image size for foldout-style pages shall be 8 inches H  $\times$   $\eta$  inches W, where  $\eta$  equals the overall final width of the foldout page minus mandatory margin and apron space (not to exceed 45 inches in width). Graphics should be saved as Scalable Vector Graphics files, which are XML-based vector images.

**C.3.7.8.3 Illustration Identification Numbers.** Unique identification numbers for graphics map the graphic to specific placement in the XML file. Board numbers (*boardno* attribute of *graphic* element) shall be assigned to all figures, and this number shall appear in the lower right corner of the graphic. The font of this number shall be a style allowing for ready identification of it as distinct from the other text in the graphic, and a size small enough to be unobtrusive but large enough to be legible as specified in MIL-STD 40051-2D. For tracking purposes, symbols shall be assigned board numbers for file naming purposes, but due to their size and use, the board numbers shall not be included as part of the image. Board numbers shall be assigned to graphics based on the following example:

G54112490001

- 1st character: Alpha designation for the type of work package in which the figure appears (G=*gim*, M=*mim*, P=*pim*), G
- 2nd through 8th characters: TM number, 5411249
- 9th through 12th characters: Graphic sequence number in the chapter, 0001

This example identifies the first figure in the first work package of the General Information (*gim*) chapter in the TM identified as 5411249 (complete TM number would be TM 10-5411-249-12&P in the manual). Using the same number structure, M54112490016 represents the 16<sup>th</sup> graphic in a Maintenance (*mim*) chapter in the same TM.

**C.3.7.8.4 Figure Identification.** When a graphic is placed in the XML and is referenced by a callout, a unique



figure identification number (*id* attribute of *figure* element) is required. The callout (*assocfig* attribute of *callout* element) uses this same number to reference the figure correctly. Figure identification numbers shall be assigned based on the following example:

#### G01-2490001

- 1st character: Alpha designation for the type of work package in which the figure appears (G=*gim*, M=*mim*, P=*pim*), G
- 2nd through 3rd characters: Number sequence of the work package in that chapter, 01
- 4th through 6th characters: TM number, 249
- 7th through 10th characters: Graphic sequence number in the chapter, 0001

This example identifies the first figure in the first work package of the General Information (*gim*) chapter in the TM identified as 249 (complete TM number would be TM 10-5411-249-12&P in the manual). Using the same number structure, M03-2490016 represents the 16<sup>th</sup> graphic in the third work package of a Maintenance (*mim*) chapter in the same TM.

The contractor shall produce a worksheet in electronic format (MS Word or Excel) identifying all graphics in the manual. This worksheet shall list all graphics used in the TM, broken out by WP, in a tabular, sequential format with the following information (at a minimum):

- a) Board identification number
- b) Figure identification number
- c) Figure title (Each figure shall have a unique figure title IAW MIL-STD-40051-2D.)
- d) Work package number

Standard warning and HAZMAT icons will NOT be assigned graphic control numbers. They should be a consistent size throughout the TM. For continuity, a *reprovid* and *reprodep* of  $0.5 \times 0.5$  inches are recommended. Section 2 of this SOW lists approved websites for obtaining warning icons.

### **C.3.7.9 Validation.**

**C.3.7.9.1 Scope of Validation.** The validation is the responsibility of the contractor. The contractor shall validate the technical accuracy and adequacy of all operating and maintenance procedures. Army transition from Logistics Demonstration to Maintainability Evaluation (ME) places significant emphasis on proper preparation and execution of validation by the contractor. The objective of the validation is to ensure that the contractor has provided an accurate and adequate TM for the support of the Army materiel involved. The validation shall be performed IAW an approved validation plan (CDRL A007). The government shall witness the validation. The validation shall be accomplished on all deliverables and changes thereto. The validation process shall include the following:

- a. Preparation and approval of a validation plan
- b. Engineering review and certification that the TM and related technical information and source data are ready for validation
- c. Validation of TM and related technical information
- d. Post-validation review
- e. Preparation of validation report
- f. Certificate of validation completion

**C.3.7.9.2 Validation Plan.** The contractor will develop and submit a validation plan for government review and approval. The validation plan shall be concurrent with the initial submission of the TM IAW CDRL A007. The validation plan shall contain the scope of the validation effort, including the methods, procedures, controls, and resources that will be used by the contractor to accomplish validation of the TM to ensure technical adequacy, accuracy, and usability. Intention to provide validation by analysis, or otherwise simulate- or desktop-validate any procedures, will be sufficient cause to reject the submission of the validation plan. Specific questions about the validation plan may be addressed at the Logistics Guidance Conference. The plan shall include, at a minimum:

- a. Location (contractor or government facility), dates, and time of validation

- b. List of contractor's personnel (by name, role, and expertise) who will be responsible for accomplishing the validation, including the name(s) of personnel who will perform the tasks, the name(s) of personnel who will read the tasks, and the name of the technical writer who will keep master markup
- c. List of support equipment, test equipment, materials, tools, material handling equipment, 3-phase power, full power input, etc.
- d. List of tasks to be performed, including a schedule of dates and approximate times of the validation for each task
- e. Detailed description of the validation methods and procedures to be used:
  - 1. If performance of a portion of one task provides the setup for performance of another task, this must be indicated in the validation plan,
  - 2. Review against source data,
  - 3. Comparison to actual system/equipment,
  - 4. Demonstration of procedures on the actual system/equipment. All (100%) procedural tasks must be validated hands-on (i.e., actually performed as written).
- f. List and description of any proposed fault simulations that will be used to validate troubleshooting procedures.

**C.3.7.9.3 Target Audience.** The validation shall be performed by individuals who are of approximately the same education, experience, and skill level as the actual target audience for the TM. Wherever it is not possible to obtain such personnel for the validation, validation personnel shall at least exclude those who cannot be expected to provide a realistic test of the validity of the material (e.g., graduate engineers, or those involved in authoring the material). The validators shall follow exactly the procedures set forth in the TM and shall use display software and systems identical to those involved in field use. An operational environment shall be used, if possible, or simulated, if practicable.

**C.3.7.9.4 Validation Interruption.** The government's witnessing official(s) may require that the contractor stop validation or revise and repeat validation steps, if this official believes that the contractor validation procedure is not adequate to substantiate the technical accuracy of the TM. Any such temporary interruption of validation procedures, or performance of revised or repeated steps, under the terms of this provision shall be accomplished at no additional cost to the government.

**C.3.7.9.5 Validation of Procedural Technical Information.** Contractor personnel shall validate each step in every procedure on the equipment. All procedures shall be shown to be IAW those listed in the appropriate Product Support Analysis (PSA) and logistics support analysis (LSA) reports. The contractor shall ensure that every procedure contained in the system MAC and derived from results from the PSA and LSA reports and the FMECA are reflected in the TM.

**C.3.7.9.6 Operating and Maintenance Procedures.** Validation shall entail the actual performance by contractor personnel of all operating and maintenance procedures on the equipment. Validation shall include revalidation of modified procedures and new procedures developed during modification programs. Standard and/or special tools, test equipment, etc., shall be used as specified in the TM. In exceptional cases, when damage to materiel or injury to personnel may occur, validation of these procedures may be by simulation, if approved by the government.

**C.3.7.9.7 Validation Criteria.** The TMs shall not be considered validated until the following conditions have been fulfilled:

- a. Information reflects accurate configuration of the system/equipment and includes all engineering changes.
- b. Procedural instructions are readily understandable by the intended user and adequate for the user to perform all operations and maintenance functions and tasks step-by-step, without assistance or coaching, as written, and using the approved stated tools.
- c. 100% hands-on successful performance of WP completed as written.
- d. Adequacy of data demonstrates it supports the approved maintenance and support plans.
- e. Validation has been conducted according to the contractor-proposed, government-approved validation plan. [No validation efforts or events will be considered as having been conducted, if the validation plan has not been approved and accepted by the government representative.]

f. Validation has been observed by the government.

**C.3.7.9.8 Criteria for Successful Validation of Procedures.** The validator shall be able to perform successfully the procedure as written without assistance. If for any reason a validator fails to perform a procedure without assistance, the procedure shall be carefully analyzed for technical error and incomprehensibility. If technical errors are found, corrections shall be made, or alternative accurate technical information shall be prepared and revalidated. If the procedure is reworked, the material shall be revalidated with a new validator. Minor corrections and surface errors, which must be cited, may be made without revalidation. The validation shall ensure that the procedures being validated are safe, complete, logical, technically accurate, and comprehensible as follows:

- a. Safe: Danger to a user in the field is minimized when performing all procedures as written.
- b. Complete: All steps necessary to the performance of the individual procedure have been included, and the procedure reflects the mission capability of the equipment.
- c. Logical: Procedures are ordered in a way that is the most efficient for completion of the operation or maintenance task.
- d. Technically accurate: All operating procedures, fault isolation procedures, operational checkout procedures, alignment procedures, system descriptive statements, parts lists, etc. are free of errors.
- e. Comprehensible: The procedures use concise and clear language, and graphics and illustrations instruct the user in performing a task.

**C.3.7.9.9 Validation of Nonprocedural TM Information.** Validation of nonprocedural TM information, such as descriptive text, wire diagrams, schematics, parts list information, verbatims, and similar support information, shall be accomplished by comparing them to actual hardware; or, when this is not feasible, by comparing them to government-approved source data. All nonprocedural technical information shall correspond to the actual equipment in all respects. All defects shall be corrected.

**C.3.7.9.10 Validation of Troubleshooting Procedures.** Validation of all established branches of the TM troubleshooting (fault isolation) procedures shall be performed with the system hardware to which the troubleshooting procedures apply. This part of the validation effort shall be performed in conjunction with tabletop comparison with source data to ensure the accuracy and consistency of fault isolation paths. Validation shall also ensure that there are no open loops or gaps in the fault isolation tasks, and that each task ends in a single resolution, with repair procedures as necessary to repair discrete faults.

**C.3.7.9.11 Post-Validation Review and Submittal.** The contractor shall incorporate all markup and edits from the validation event for the TM. The contractor shall perform a review to ensure all discrepancies noted during the validation have been addressed prior to submitting to the government.

**C.3.7.9.12 Validation Records.** The contractor shall keep validation records for each item of technical information validated. The contractor shall ensure all applicable records are available to the government throughout the life of the contract; the records document full compliance with the contract specifications; and, all technical information is complete and validated. Records shall be maintained of the inspections, signatures, identification of the deliverables, discrepancies found, corrections made (as a result of validation), and verification that the deliverable fully meets contract specification requirements. Any deviations shall be explained. The validation certification shall list any exceptions to the contract requirements, the document(s) authorizing the exception, the signature of the contractor representative, and the signatures of all government witnesses present at the validation.

**C.3.7.9.13 Contractor Responsibilities for Validation.** The Validation is the responsibility of the contractor. The contractor shall coordinate scheduling to ensure attendance by the government representatives. The contractor shall provide supporting materials to facilitate meaningful government observation, including procedural text. Validation shall be conducted at contractor facilities. Depending on the location of the validation, the facilitating activity shall provide the following facilities/items for the validation: sheltered and heated/air-conditioned work area for the end item/personnel; restrooms; office space with adequate worktables and chairs; Internet access; and, copying and scanning capability. The office space and work area shall be adequately spacious to perform tasks and shall be free of all dust and fumes, and slip, trip, and fall hazards. One government-approved production model of the end item(s) is required as needed, in addition to all support tools and parts necessary to accomplish the tasks, including sufficient source power for full system(s) operation.

**C.3.7.9.14 Validation Report.** The contractor shall prepare, in writing (contractor format), a validation report of the results of the contractor validation IAW this SOW and CDRL A007. The validation report shall be submitted as identified in CDRL A007. The validation report must address the requirements in the approved validation plan. At a minimum, this report shall include:

- a. Location (contractor or government facility), dates, and time of validation.
- b. List of contractor's personnel (by name, role, and expertise) who were responsible for accomplishing the validation.
- c. Support equipment, test equipment, materials, and tools used for validation.
- d. List of tasks performed, with detailed dates performed and completion status.
- e. Summary of any TM deficiencies, and corrective actions taken.
- f. List of any safety concerns noted during the validation.
- g. Certification from the contractor's responsible officer(s) that the TM has been validated IAW the approved validation plan, and that the TM is technically accurate and adequate IAW CDRL A007.

**C.3.7.9.15 Acceptance / Rejection of Validation Plan and Report.** No scheduled submission requirement of the validation plan or report shall be considered to have been met until the government has accepted the submission. Acceptance or rejection of these reports shall be based on the presence of information as outlined IAW this SOW. If the government rejects a validation plan or report, the submission will remain in rejected status until the government approves the resubmission. If a validation plan or report is rejected, the government shall request clarification of specific portions of the deliverable; the contractor shall provide clarifications IAW the schedule established in CDRL A007.

#### **C.3.7.10 Maintainability Evaluation (ME).**

**C.3.7.10.1 Scope of Maintainability Evaluation (ME).** The ME is the responsibility of the government, specifically the materiel developer of the proponent command. The ME may be required to demonstrate the adequacy of the maintenance concept and the supportability of the system. It will also ensure the accuracy and adequacy of the end item System Support Package (SSP). The ME, if performed, is part of developmental testing to evaluate:

- a. The accuracy and usability of system documentation.
- b. Repair parts allocation, (TMs).
- c. Special tools and/or test equipment.
- d. Task and skill requirements.
- e. Time standards for maintenance tasks listed in the MAC.
- f. Human factors engineering aspects and Human Services Integration (HSI)/Manpower and Personnel Integration (MANPRINT) of operator and maintainer tasks.

**ME Plan.** The government will draft and submit for review an initial ME plan IAW AR 73-1 and AR 700-127 at least 120 days prior to the ME. The government will publish a final ME Plan thirty (30) days prior to the event. The contractor shall review each Plan for information and availability of personnel and support and shall provide any commentary to the government.

**C.3.7.10.2 Government Responsibilities for ME.** The ME is the responsibility of the government. The government shall coordinate the necessary personnel, facilities, equipment, tools, test equipment, supplies, and pertinent documents required for the ME. The ME will be scheduled IAW the government ME Plan and schedule. The ME will take place at Natick, MA or Fort Devens, MA, unless otherwise specified.

**C.3.7.10.3 Contractor Responsibilities for ME.** The contractor shall provide, at a minimum, technical writer personnel for the duration of the ME to resolve any technical publication issues. The contractor shall return WP edits/re-writes to the government technical writer IAW the ME Plan. The contractor shall be responsible for engaged participation in the event, to include the following:

- a. Viewing/observing task performances.
- b. Capturing content and keeping markup.

- c. Capturing photos as necessary.
- d. Implementing markup and revising content as necessary for re-performances.

At a minimum, contractor technical writer personnel must bring or have access to the following during the event:

- a. Laptop with Internet capability.
- b. Digital camera with flash and SD card.
- c. All TM electronic files for editing.

The contractor may need to work with the government or contract subject matter experts (SMEs) to gather appropriate information. The contractor shall take corrective action resulting from the ME and furnish the third submission no later than the date specified in the government-approved schedule and CDRLs A002 through A009. In accordance with AR 25-30, the Technical Publications element of the proponent command is responsible for providing guidance to the contractor and for review, verification, and acceptance of deliverable products. Guidance and direction from any source other than the responsible AMSTA-LCS-EB representative cannot be accepted by the contractor as legitimate and contractually binding guidance for the content or format of the subject TM.

#### **C.3.7.11 Verification.**

**C.3.7.11.1 Scope of Verification.** The verification is the responsibility of the government, specifically the technical writer of the proponent command. Operating and maintenance procedures, including all PMCS and troubleshooting, will be verified IAW AR 25-30 and DA PAM 25-40.

**C.3.7.11.2 Verification Plan.** The government will draft and submit for review a verification plan IAW AR 25-30 and DA PAM 25-40 at least sixty (60) days prior to verification. The contractor shall review the plan for information and availability of personnel and support and shall provide any commentary to the government.

**C.3.7.11.3 Government Responsibilities for Verification.** The Verification is the responsibility of the government. The government shall coordinate the necessary personnel, facilities, equipment, tools, test equipment, supplies, and pertinent documents required for verification. The verification conference will be scheduled IAW the government technical writer's verification plan and schedule. The verification will take place in Natick, MA, or Fort Devens, MA, unless otherwise specified.

**C.3.7.11.4 Contractor Responsibilities for Verification.** The contractor shall provide, at a minimum, technical writer personnel for the duration of the verification to resolve any technical publication issues. The contractor shall return WP edits/re-writes to the government Verification chairperson IAW the Verification Plan. The contractor shall be responsible for engaged participation in the event, to include the following:

- a. Viewing/observing task performances.
- b. Capturing content and keeping markup.
- c. Capturing photos as necessary.
- d. Implementing markup and revising content as necessary for re-performances.

At a minimum, contractor technical writer personnel must bring or have access to the following during the event:

- a. Laptop with Internet capability.
- b. Digital camera with flash and SD card.
- c. All TM electronic files for editing.

The contractor may need to work with the government or contract SMEs to gather appropriate information. The contractor shall take corrective action resulting from the Verification and furnish the FRC no later than the date specified in the government-approved schedule and CDRLs A002 through A009. In accordance with AR 25-30, the Technical Publications element of the proponent command is responsible for providing guidance to the contractor and for review, verification, and acceptance of deliverable products. Guidance and direction from any source other than the responsible AMSTA-LCS-EB representative cannot be accepted by the contractor as legitimate and contractually binding guidance for the content or format of the subject TM.

### **C.3.7.12 Acceptance / Rejection of TM Submissions.**

**C.3.7.12.1 Acceptance / Rejection of TM Submissions.** If errors are found in the initial, second, third, or FRC submissions, the submission(s) shall be rejected and considered a draft until the contractor corrects the identified errors. If the government rejects a submission, the scheduled submission requirement shall be considered to have been unmet until the government has accepted the submission. Acceptance or rejection of a submission shall be based on whether it adheres and conforms to contractual requirements and MIL-STD IAW CDRL A006.

**C.3.7.12.2 Letter of Acceptance / Rejection.** The government will provide written notification of acceptance or rejection of submissions IAW this SOW. This letter will be transmitted to the contractor via the government Contracting Office.

**C.3.7.13 Warranty of Data.** Refer to DOD FAR Supplement, para 252.246-7001 for warranty of data requirements and invocation stipulation.

**C.3.7.14 Data Release.** The contractor shall grant the government “Unlimited” data rights for all documents produced under this SOW IAW DFARS 252.227-7013. Information regarding DFARS 252.227-7013 can be found at the following location: <http://www.acq.osd.mil/dpap/dars/dfars/pdf/r20051011/tocpdf.htm>.

### **C.3.7.15 Printing and TM Over Pack Requirements.**

**C.3.7.15.1 Government Printing.** There are no printing requirements.

**C.3.7.15.2 Over Pack Requirements.** There are no over pack requirements.

### **C.3.7.16 Logistics Product Data for Packaging.**

**C.3.7.16.1 Packaging Data.** The contractor shall develop and provide packaging data for all items identified during the provisioning process with a Source, Maintenance & Recoverability (SMR) code beginning with P. Packaging data development priority shall be given to repairable items, Line Replaceable Units, NMWR/DMWR candidate items, and any item classified as a Special Group Item. Packaging shall be developed in IAW MIL-STD-2073-1E and all items shall be classified as a selective group item or special group item. The contractor shall provide facilities, equipment, materials, and each P-coded item for packaging data development. The contractor shall complete Validation Testing and provide support data with each data submittal. With each data submission, the contractor shall include verification support data for each of the LPD-packaging data items, which will provide the government a reasonable means to determine the adequacy of the contractor-prepared packaging analysis and data submissions. The verification support data shall include drawings that specify the weight, cube, preservation, and packaging required for each LPD-packaging data, except for commercial off-the-shelf (COTS) items. For COTS items only, a description of the material used to develop the item is required. Validation support data shall also include any applicable Safety Data Sheets for Hazardous Material items.

The packaging data developed shall reflect one increment of the provisioned Unit of Issue. For packaging data development purposes, the Quantity per Unit Pack (QUP) shall equal 001.

**C.3.7.16.2 Item Classification:** Each provisioned P-coded item shall be classified as either a Selective group item or a Special group item IAW MIL-STD-2073-1E and paragraphs C.3.7.16.2.1 and C.3.7.16.2.2.

**C.3.7.16.2.1 Selective group:** Items classified as Selective group shall not have a unit pack weight exceeding 40 pounds and shall not have a dimension greater than 40 inches. In addition, the unit pack length and girth combined will not exceed 84 inches. A Select group item must not require disassembly for packaging. Reconfiguration for packaging of Select items is limited to folding or coiling. Items will not be classified as Select if they are repairable, recoverable, or contain hazardous material.

**C.3.7.16.2.2 Special group:** Special group items often require sketches, figures, or narrative instructions to describe packaging requirements. Items excluded from the Selective group will be classified as Special group items. This includes kits, sets and items of separate parts, items requiring disassembly, repairable items, items requiring special handling or condemnation procedures, items classified as hazardous material or hazardous goods in transport, items assigned a shelf life, electrostatic discharge sensitive items, fragile, sensitive, and critical items.

**C.3.7.16.3 Logistic Management Information (LMI) Data Products - Packaging:** The contractor shall develop Logistic Product Data for each Selective and Special group item. At the contractor's request, the government may

provide a MS ACCESS application that provides data formatting and edit features for coding of packaging LMI data products. The contractor shall develop, maintain and update packaging data IAW MIL-STD-2073-1E and CDRL A011 and Exhibit 3.

**C.3.7.16.4 Special Packaging Instructions (SPI):** The contractor shall develop a SPI for each item classified as a Special group item. SPI format shall be IAW MIL-STD-2073-1 and CDRL A010. Figures and narrative data shall be developed to describe the form, fit, and function of packaging in sufficient detail for production. Packaging processes and materials shall be described for cleaning, drying, preserving, unit, intermediate (as applicable), and exterior packing, marking, and unitization.

**C.3.7.16.5 Validation Testing of Packaging:** The contractor shall conduct validation testing for each item classified as a Special group item IAW CDRL A010. Validation testing of Special group items shall be IAW ASTM D 4169 (Standard Practice for Performance Testing of Shipping Containers and Systems) Distribution Cycle 18, Assurance Level I, with Acceptance Criterion 3 (product is damage free and packaging is intact). Validation testing may be limited to Test Schedule 1 and Test Schedule 6 for Distribution Cycle 18. Replicate testing and climatic conditioning are not required. Each SPI submitted shall have a validation report including photographs. Photographs shall show the product and packaging before and after testing. Acceptable photographic evidence should show the product is undamaged from all angles. The Validation report shall be submitted concurrently with SPI submittal and IAW CDRL A010.

**C.3.7.16.5 Input Media Requirements for Packaging Data.** TACOM Soldier Product Support Integration Directorate (S-PSID) uses an MS Access database to process provisioning data. At the contractor's request, the government will provide an MS Access database that provides data formatting and edit features for coding of packaging data products IAW MIL-STD-2073-1E.

**C.3.7.16.6 Data Submission.** All deliveries must be submitted electronically without restrictions that would prevent the government from reproducing or editing the information. Electronic deliveries must be submitted using DOD SAFE, accessed at <https://safe.apps.mil/>.

**C.3.7.16.7 Storage and Shipment Instructions (SSI).** The contractor shall deliver SSI, which are the preservation and shipment procedures for the end item. SSI shall be formatted and delivered IAW MIL STD 40051-2C, Section E.5.3.5.3.19. Due to the schedule of the program and this requirement, the government will accept this data being placed in the General Information sections of the TM(s) rather than a separate maintenance WP.

**C.3.7.16.8 Data Product Development and Submittal.** The contractor shall identify to the government the most effective method of LPD development and delivery and shall strive to eliminate unnecessary intermediate steps or deliverables. It is not the intent of the government to prescribe the Automatic Data Processing (ADP) software used for data processing. The ADP systems that are cost effective are encouraged. The contractor may and is encouraged to suggest alternative means of satisfying requirements to make information more readily available and to utilize more efficient business practices.

The LPD-provisioning data product must be compatible between the contractor and government ADP systems. TACOM Life Cycle Management Command, ILSC, Soldier Product Support Integration Directorate (S-PSID) uses the AMC developed the LMP applications program to process provisioning data.

**C.3.7.16.9 Provisioning Data Development Software.** Contractors may use any software desired, as long as the data product is compatible with the government APD systems. PowerLOG-J is not a software requirement of this SOW but may be used and is designed to assist contractors in developing and integrating their supportability

analysis databases. PowerLOG-J Logistics Support Data System is a stand-alone acquisition logistics data management tool provided at no cost to contractors by the government and satisfies requirements for the LPD and Logistics Support Analysis Record (LSAR).

PowerLOG-J can be used to develop, evaluate, review, and integrate logistics data for materiel systems and to generate logistics support summaries, such as the PPL, RPSTL, PTD, MAC, Maintenance Plan, Supporting Equipment Recommendation Data (SERD), FMECA, packaging requirements, and bill of materials. PowerLOG is downloadable at <https://www.logsa.army.mil/lec/powerlog/>.

**C.3.7.16.9 Computer Requirements for PowerLOG-J.** PowerLOG-J 2 (PLJ2) is a Java-developed application, designed to run as an embedded desktop application, or as a multi-user, enterprise application. PLJ2 uses a JavaScript and HTML User Interface, accessed through a supported Web browser (e.g., Microsoft I.E. 8+, Mozilla Firefox 8+). The application requires a J2EE Application Server, such as Oracle's Glassfish, and a supported JDBC database, such as PostgreSQL 9.1 or Oracle. The Embedded version of PLJ2 comes with an embedded version of Glassfish and the Derby Database. If installing the embedded version, no other software is required. If installing the Enterprise version, Java JDK 7, a J2EE server, and JDBC database are needed. It will load MIL-STD-1388-2B, 2A LSA-036, 2B LSA-036, and GEIA-STD-0007 data formats. PowerLOG-J user training is available via a tuition-free, two-day course. Information about training, including registration, schedule, and course material, is available at the PowerLOG-J website: <https://www.logsa.army.mil/lec/powerlog/>.

**C.3.7.16.10 Legibility and Reproducibility.** The contractor shall furnish data products of sufficient clarity so that every line, letter, and character of data is clearly legible. The reproducibility shall be sufficient to maintain its legibility requirement. All data products shall be submitted in English and only one side of each sheet of paper shall be used.

**C.3.7.16.11. Submittal of Contract Data Products.** Contractor delivery of logistics data products (electronic and hardcopy) to the government shall include a transmittal letter that clearly states the contracted item name, contract number, logistics data product, and submission number (draft, initial, second, FRC). A CD containing logistics data products shall be clearly marked and/or tagged with the preceding data. Data products shall be sent to the KO or government Program Manager for distribution to the appropriate office(s). Submissions other than stated in the SOW will not be accepted. Subsequent Submissions/Change Listing - Data products submitted (second, third, or FRC) after the initial or preliminary data product submission shall, in addition to the submission, include a listing document of any changes, additions, or removals to the product. This list (in contractor format) shall clearly and completely point out and identify any data that have changed on the data product(s) from previous submissions.

**C.3.7.16.12 Government Rejection of Data Product.** Contractor submissions without a transmittal letter, required markings, and change listing or those that were not submitted through the KO will be rejected by the government. The government will provide a letter of acceptance or rejection following government review of the submitted contractor data product.

**C.3.7.16.12 Packaging of Data Products.** Data products shall be packed to ensure arrival at the destination in satisfactory condition. Containers and wrappings shall conform to best commercial shipping practices.

**C.3.7.17 Graphic Training Aid (GTA).** The GTA is a quick reference guide that shall include the following information:

- End item Graphic for all Shelters
- Shelter Inventory for all Shelters.
- Setup and Preparation for Use for all Shelters
- Setup and Preparation for Use for Expandable Shelters
- Preventative Maintenance Checks and Services (PMCS) for all Shelters
- PMCS (Expandable Shelters)
- Safety & Warning Statements for all Shelters
- Shelter Sitting/Staging Requirements

The GTA shall be consistent with the information developed in the TM. The GTA shall be delivered in Microsoft word. An example of an approved GTA shall be provided to the contractor at the Logistics Guidance Conference.



## **SECTION 4. General Guidance for the Contractor.**

**C.4 General Acceptance Criteria.** General quality measures as set forth below shall be applied to each work product received from the contractor under this statement of work.

- a. Accuracy - Work products shall be accurate in presentation, technical content, and adherence to accepted elements of style.
- b. Clarity - Work products shall be clear and concise. Any/All diagrams shall be easy to understand and be relevant to the supporting narrative.
- c. Consistency to Requirements - All work products must satisfy the requirements of this statement of work.
- d. File Editing - All text and diagrammatic files shall be editable by the government.
- e. Format - Work products shall be submitted in hard copy (where applicable) and in media mutually agreed upon prior to submission. Hard copy formats shall follow any specified directives or manuals.
- f. Timeliness - Work Products shall be submitted on or before the due date specified in this SOW or as described in assigned tasks or submitted IAW a later scheduled date determined by or approved by the government.

**C.4.1 Notice Regarding Late Delivery.** The contractor shall notify the government Program Manager, as soon as it becomes apparent to the contractor, that a scheduled delivery will be late. The contractor shall include in the notification the rationale for late delivery, the expected date for the delivery and the project impact of the late delivery. The government Program Manager will review the new schedule and provide guidance to the contractor. Such notification in no way limits the government's right to any and all rights and remedies up to and including termination.

## **SECTION 5. Exhibits.**

Exhibit 1: PM-FSS Project Provisioning Guidance

Exhibit 2: MIL-STD 40051-2D, Appendix A, TABLE A-II. Operator and Field Maintenance Manual including Repair Parts and Special Tools List for TM 10-XXX-XXX-12&P

Exhibit 3: Logistics Product Data - Packaging Data Products

## **SECTION 6. Integrated Product Support (IPS) Development References**

**C.6 Army Regulations (ARs) and Standards.** The contractor shall operate IAW current editions of the following applicable ARs, MIL-STDs, and commercial standards, unless otherwise stated in this SOW:

AR 25-2: Information Assurance

AR 25-30: Army Publishing Program

AR 73-1: Test and Evaluation Policy

AR 700-18: Provisioning of U.S. Army Equipment\

AR 702-19: Reliability, Availability and Maintainability

AR 700-82: Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes

AR 700-127: Integrated Product Support

AR 750-1: Army Materiel Maintenance Policy

AR 750-6: Army Equipment Safety and Maintenance Notification System

AR 750-10: Army Modification Program

AMC PAM 700-25: Guide to Provisioning

DA PAM 25-40: Army Publishing: Action Officers Guide

DA PAM 700-127: Integrated Product Support Procedures

DOD Directive 5230.24: Distribution Statements on Technical Documents. <https://assist.daps.dla.mil/quicksearch/>

DOD FAR Supplement, para 252.246-7001: Warranty of Data. <https://assist.daps.dla.mil/quicksearch/>

MIL-HDBK-470A (For Guidance Only): Department of Defense handbook, Designing and Developing Maintainable Products and Systems. <https://assist.daps.dla.mil/quicksearch/>

MIL-HDBK-1222F (For Guidance Only): Department of Defense Handbook, Guide to the General Style and Format of U.S. Army Work Package Technical Manuals. <https://assist.daps.dla.mil/quicksearch/>

MIL-HDBK-2361D (For Guidance Only): Army Digital Publications Development Implementation Guide. <https://assist.daps.dla.mil/quicksearch/>

MIL-HDBK-29612, Parts 1-5 (For Guidance Only). <https://assist.daps.dla.mil/quicksearch/>

MIL-STD-1472G: Department of Defense Design Criteria Standard. <https://assist.daps.dla.mil/quicksearch/>

MIL-STD-2073-1E: Standard Practice for Military Packaging w/C1. <https://assist.daps.dla.mil/quicksearch/>

MIL-STD-40051-2D: Department of Defense Standard Practice, Preparation of Digital Technical Information for Page-Based Technical Manuals. <https://assist.daps.dla.mil/quicksearch/>

TB 750-93-1: Functional Group Codes

TRADOC Regulation 350-70

TRADOC PAM 350-70-5

TRADOC PAM 350-70-12

TRADOC PAM 350-70-14

**C.6.1 Data Item Descriptions.** Download at: <https://assist.daps.dla.mil/quicksearch/>

DI-CMAN-80792B: Validation Report

DI-PACK-80121C: Special Packaging Instructions (SPI)

DI-SESS-81000F: Product Engineering Design Data and Associated Lists

DI-SESS-81495B: Failure Modes, Effects, and Criticality Analysis Report

DI-SESS-81758A: Logistics Product Data

DI-PSSS-81872A: Level of Repair Analysis (LORA) Report

DI-PSSS-81873A, Level of Repair Analysis (LORA) Input Data

DI-SESS-81874: Engineering Data for Provisioning (EDFP)

DI-TMSS-81818: Technical Manual (TM) Validation Plan

DI-TMSS-81819A: Technical Manual (TM) Validation Certificate

**C.6.2 Cataloging Websites.**

DODD 4100.39.M Federal Logistics Information System (FLIS) Procedures Manual	<a href="http://www.dlis.dla.mil/forms/forms.asp">http://www.dlis.dla.mil/forms/forms.asp</a>
Commercial and Government Entity Code (CAGEC) Search, superseded by: Business Identification Number Cross Reference	<a href="http://www.dlis.dla.mil/cage_welcome.asp">http://www.dlis.dla.mil/cage_welcome.asp</a> <a href="http://www.bpn.gov/bincs/begin_search.asp">http://www.bpn.gov/bincs/begin_search.asp</a>
H6 Item Name Search	<a href="http://www.dlis.dla.mil/H6/">http://www.dlis.dla.mil/H6/</a>
WebFLIS	<a href="http://www.dlis.dla.mil/webflis/pub/pub_search.aspx">http://www.dlis.dla.mil/webflis/pub/pub_search.aspx</a>
Haystack	<a href="https://www.ihs.com/">https://www.ihs.com/</a>
FEDLOG	<a href="http://www.dlis.dla.mil/fedlog/">http://www.dlis.dla.mil/fedlog/</a>
ASSIST – Quick Search	<a href="http://quicksearch.dla.mil">http://quicksearch.dla.mil</a> (Provides direct access to Defense and Federal specifications and standards available in the official DoD repository. For questions or problems in accessing this website, the ASSIST Help desk may be reached at 215-697-6396.)

### C.6.3 Commercial Standards.

ANSI/AIAA S-102.2.4-2015: Capability-Based Product Failure Modes, Effects, and Criticality Analysis (FMECA) Requirements Standard

ASI1390: Level of Repair Analysis (LORA)

GEIA-HB-0007-B: Logistics Product Data Handbook

GEIA-STD-0007-B: Logistics Product Data

SAE TA-STD-0017: Fault Tree Analysis

TA-HB-0007-1: Handbook and Guide for Logistics Product Data Reports

TA-STD-0017: Product Support Analysis

**C.6.4 Government Furnished Information.** The following items will be provided by the government at the Logistics Guidance Conference.

XML DTD, Revision 6.0 or later—The XML Document Type Definition (DTD) and stylesheet for MIL-STD 40051-2D, which is available at: <https://www.logsa.army.mil/mil40051/menu.cfm>

Warning Icons, which are available at: <https://www.logsa.army.mil/mil40051/warning-icons.cfm>

SCORM® 2004 Conformant Courseware:  
<https://www.adlnet.gov/>

DoD Cyber Exchange:  
<https://cyber.mil/>

Baseline Home Computer Configuration:  
<https://chess.army.mil/Content/Page/Windows%2010>

Army Golden Master Program:  
<http://download.insight.com/jela>

Product Support Manager's Guidebook to Technical Manual Contract Development and Quality Review Best Practices, Version 1.0, October 1, 2018

### **C.6.5 Software**

COMPASS: <https://www.logsa.army.mil/#/lec/compass>

POWER LOG-J: <https://www.logsa.army.mil/#/lec/powerlog>

### **C.6.6 Acronym List.**

The following is a list of acronyms that apply to this contract:

ADP – Automatic Data Processing  
AIN – Approved Item Name  
AMC – Army Materiel Command  
ANSI – American National Standards Institute  
AR – Army Regulation  
ASCII – American Standard Code for Information Interchange  
ASME – American Society of Mechanical Engineers  
AT – Anti-terrorism  
BII – Basic Issue Items  
CAC – Common Access Card  
CAGEC – Commercial and Government Entity Code  
CDRL – Contract Data Requirements List  
CID – Commercial Item Description  
COEI – Components of End Item  
DFARS – Defense Federal Acquisition Regulation Supplement  
DLA – Defense Logistics Agency  
DLIS – Defense Logistics Information Service  
DOD – Department of Defense  
DPI – Dots per Inch  
DTD – Document Type Definition  
EDFP – Engineering Data for Provisioning  
FAR – Federal Acquisition Regulation  
FEDLOG – Federal Logistics Data  
FED-SPEC – Federal Specification  
FGC – Functional Group Code  
FLIS – Federal Logistics Information System  
FMECA – Failure Modes, Effects, and Criticality Analysis  
FTA - Fault Tree Analysis  
FRC – Final Reproducible Copy  
FSR – Field Service Representative  
GEIA – Government Electronics and Information Technology Association  
GFI – Government Furnished Information  
HAZMAT – Hazardous Material  
HSI – Human Services Integration  
IAW – In Accordance With  
ILSC – Integrated Logistics Support Center  
IPR – In-Process Review  
IPS – Integrated Product Support  
KO – Contract Officer  
LLTI – Long Lead Time Item  
LMP – Logistics Modernization Program  
LORA – Level of Repair Analysis  
LPD – Logistics Product Data  
LSAR – Logistics Support Analysis Record

MAC – Maintenance Allocation Chart  
ME – Maintainability Evaluation  
MIL-HDBK – Military Handbook  
MIL-PRF – Military Performance Specification  
MIL-SPEC – Military Specification  
MIL-STD – Military Standard  
MTA – Maintenance Task Analysis  
NHA – Next Higher Assembly  
NSN – National Stock Number  
OEM – Original Equipment Manufacturer  
PAM – Pamphlet  
PCC – Provisioning Control Code  
PCCN – Provisioning Contract Control Number  
PLISN – Provisioning List Item Sequence Numbers  
PLJ2 – PowerLOG-J 2  
PMCS – Preventive Maintenance Checks and Services  
PM-FSS – Product Manager-Force Sustainment Systems  
PPL – Provisioning Parts List  
PMR - Provisioning Master Record  
PSID – Product Support Integration DirectoratePTD –  
Provisioning Technical Documentation RPSTL – Repair  
Parts and Special Tools List SAFE – Secure Access File  
Exchange  
SCORM – Sharable Content Object Reference Model  
SERD – Supporting Equipment Recommendation Data  
SMR – Source, Maintenance and Recoverability  
SOW – Statement of Work  
SPI – Special Packaging Instructions  
S-PSID – Soldier Product Support Integration Directorate  
SPTD – Supplemental Provisioning Technical Documentation  
SSI – Storage and Shipment Instructions  
SSP – System Support Package  
TB – Technical Bulletin  
TLM – Two-Level Maintenance  
TM – Technical Manual  
TRADOC – Training and Doctrine Command  
UOC – Usable on Code  
WP – Work Package  
WRA – Weapons Replacement Assembly

**APPENDIX A****LOGISTICS PRODUCT DATA WORKSHEET – PROVISIONING DATA REQUIREMENTS**  
**(GEIA-STD-0007-B)****1. DATA PRODUCT DELIVERABLE:** Data product information required as stated below.**SELECT    EXPLANATION**

- 1        Data required for all piece parts and special tools identified on equipment
- 2        Data required for Repair Parts and Special Tools List (RPSTL)
- AR      Data required for part number superseded or changed

**DED Matrix**

<b>DATA PRODUCT TITLE</b>	<b>SELECT</b>	<b>DATA TYPE NUMBER / ADDITIONAL INFORMATION</b>
ALTERNATE LOGISTICS SUPPORT ANALYSIS CONTROL CODE (ALC)	1	1200
COMMERCIAL GOVERNMENT ENTITY(CAGE) CODE	1	1520
CAGE CODE – ADDITIONAL REFERENCE NUMBER	1	1520
DEMILITARIZATION CODE (DMIL)	1	2080
ESSENTIALITY CODE	1	Actual sales price required
FIGURE NUMBER	2	2290 Match to TM RPSTL
HAZARDOUS CODE	1	2370
INDENTURE CODE	1	2520 Option 4
INDENTURE FOR KITS	1	2520 Option 1
INTERCHANGEABILITY CODE	AR	2670
ITEM CATEGORY CODE (ICC)	1	2730
ITEM NAME CODE (INC)	1	2780
ITEM NAME	1	2780 Approved Item name from DLIS H6 or Provisioning Conference
ITEM NUMBER	1	2800 Match to TM RPSTL
LINE REPLACEABLE UNIT (LRU)	1	2880
LOGISTICS SUPPORT ANALYSIS CONTROL NUMBER (LCN)	1	2970
MAINTENANCE REPLACEMENT RATE I (MRR I)	1	3060 (“P” CODED ITEMS) also known as Failure Factor I
MAINTENANCE REPLACEMENT RATE II (MRR II)	1	3070 (“P” CODED ITEMS) also known as Failure Factor II)
MAINTENANCE REPLACEMENT RATE MODIFIER	1	3080 (“P” CODED ITEMS)
MAINTENANCE TASK DISTRIBUTION	1	LMI 3090

DATA PRODUCT TITLE	SELECT	DATA TYPE NUMBER / ADDITIONAL INFORMATION
MEAN TIME BETWEEN FAILURES (MBTF)	1	3270
MEAN TIME TO REPAIR (MTTR)	1	3360
NATIONAL STOCK NUMBER (NSN)		
FEDERAL SUPPLY CLASS (FSC)	1	2280
NATIONAL ITEM IDENTIFICATION NUMBER (NIIN)	1	3520
NEXT HIGHER ASSY PROVISIONING LIST ITEM SEQUENCE NUMBER INDICATOR (NHA IND)	1	3580
NEXT HIGHER ASSY PROVISIONING LIST ITEM SEQUENCE NUMBER (NHA PLISN)	1	3590
OVERHAUL REPLACEMENT RATE	1	3790
PRIOR ITEM PLISN	AR	4120 Reference definition “c”
PRODUCTION LEAD TIME	1	4020
PROVISIONING CONTRACT CONTROL NUMBER (PCCN)	1	4100 (GOVT PROVIDED)
PROVISIONING LIST CATEGORY CODE	AR	4110 Long Lead Time Items Only
PROVISIONING LIST ITEM SEQUENCE NUMBER (PLISN)	1	4120 Refer to PSOW for Sequencing
PROVISIONING NOMENCLATURE	1	4130
QUANTITY PER ASSEMBLY (QPA)	1	4190 Option 1
QUANTITY PER END ITEM (QPEI)	1	4210
QUANTITY PER FIGURE	2	4220 Match EDFP and TM RPSTL illustration quantities
REFERENCE NUMBER (Part Number)	1	4400
REFERENCE NUMBER CATEGORY CODE (RNCC)	1	4390
REFERENCE NUMBER VARIATION CODE (RNVC)	1	4410
REPAIR CYCLE TIME	1	4480
REPLACEMENT TASK DISTRIBUTION	1	4530
SAME AS PROVISIONING LIST ITEM SEQUENCE NUMBER (SAME AS PLISN)	AR	4120
SHELF LIFE (SL)	1	4730
SOURCE, MAINTENANCE AND RECOVERABILITY (SMR) CODE	1	4830 IAW AR 700-82
TECHNICAL MANUAL CHANGE NUMBER (TM CHG)	2	5240
TECHNICAL MANUAL FUNCTIONAL GROUP CODE	2	5260
TECHNICAL MANUAL INDENTURE CODE (TM IND)	2	5270

DATA PRODUCT TITLE	SELECT	DATA TYPE NUMBER / ADDITIONAL INFORMATION
TECHNICAL MANUAL NUMBER (TM CODE)	2	5280 (GOVT PROVIDED)
TYPE OF CHANGE CODE (TOCC)	AR	5620
UNIT OF ISSUE (UI)	1	5700
UNIT OF ISSUE CONVERSION FACTOR (UI CONV FACTOR)	1	5690
UNIT OF ISSUE/UNIT OF MEASURE CODE	1	LMI 1490
UNIT OF ISSUE/UNIT OF MEASURE PRICE (UI/UM PRICE)	1	5710 Actual sales price required
UNIT OF MEASURE (UM)	1	5720
USABLE ON CODE (UOC)	1	5790 (GOVT PROVIDED)



**EXHIBIT 1****LOGISTICS PRODUCT DATA WORKSHEET – PROVISIONING DATA REQUIREMENTS**  
**(GEIA-STD-0007-B)****1. DATA PRODUCT DELIVERABLE:** Data product information required as stated below.**SELECT    EXPLANATION**

- 1        Data required for all piece parts and special tools identified on equipment
- 2        Data required for Repair Parts and Special Tools List (RPSTL)
- AR      Data required for part number superseded or changed

**DED Matrix**

<b>DATA PRODUCT TITLE</b>	<b>SELECT</b>	<b>DATA TYPE NUMBER / ADDITIONAL INFORMATION</b>
ALTERNATE LOGISTICS SUPPORT ANALYSIS CONTROL CODE (ALC)	1	1200
COMMERCIAL GOVERNMENT ENTITY(CAGE) CODE	1	1520
CAGE CODE – ADDITIONAL REFERENCE NUMBER	1	1520
DEMILITARIZATION CODE (DMIL)	1	2080
ESSENTIALITY CODE	1	Actual sales price required
FIGURE NUMBER	2	2290 Match to TM RPSTL
HAZARDOUS CODE	1	2370
INDENTURE CODE	1	2520 Option 4
INDENTURE FOR KITS	1	2520 Option 1
INTERCHANGEABILITY CODE	AR	2670
ITEM CATEGORY CODE (ICC)	1	2730
ITEM NAME CODE (INC)	1	2780
ITEM NAME	1	2780 Approved Item name from DLIS H6 or Provisioning Conference
ITEM NUMBER	1	2800 Match to TM RPSTL
LINE REPLACEABLE UNIT (LRU)	1	2880
LOGISTICS SUPPORT ANALYSIS CONTROL NUMBER (LCN)	1	2970
MAINTENANCE REPLACEMENT RATE I (MRR I)	1	3060 (“P” CODED ITEMS) also known as Failure Factor I
MAINTENANCE REPLACEMENT RATE II (MRR II)	1	3070 (“P” CODED ITEMS) also known as Failure Factor II)
MAINTENANCE REPLACEMENT RATE MODIFIER	1	3080 (“P” CODED ITEMS)
MAINTENANCE TASK DISTRIBUTION	1	LMI 3090

DATA PRODUCT TITLE	SELECT	DATA TYPE NUMBER / ADDITIONAL INFORMATION
MEAN TIME BETWEEN FAILURES (MBTF)	1	3270
MEAN TIME TO REPAIR (MTTR)	1	3360
NATIONAL STOCK NUMBER (NSN)		
FEDERAL SUPPLY CLASS (FSC)	1	2280
NATIONAL ITEM IDENTIFICATION NUMBER (NIIN)	1	3520
NEXT HIGHER ASSY PROVISIONING LIST ITEM SEQUENCE NUMBER INDICATOR (NHA IND)	1	3580
NEXT HIGHER ASSY PROVISIONING LIST ITEM SEQUENCE NUMBER (NHA PLISN)	1	3590
OVERHAUL REPLACEMENT RATE	1	3790
PRIOR ITEM PLISN	AR	4120 Reference definition “c”
PRODUCTION LEAD TIME	1	4020
PROVISIONING CONTRACT CONTROL NUMBER (PCCN)	1	4100 (GOVT PROVIDED)
PROVISIONING LIST CATEGORY CODE	AR	4110 Long Lead Time Items Only
PROVISIONING LIST ITEM SEQUENCE NUMBER (PLISN)	1	4120 Refer to PSOW for Sequencing
PROVISIONING NOMENCLATURE	1	4130
QUANTITY PER ASSEMBLY (QPA)	1	4190 Option 1
QUANTITY PER END ITEM (QPEI)	1	4210
QUANTITY PER FIGURE	2	4220 Match EDFP and TM RPSTL illustration quantities
REFERENCE NUMBER (Part Number)	1	4400
REFERENCE NUMBER CATEGORY CODE (RNCC)	1	4390
REFERENCE NUMBER VARIATION CODE (RNVC)	1	4410
REPAIR CYCLE TIME	1	4480
REPLACEMENT TASK DISTRIBUTION	1	4530
SAME AS PROVISIONING LIST ITEM SEQUENCE NUMBER (SAME AS PLISN)	AR	4120
SHELF LIFE (SL)	1	4730
SOURCE, MAINTENANCE AND RECOVERABILITY (SMR) CODE	1	4830 IAW AR 700-82
TECHNICAL MANUAL CHANGE NUMBER (TM CHG)	2	5240
TECHNICAL MANUAL FUNCTIONAL GROUP CODE	2	5260
TECHNICAL MANUAL INDENTURE CODE (TM IND)	2	5270

<b>DATA PRODUCT TITLE</b>	<b>SELECT</b>	<b>DATA TYPE NUMBER / ADDITIONAL INFORMATION</b>
TECHNICAL MANUAL NUMBER (TM CODE)	2	5280 (GOVT PROVIDED)
TYPE OF CHANGE CODE (TOCC)	AR	5620
UNIT OF ISSUE (UI)	1	5700
UNIT OF ISSUE CONVERSION FACTOR (UI CONV FACTOR)	1	5690
UNIT OF ISSUE/UNIT OF MEASURE CODE	1	LMI 1490
UNIT OF ISSUE/UNIT OF MEASURE PRICE (UI/UM PRICE)	1	5710 Actual sales price required
UNIT OF MEASURE (UM)	1	5720
USABLE ON CODE (UOC)	1	5790 (GOVT PROVIDED)

## EXHIBIT 2 - ASF RWS SOW

## MIL-STD-40051-2D

## APPENDIX A

TABLE A-II. Operators and combined operator/maintenance requirements matrix for

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<b>FRONT MATTER</b>	R	R	R	<a href="#">5.2.1</a>	<paper.frnt>
Front cover	R	R	R	<a href="#">5.2.1.1</a>	<frntcover>
(MC) Signature page				<a href="#">5.2.1.3</a>	<promulgation>
Warning summary				<a href="#">5.2.1.4</a>	<warnsum>
Change transmittal page				<a href="#">5.2.1.5</a>	<chgsheet>
List of effective pages/ work packages	R	R	R	<a href="#">5.2.1.6</a>	<loepwp>
Title page	R	R	R	<a href="#">5.2.1.7</a>	<titleblk>
Table of contents	R	R	R	<a href="#">5.2.1.9</a>	<contents>
How to use this manual	R	R	R	<a href="#">5.2.1.10</a>	<howtouse>
<b>CHAPTER 1. GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND THEORY OF OPERATION</b>	R	R	R	<a href="#">APPENDIX B</a>	<gim>
<i>GENERAL INFORMATION WORK PACKAGE</i>	R	R	R	<a href="#">B.5.2</a>	<ginfowp>
Scope	R	R	R	<a href="#">B.5.2.3</a>	<scope>
Maintenance forms, records, and reports	R	R	R	<a href="#">B.5.2.4</a>	<mfrr>
Reporting Equipment Improvement Recommendations (EIR)	R	R	R	<a href="#">B.5.2.5</a>	<eir>
Hand Receipt (HR) manuals				<a href="#">B.5.2.6</a>	<handreceipt>
Corrosion Prevention and Control (CPC)	R	R	R	<a href="#">B.5.2.7</a>	<cpcdata>
Ozone Depleting Substances (ODS)				<a href="#">B.5.2.8</a>	<odsdata>
Destruction of equipment to prevent enemy use	R	R	R	<a href="#">B.5.2.9</a>	<destructmat>
Preparation for storage or shipment	R	R	R	<a href="#">B.5.2.10</a>	<pssref>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
Transportability guidance	R	R	R	<a href="#">B.5.2.11</a>	<transportability>
Warranty information				<a href="#">B.5.2.12</a>	<wrntyref>
Nomenclature cross-reference list				<a href="#">B.5.2.13</a>	<nomenreflist>
List of abbreviations/ acronyms	R	R	R	<a href="#">B.5.2.14</a>	<loa>
Quality of material	P	R		<a href="#">B.5.2.16</a>	<qual.mat.info>
Safety, care, and handling	R	R	R	<a href="#">B.5.2.17</a>	<sftyinfo>
Nuclear hardness				<a href="#">B.5.2.18</a>	<hcp>
Calibration				<a href="#">B.5.2.19</a>	<calref>
Item unique identification (IUID)				<a href="#">B.5.2.20</a>	<iuid>
Mandatory Replacement Parts (MRP)	R	R	R	<a href="#">B.5.2.25</a>	<mrpref>
Supporting information for repair parts, special tools/kits, TMDE, and support equipment	P			<a href="#">B.5.2.28</a>	<supdata>
Copyright credit line				<a href="#">B.5.2.29</a>	<copyrt>
<i>EQUIPMENT DESCRIPTION AND DATA WORK PACKAGE</i>	R	R	R	<a href="#">B.5.3</a>	<descwp>
Equipment characteristics, capabilities, and features	R	R	R	<a href="#">B.5.3.3</a>	<eqpinfo>
Location and description of major components	R	R	R	<a href="#">B.5.3.4</a>	<locdesc>
Equipment differences				<a href="#">B.5.3.5</a>	<eqpdiff>
Equipment data	R	R	R	<a href="#">B.5.3.6</a>	<eqpdata>
<i>THEORY OF OPERATION WORK PACKAGE</i>	R	R	R	<a href="#">B.5.4</a>	<thrywp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<b>CHAPTER X. OPERATOR INSTRUCTIONS</b>	R	R	R	<a href="#">APPENDIX C</a>	<opim>
<i>DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS WORK PACKAGE</i>	R	R		<a href="#">C.5.2.2.1</a>	<ctrlindwp>
<i>OPERATION UNDER USUAL CONDITIONS WORK PACKAGE</i>	R	R	R	<a href="#">C.5.2.2.2</a>	<opusualwp>
Operation under usual conditions task	R	R	R	<a href="#">C.5.2.2.2.3</a>	<opertsk>
Security measures for electronic data				<a href="#">C.5.2.2.2.3.1</a>	<secref>
Siting requirements				<a href="#">C.5.2.2.2.3.2</a>	<site>
Shelter requirements				<a href="#">C.5.2.2.2.3.3</a>	<shelter>
Assembly and preparation for use				<a href="#">C.5.2.2.2.3.4</a>	<prepforuse>
Initial adjustments, before use and self-test				<a href="#">C.5.2.2.2.3.5</a>	<initial>
Operating procedures	R	R	R	<a href="#">C.5.2.2.2.3.6</a>	<oper>
Operating auxiliary equipment				<a href="#">C.5.2.2.2.3.8</a>	<operaux>
Preparation for movement				<a href="#">C.5.2.2.2.3.9</a>	<prepmove>
<i>OPERATION UNDER UNUSUAL CONDITIONS WORK PACKAGE</i>	R	R	R	<a href="#">C.5.2.2.3</a>	<opunuwp>
Security measures for electronic data				<a href="#">C.5.2.2.3.3.1</a>	<secref>
Unusual environment/weather	R	R	R	<a href="#">C.5.2.2.3.3.2</a>	<unusualenv>
Fording and swimming				<a href="#">C.5.2.2.3.3.3</a>	<fording>
Interim Chemical, Biological, Radiological, Nuclear and				<a href="#">C.5.2.2.3.3.4</a>	<decon>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
Explosives (CBRNE) decontamination procedures					
Jamming and Electronic Countermeasures (ECM) procedures				<a href="#">C.5.2.2.3.3.5</a>	<ecm>
Degraded operation procedures				<a href="#">C.5.2.2.3.3.6</a>	<degraded>
EMERGENCY WORK PACKAGE				<a href="#">C.5.2.2.4</a>	<emergencywp>
DECAL/DATA PLATE GUIDE WORK PACKAGE				<a href="#">C.5.2.2.5</a>	<stowagewp>
ON-VEHICLE EQUIPMENT LOADING PLAN WORK PACKAGE				<a href="#">C.5.2.2.6</a>	<eqploadwp>
CHAPTER X. TROUBLESHOOTING MASTER INDEX				<a href="#">APPENDIX D D.5.4.4</a>	<tim><masterindex-category>
TROUBLESHOOTING INDEX WORK PACKAGE				<a href="#">D.5.5.5</a>	<tsindxwp>
CHAPTER X. TROUBLESHOOTING PROCEDURES  <b>Note</b> <i>The notation (*) indicates that at least one of the these content items shall be included.</i>		R		<a href="#">APPENDIX D D.5.4.2</a>	<tim><troublecategory>
INTRODUCTION WORK PACKAGE				<a href="#">D.5.5.3</a>	<tsintrowp>
TROUBLESHOOTING INDEX WORK PACKAGE				<a href="#">D.5.5.5</a>	<tsindxwp>
*OPERATIONAL CHECKOUT WORK PACKAGES				<a href="#">D.5.5.8.3</a>	<opcheckwp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<i>*TROUBLESHOOTING WORK PACKAGES</i>				<a href="#">D.5.5.8.4</a>	<tswp>
<i>*COMBINED OPERA- TIONAL CHECKOUT AND TROUBLESHOOT- ING WORK PACKAGES</i>				<a href="#">D.5.5.8.5</a>	<opcheck-tswp>
<b>CHAPTER X. PMCS MAINTENANCE INSTRUCTIONS</b>  <b>Note</b>  <i>PMCS may be in its own chapter or may be com- bined with other mainte- nance work packages in a maintenance chapter but not both places.</i>				<a href="#">APPENDIX E E.5.2.1</a>	<mim><pmcscategory>
<i>PMCS INTRODUCTION WORK PACKAGE</i>	R	R	R	<a href="#">E.5.3.4.1</a>	<pmcsintrowp>
<i>PMCS, INCLUDING LUBRICATION IN- STRUCTIONS, WORK PACKAGE</i>	R	R	R	<a href="#">E.5.3.4.2</a>	<pmcswp>
<b>CHAPTER X. MAIN- TENANCE INSTRUCTIONS</b>  <b>Note</b>  <i>PMCS is required as a minimum in one mainte- nance chapter. PMCS may be in its own chap- ter or may be combined with other maintenance work packages in a maintenance chapter but not both places.</i>	R	R	R	<a href="#">APPENDIX E E.5.2.2 E.5.2.3</a>	<mim> <maintenancepmcsca- tegory> <maintenancecatego- ry>
<i>SERVICE UPON RE- CEIPT WORK PACK- AGE (MAINTAINER LEVEL ONLY)</i>		R	R	<a href="#">E.5.3.2</a>	<surwp>



MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
Service upon receipt tasks		R	R	<a href="#">E.5.3.2.3</a>	<surtsk>
Siting				<a href="#">E.5.3.2.3.1</a>	<siting>
Shelter requirements				<a href="#">E.5.3.2.3.2</a>	<shltr>
Service upon receipt of materiel				<a href="#">E.5.3.2.3.3</a>	<surmat>
Installation instructions				<a href="#">E.5.3.2.3.4</a>	
Preliminary servicing of equipment				<a href="#">E.5.3.2.3.5</a>	<preserv>
Preliminary checks and adjustment of equipment				<a href="#">E.5.3.2.3.6</a>	<prechkadj>
Preliminary calibration of equipment				<a href="#">E.5.3.2.3.7</a>	<precal>
Circuit alignment				<a href="#">E.5.3.2.3.8</a>	<calign>
Ammunition Service upon receipt	P			<a href="#">E.5.3.2.3.9</a>	<ammo.sur>
Additional maintenance task				<a href="#">E.5.3.2.3.10</a>	<other.surtsk>
Follow-on maintenance				<a href="#">E.5.3.2.3.11</a>	<followon.maintsk>
<i>EQUIPMENT/USER FITTING INSTRUCTIONS WORK PACKAGE</i>				<a href="#">E.5.3.3</a>	<perseqpwp>
<i>PMCS INTRODUCTION WORK PACKAGE</i>	R			<a href="#">E.5.3.4.1</a>	<pmcsintrowp>
<i>PMCS WORK PACKAGE</i>	R			<a href="#">E.5.3.4.2</a>	<pmcswp>
<i>MAINTENANCE WORK PACKAGES</i>		R	R	<a href="#">E.5.3.5</a>	<maintwp>
Maintenance tasks		R	R	<a href="#">E.5.3.5.3</a>	<maintsk>
Inspect				<a href="#">E.5.3.5.3.2</a>	<inspect>
Test				<a href="#">E.5.3.5.3.3</a>	<test>
Service				<a href="#">E.5.3.5.3.4</a>	<service>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
Adjust				<a href="#">E.5.3.5.3.5</a>	<adjust>
Align				<a href="#">E.5.3.5.3.6</a>	<align>
Calibrate				<a href="#">E.5.3.5.3.7</a>	<calibration>
Remove				<a href="#">E.5.3.5.3.8</a>	<remove>
Install				<a href="#">E.5.3.5.3.9</a>	<install>
Replace				<a href="#">E.5.3.5.3.10</a>	<replace>
Repair				<a href="#">E.5.3.5.3.11</a>	<repair>
Paint				<a href="#">E.5.3.5.3.12</a>	<paint>
Overhaul	P			<a href="#">E.5.3.5.3.13</a>	<overhaul>
Rebuild	P			<a href="#">E.5.3.5.3.14</a>	<rebuild>
Lubricate				<a href="#">E.5.3.5.3.15</a>	<lube>
Mark				<a href="#">E.5.3.5.3.16</a>	<mark>
Pack				<a href="#">E.5.3.5.3.17</a>	<pack>
Unpack				<a href="#">E.5.3.5.3.18</a>	<unpack>
Preserve				<a href="#">E.5.3.5.3.19</a>	<preservation>
Prepare for use				<a href="#">E.5.3.5.3.20</a>	<prepforuse>
Assemble				<a href="#">E.5.3.5.3.21</a>	<assem>
Disassemble				<a href="#">E.5.3.5.3.22</a>	<disassem>
Clean				<a href="#">E.5.3.5.3.23</a>	<clean>
Nondestructive inspection				<a href="#">E.5.3.5.3.24</a>	<ndi>
Radio interference suppression				<a href="#">E.5.3.5.3.25</a>	<ris>
Place in service				<a href="#">E.5.3.5.3.26</a>	<pis>
Towing				<a href="#">E.5.3.5.3.27</a>	<tow>
Jacking				<a href="#">E.5.3.5.3.28</a>	<jack>
Parking				<a href="#">E.5.3.5.3.29</a>	<park>
Mooring				<a href="#">E.5.3.5.3.30</a>	<moor>
Covering				<a href="#">E.5.3.5.3.31</a>	<cover>
Hoisting				<a href="#">E.5.3.5.3.32</a>	<hoist>
Sling loading				<a href="#">E.5.3.5.3.33</a>	<sling>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
External power				<a href="#">E.5.3.5.3.34</a>	<extpwr>
Preparation for storage				<a href="#">E.5.3.5.3.35</a>	<prepstore>
Preparation for shipment				<a href="#">E.5.3.5.3.36</a>	<prepship>
Transport				<a href="#">E.5.3.5.3.37</a>	<transport>
Arm				<a href="#">E.5.3.5.3.38</a>	<arm>
Load				<a href="#">E.5.3.5.3.39</a>	<load>
Unload				<a href="#">E.5.3.5.3.40</a>	<unload>
Install peripheral device				<a href="#">E.5.3.5.3.41</a>	<installperdev>
Uninstall peripheral device				<a href="#">E.5.3.5.3.42</a>	<uninstallperdev>
Upgrade/patch software				<a href="#">E.5.3.5.3.43</a>	<upgrade>
Configure software				<a href="#">E.5.3.5.3.44</a>	<configure>
Debug software				<a href="#">E.5.3.5.3.45</a>	<debug>
Additional maintenance task				<a href="#">E.5.3.5.3.46</a>	<other.maintsk>
Follow-on maintenance				<a href="#">E.5.3.5.3.47</a>	<followon.maintsk>
GENERAL MAINTENANCE WORK PACKAGE				<a href="#">E.5.3.7</a>	<gen.maintwp>
LUBRICATION INSTRUCTIONS WORK PACKAGE				<a href="#">E.5.3.8</a>	<lubewp>
ILLUSTRATED LIST OF MANUFACTURED ITEMS WORK PACKAGE (MAINTAINER LEVEL)	P			<a href="#">E.5.3.10</a>	
Illustrated list of manufactured items introduction work package	P	R	R	<a href="#">E.5.3.10.1</a>	<manu_items_introwp>
Manufacturing procedures work package	P	R	R	<a href="#">E.5.3.10.2</a>	<manuwp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<i>TORQUE LIMITS WORK PACKAGE (MAINTAINER LEVEL)</i>	P			<a href="#">E.5.3.11</a>	<torquewp>
<i>WIRING DIAGRAMS WORK PACKAGE (MAINTAINER LEVEL)</i>	P			<a href="#">E.5.3.12</a>	<wiringwp>
<b>CHAPTER X. AUXILIARY EQUIPMENT MAINTENANCE INSTRUCTIONS</b>				<a href="#">APPENDIX E E.5.2.6</a>	<mim> <auxiliarycategory>
<i>AUXILIARY EQUIPMENT MAINTENANCE WORK PACKAGE</i>				<a href="#">E.5.3.14</a>	<auxeqpwp>
<i>ILLUSTRATED LIST OF MANUFACTURED ITEMS WORK PACKAGE (MAINTAINER LEVEL)</i>	P	P	P	<a href="#">E.5.3.10</a>	
Illustrated list of manufactured items introduction work package	P	R	R	<a href="#">E.5.3.10.1</a>	<manu_items_introwp>
Manufacturing procedures work package	P	R	R	<a href="#">E.5.3.10.2</a>	<manuwp>
<i>TORQUE LIMITS WORK PACKAGE (MAINTAINER LEVEL)</i>	P			<a href="#">E.5.3.11</a>	<torquewp>
<i>WIRING DIAGRAMS WORK PACKAGE (MAINTAINER LEVEL)</i>	P			<a href="#">E.5.3.12</a>	<wiringwp>
<b>CHAPTER X. AMMUNITION MAINTENANCE INSTRUCTIONS</b>				<a href="#">APPENDIX E E.5.2.7</a>	<mim> <ammunitioncategory>
<i>AMMUNITION IDENTIFICATION WORK PACKAGE</i>				<a href="#">E.5.3.15.1</a>	<ammoidentwp>
<i>AMMUNITION MAINTENANCE WORK PACKAGE</i>				<a href="#">E.5.3.15.2</a>	<ammowp>
<i>FOREIGN AMMUNITION WORK PACKAGE</i>				<a href="#">E.5.3.15.3</a>	<natowp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<b>CHAPTER X. SHIPMENT/MOVEMENT AND STORAGE MAINTENANCE INSTRUCTIONS</b>				<a href="#">APPENDIX E E.5.2.9</a>	<mim> <shipmentmovement-storagecategory>
<i>MAINTENANCE WORK PACKAGES</i>	R	R		<a href="#">E.5.3.5</a>	<maintwp>
Preparation for storage	R	R		<a href="#">E.5.3.5.3.35</a>	<prepstore>
Preparation for shipment	R	R		<a href="#">E.5.3.5.3.36</a>	<prepship>
Transport	R	R		<a href="#">E.5.3.5.3.37</a>	<transport>
<b>CHAPTER X. AMMUNITION MARKING MAINTENANCE INSTRUCTIONS</b>	R	R		<a href="#">APPENDIX E</a>	<mim> <ammomarkingcategory>
<i>AMMUNITION MARKING INFORMATION WORK PACKAGE</i>	R	R		<a href="#">E.5.3.15.2</a>	<ammo.markingwp>
<b>CHAPTER X. DESTRUCTION OF EQUIPMENT TO PREVENT ENEMY USE</b>  <b>Note</b> <i>If a separate destruction of material manual is not developed for this equipment, then the destruction chapter must be included.</i>				<a href="#">APPENDIX H</a>	<dim>
<i>DESTRUCTION PROCEDURES INTRODUCTION WORK PACKAGE</i>	R	R	R	<a href="#">H.5.3</a>	<destruct-introwp>
Authority to destroy	R	R	R	<a href="#">H.5.3.3</a>	<authorize_to_destroy>
Reporting destruction	R	R	R	<a href="#">H.5.3.4</a>	<report_destruct>
General destruction information	R	R	R	<a href="#">H.5.3.5</a>	<general_destruct_info>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
Degree of destruction	R	R	R	<a href="#">H.5.3.6</a>	<degree_of_destruct>
Essential components and spare parts				<a href="#">H.5.3.7</a>	<component_spare>
<i>DESTRUCTION PROCEDURES WORK PACKAGE</i>	R	R	R	<a href="#">H.5.4</a>	<destruct-materialwp>
Parts list				<a href="#">H.5.4.3</a>	<essential_spare>
Specific destruction procedures	R	R	R	<a href="#">H.5.4.4</a>	<proc>
<b>CHAPTER X. SOFTWARE INFORMATION</b>				<a href="#">APPENDIX M</a>	<soim><softwarecategory>
<i>SOFTWARE GENERAL INFORMATION WORK PACKAGE</i>	R	R	R	<a href="#">M.5.3.1</a>	<softginfowp>
System Overview	R	R	R	<a href="#">M.5.3.1.6</a>	<softsysover>
Document Overview	R	R	R	<a href="#">M.5.3.1.7</a>	<softdocover>
<i>SOFTWARE SUMMARY WORK PACKAGE</i>	R	R	R	<a href="#">M.5.3.2</a>	<softsumwp>
<i>SOFTWARE EFFECTIVITY WORK PACKAGE</i>				<a href="#">M.5.3.3</a>	<softeffectwp>
<i>DIFFERENCES BETWEEN SOFTWARE VERSIONS WORK PACKAGE</i>				<a href="#">M.5.3.4</a>	<softdiffversionwp>
<i>FEATURES AND CAPABILITIES WORK PACKAGE</i>				<a href="#">M.5.4.1</a>	<softfeaturescapwp>
<i>SCREEN DISPLAYS WORK PACKAGE</i>				<a href="#">M.5.4.2</a>	<softscreendis-playwp>
<i>MENUS/DIRECTORIES WORK PACKAGE</i>				<a href="#">M.5.4.3</a>	<softmenuwp>
<i>TOOLS AND BUTTONS WORK PACKAGES</i>				<a href="#">M.5.4.4</a>	<softtoolswp>
<i>SECURITY AND PRIVACY PROCEDURES WORK PACKAGE</i>	R	R	R	<a href="#">M.5.5.1</a>	<softsecprivwp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<i>SUPERVISORY CONTROLS WORK PACKAGE</i>		R	R	<a href="#">M.5.5.2</a>	<softsuperctrlswp>
<i>POWERUP/STARTUP AND POWERDOWN/SHUTDOWN PROCEDURES WORK PACKAGE</i>	R	R	R	<a href="#">M.5.5.3</a>	<softpowerupwp>
<i>ACCESSING/EXITING SOFTWARE WORK PACKAGE</i>	R	R	R	<a href="#">M.5.5.4</a>	<softaccesswp>
<i>KEY COMMANDS WORK PACKAGE</i>				<a href="#">M.5.5.5</a>	<softkeycmdswp>
<i>PROCESSES AND COMMANDS WORK PACKAGE</i>				<a href="#">M.5.5.6</a>	<softproccmdwp>
<i>USER INTERFACE WORK PACKAGE</i>				<a href="#">M.5.5.7</a>	<softguiwp>
<i>SOFTWARE OPERATING CONVENTIONS WORK PACKAGE</i>				<a href="#">M.5.5.8</a>	<softopconventionswp>
<i>ADDITIONAL SOFTWARE OPERATION WP</i>				<a href="#">M.5.5.9</a>	<softgenwp>
<i>MESSAGES WORK PACKAGE</i>		R	R	<a href="#">M.5.6.3</a>	<softmessageswp>
<i>RECOVERY FROM ERRORS, MALFUNCTIONS, AND EMERGENCIES WORK PACKAGE</i>				<a href="#">M.5.6.4</a>	<softerrorswp>
<b>CHAPTER X. RPSTL</b>	P	R	P	<a href="#">APPENDIX F</a>	<pim>
<i>INTRODUCTION WORK PACKAGE</i>	P	R	P	<a href="#">F.5.3.5</a>	<introwp>
<i>REPAIR PARTS LIST WORK PACKAGE</i>	P	R	P	<a href="#">F.5.3.6</a>	<plwp>
<i>REPAIR PARTS FOR SPECIAL TOOLS WORK PACKAGE</i>	P		P	<a href="#">F.5.3.7</a>	<stl_partswp>
<i>KIT PARTS LIST WORK PACKAGE</i>	P		P	<a href="#">F.5.3.8</a>	<kitswp>

MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

TM Content	-10	Non-Ammo Ground -12&P	-12	MIL-STD-40051-2D Reference	Element Name
<i>BULK ITEM WORK PACKAGE</i>	P		P	<a href="#">F.5.3.9</a>	<bulk_itemswp>
<i>SPECIAL TOOLS LIST WORK PACKAGE</i>	P		P	<a href="#">F.5.3.10</a>	<stlwp>
<i>NSN INDEX WORK PACKAGE</i>	P	R	P	<a href="#">F.5.3.11.1</a>	<nsnindxwp>
<i>P/N INDEX WORK PACKAGE</i>	P	R	P	<a href="#">F.5.3.11.2</a>	<pnindxwp>
<i>REFERENCE DESIGNATOR INDEX WORK PACKAGE</i>	P		P	<a href="#">F.5.3.11.3</a>	<refdesindxwp>
<b>CHAPTER X. SUPPORTING INFORMATION</b>  <b>Note</b> <i>Applicable supporting information work packages shall be arranged in the order in which they are presented here and numbered accordingly.</i>	R	R	R	<a href="#">APPENDIX G</a>	<sim>
<i>REFERENCES WORK PACKAGE</i>	R	R	R	<a href="#">G.5.2</a>	<refwp>
<i>INTRODUCTION FOR NON-AVIATION TWO-LEVEL MAINTENANCE MAC WORK PACKAGE</i>	P	R	R	<a href="#">G.5.3.1</a>	<macintrowp>
<i>MAC WORK PACKAGE (NON-AVIATION TWO-LEVEL)</i>	P	R	R	<a href="#">G.5.3.3</a>	<macwp>
<i>COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS WORK PACKAGE</i>	R	R	R	<a href="#">G.5.4</a>	<coeibiiwp>
<i>ADDITIONAL AUTHORIZATION LIST (AAL) WORK PACKAGE</i>				<a href="#">G.5.5</a>	<aalwp>



MIL-STD-40051-2D  
APPENDIX A**TABLE A-II Operators and combined operator/maintenance requirements matrix for \_\_\_\_\_, (continued)**

<b>TM Content</b>	<b>-10</b>	<b>Non-Ammo Ground -12&amp;P</b>	<b>-12</b>	<b>MIL-STD-40051-2D Reference</b>	<b>Element Name</b>
<i>EXPENDABLE AND DURABLE ITEMS LIST WORK PACKAGE</i>	R	R	R	<a href="#">G.5.7</a>	<explistwp>
<i>TOOL IDENTIFICATION LIST WORK PACKAGE</i>	P	R	R	<a href="#">G.5.8</a>	<toolidwp>
<i>MANDATORY REPLACEMENT PARTS WORK PACKAGE</i>				<a href="#">G.5.9</a>	<mrplwp>
<i>CRITICAL SAFETY ITEMS WORK PACKAGE</i>				<a href="#">G.5.10</a>	<csi.wp>
<i>SUPPORT ITEMS WORK PACKAGE</i>				<a href="#">G.5.11</a>	<supitemwp>
<i>ADDITIONAL SUPPORTING WORK PACKAGES</i>				<a href="#">G.5.12</a>	<genwp>
<b>REAR MATTER</b>	R	R	R	<a href="#">5.2.2</a>	<rear>
Glossary				<a href="#">5.2.2.1</a>	<glossary>
Alphabetical index				<a href="#">5.2.2.2</a>	<aindx>
Foldout pages				<a href="#">5.2.2.5</a>	<foldsect>
DA Form 2028	R	R	R	<a href="#">5.2.2.3</a>	<da2028>
Authentication page	R	R	R	<a href="#">5.2.2.4</a>	<authent>
Back cover	R	R	R	<a href="#">5.2.2.6</a>	<back>

Legend

R - Required

P - Prohibited

Shaded - As Required

Exhibit 3, Logistics Product Data - Packaging Data Products

Logistics Product Data - Packaging Data Products

**Entity HF\_Item\_Packaging\_Requirement\_data.**

DTN 2280 – Federal Supply Classification (FSC)  
DTN 3520 – National Item Identification Number (NIIN)  
DTN 4730 – Shelf life code - Code identifying shelf life of packaged item.  
DTN 4720 – Shelf Life Action Code.  
DTN 2790 – Item name  
DTN 5770 – Item weight  
DTN 2890 – Item length  
DTN 2890 – Item width  
DTN 2890 – Item depth  
DTN 3800 – Packaging Category Codes  
DTN 2370 – Hazardous material code  
DTN 4890 – Special Marking Codes  
DTN 4240 – Quantity per unit pack  
DTN 2700 – Intermediate container quantity  
DTN 4400 – Item part number  
DTN 1520 – Cage code associated with Item part number  
DTN 3390 – Preservation method Code  
DTN 1500 – Cleaning and drying procedures  
DTN 3960 – Preservative material Code  
DTN 5930 – Wrap material Code  
DTN 1750 – Cushioning material Code  
DTN 1760 – Cushioning thickness Code  
DTN 5660 – Unit container Code  
DTN 2690 – Intermediate container Code  
DTN 5670 – Unit Container Level Code  
DTN 3410 – Level A Packing Code  
DTN 3410 – Level B Packing Code  
DTN 3410 – Level C Packing Code  
DTN 3190 – Unit pack weight  
DTN 2890 – Unit pack length

### Exhibit 3, Logistics Product Data - Packaging Data Products

DTN 2890 – Unit pack width  
DTN 2890 – Unit pack depth  
DTN 3180 – Unit pack cube  
DTN 4990 – Supplemental packaging data  
DTN 4920 – Special packaging instruction number  
DTN 2830 – Special packaging instruction number Julian date  
DTN 4910 – Special packaging instruction number revision  
DTN 4830 – Source maintenance and recoverability code  
DTN 5700 – Unit of Issue (UI)  
DTN 5720 – Unit of Measure (UM)

Data Elements not in the LMI dictionary (or requiring further definition)

Packaging indicator code. Enter a Packaging Indicator Code (PIC) to indicate the format and applicability of packaging requirements for each level of protection. Enter the PIC for level A in first position and for Level C in the second position.

Type Storage Code (TSC). Military Level A protection code, identifying the type storage facility allowed (e.g. Unheated warehouse, Controlled Humidity Storage, Open Storage)

Transaction type. If the transaction type (TT) in the TACOM Packaging Data file is A or C, enter "C" to change the entry. If the transaction type (TT) is blank, enter "A" to add the entry.

Development Stage (Originator) Enter "X" (only with prior approval) in the first position if the data is interim performance. Enter a dash (-) if the data is engineered. Enter the symbol of the developer of the packaging data in second and third positions.

Document Revision - For PIC 6 Equipment Preservation Data Sheets only, enter the Revision of the Level A packaging document. If original, leave blank.

Document Date - For PIC 6 Equipment Preservation Data Sheets only, enter the date of the document in month-day-year sequence (two digit numerical characters for each).

Item Length, Item Width, Item Depth Enter the length, width and depth in inches and tenths of an inch. These entries shall equal the dimensions of the smallest rectangular solid into which the item will fit. For dimensions less than one tenth inch enter "0001". The largest dimension shall be entered as the length. The smallest dimension shall be entered as the depth.

Hazardous material code Enter the hazardous material code.

Hazardous Material Code

N Item is not hazardous for transport.

D Item is regulated hazardous IAW CFR 49. Hazardous material is any material or substance which is capable of posing an unreasonable risk to health, safety,

## Exhibit 3, Logistics Product Data - Packaging Data Products

or property when transported in commerce. For background see: International Maritime Dangerous Goods Code, INTERNATIONAL MARITIME ORGANIZATION; Technical Instructions for Safe Transport of Hazardous Goods, INTERNATIONAL CIVIL AVIATION ORGANIZATION; Title 29 (Labor), 40 (Protection of Environment) and 49 (Transportation), CODE OF FEDERAL REGULATIONS; and Recommendations on the Transport of Dangerous Goods, UNITED NATIONS.

Performance Oriented Packaging (POP) Hazardous Code Enter the POP hazardous code.

POP Hazardous Code

- N Not hazardous for transport
- H Hazardous for transport – non POP
- D Hazardous for transport – POP candidacy not determined
- P Hazardous for transport – POP item
- K Hazardous for transport – POP item – inner package
- J Hazardous for transport – POP item – outer package
- C Hazardous for transport – POP item – package POP tested
- F Hazardous for transport – POP item – package POP tested
- T Hazardous for transport – POP item – package POP tested
- X Hazardous for transport – POP item – package POP tested

Unit Pack Length, Width, and Depth Enter the exterior length, width and depth in inches and tenths of an inch. For dimensions less than one tenth inch enter "00001". The largest dimension shall be entered as the length. The smallest dimension shall be entered as the depth. For unit packs with skids, the vertical dimension shall be entered as the depth and the largest horizontal dimension shall be entered as the length.

SPI Revision - For PIC 4 items, enter the revision of the Special Packaging Instruction. If original, leave field blank or enter a dash (-). To be filled in when requested.

SPI Date - For PIC 4 items, enter the ordinal date, reflecting the position day in the first two positions, the two position month in the third and fourth positions and the four position year in the fifth through eighth positions (e.g., April 15, 1999 would be 15041999) Do not use spaces or dashes.

Supporting Logistic Information Include Logistics information for each of the items. Data shall be provided, as necessary, to permit the reviewer to determine the adequacy of the prepared packaging analysis and data submittal. This includes item drawings and logistics data such as; copies of Material Safety Data Sheets. Additionally, performance test report and photographic records of packaging and testing shall be delivered (where appropriate).

## Exhibit 3, Logistics Product Data - Packaging Data Products

## INCOMING TRANSACTION FORMAT

Transactions must be submitted in an ASCII delimited text format using commas as delimiters. Quotation marks may be used as text qualifiers but are not required. All text must be upper case. The data provided shall apply to a single item.

<u>FIELD</u>	<u>POSITION</u>	<u>LENGTH</u>
NATIONAL STOCK NUMBER	1-13	13
PACKAGING INDICATOR CODE	14-16	3
TRANSACTION TYPE	17	1
LOP A TYPE STORAGE CODE	18	1
LOP B TYPE STORAGE CODE	19	1
LOP C TYPE STORAGE CODE	20	1
LOP A PACK LEVEL REFERENCE INDICATOR	21	1
LOP B PACK LEVEL REFERENCE INDICATOR	22	1
LOP C PACK LEVEL REFERENCE INDICATOR	23	1
LOCAL CONTROL	24-26	3
DOCUMENT REVISION	27-28	2
DOCUMENT DATE	29-34	6
NUMBER OF SHEETS (leave blank)	35-37	3
TD/CMS (leave blank)	38	1
SHELF LIFE	39	1
PACKAGING REFERENCE	40-49	10
ITEM NAME	50-58	9
ITEM WEIGHT	59-63	5
ITEM LENGTH	64-67	4
ITEM WIDTH	68-71	4
ITEM DEPTH	72-75	4
PACKAGING CATEGORY	76-79	4
SPECIAL MARKING	80-81	2
QUANTITY PER UNIT PACK	82-84	3
INTERMEDIATE CONTAINER QUANTITY	85-87	3
CAGE	88-92	5
PART NUMBER	93-113	21
PART INDICATOR	114	1
HAZARDOUS MATERIALS CODE	115	1
PRESERVATION METHOD	116-117	2
CLEANING AND DRYING	118	1
PRESERVATIVE MATERIAL	119-120	2
WRAP MATERIAL	121-122	2
CUSHIONING AND DUNNAGE	123-124	2
CUSHIONING THICKNESS	125	1
UNIT CONTAINER	126-127	2
INTERMEDIATE CONTAINER	128-129	2
UNIT CONTAINER LEVEL	130	1
LEVEL A PACKING CODE	131	1
LEVEL B PACKING CODE	132	1

## Exhibit 3, Logistics Product Data - Packaging Data Products

LEVEL C PACKING CODE	133	1
UNIT PACK WEIGHT	134-138	5
UNIT PACK LENGTH	139-142	4
UNIT PACK WIDTH	143-146	4
UNIT PACK DEPTH	147-150	4
UNIT PACK CUBE	151-157	7
OPTIONAL PROCEDURE INDICATOR (left blank)	158	1
LEVEL A SUPPLEMENTAL INSTRUCTIONS	159-208	50
SPI REVISION	209	1
SPI DATE	210-214	5
CONTAINER NATIONAL STOCK NUMBER	215-227	13
LEVEL B SUPPLEMENTAL INSTRUCTIONS	228-277	50
LEVEL C SUPPLEMENTAL INSTRUCTIONS	278-327	50
APPROVAL	328-336	9
COMMENTS	337-386	50
STATUS	387-394	8
TRANSACTION DATE	395-400	6