# {#wizardOptions}{#$index == 0}

# Air Force Technical Manual Contract Requirements (TMCR)

## {program\_mod\_system\_name}

ATTACHMENT {#attachment}{attachment}, {/attachment} CDRL SEQUENCE NUMBER {cdrl\_sequence\_number}{#exhibit}, EXHIBIT {exhibit}{/exhibit}

CONTRACT NUMBER {rfp\_contract}, CLIN {clin}

CONTRACT TYPE: {#contract\_type == “Other”}{other\_contract\_type}{/}{#contract\_type != “Other”}{contract\_type}{/}

{#new\_revision == “new”}New Acquisition{/}{#new\_revision == “revision”}Modification{/}{#new\_revision == “conversion”}Conversion{/}

TMCR TYPE: {#tmcr\_type == “Linear”}SGML/XML{/}{#tmcr\_type != “Linear”}{tmcr\_type}{/}

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## Section 1. Technical Order (TO) Program Requirements – {#tmcr\_type == “S1000D”}S1000D/IETM{/}{#tmcr\_type == “Linear”}TMSS SGML/XML TMs{/}{#tmcr\_type == “CDA”}CDA TMs{/}

1. TMCR Tailoring.  The Contractor may propose and submit, in writing, additional tailoring to the Technical Order Manager Agency/Agent (TOMA), Government Program Manager (PM) and Procuring Contracting Officer (PCO) as required by Section L of the RFP. The contractor may also submit additional Section 2 tailoring to propose new TO types (Table 1) and source data and TO updates (Table 2) required to support the {program\_mod\_system\_name} program’s objectives. {#tmcr\_type != “CDA”}Modifications to contracts can continue to utilize the existing format until renegotiated/replaced. {/}The acceptance of any contractor tailored TMCR will be at the discretion of the government and is not in effect until accepted in writing by the PCO or specified in the contract.{#tmcr\_type == “CDA”}
   1. The Contractor must develop the TOs and the TO Program In Accordance With (IAW) TO 00-5-3. In the event of a conflict between the TMCR and the references herein, the TMCR must take precedence. Any additional conflict must be resolved by a decision by the PCO, in coordination with the Technical Order Management Agent/Agency (TOMA).

**NOTE:** TO 00-5-3 can be accessed at the following link: <https://www.tinker.af.mil/Resources/Technical-Orders/>{/}{#tmcr\_type != “CDA”}

1. TO Program Scope. The Contractor must {#new\_revision != “conversion”}develop{/}{#new\_revision == “conversion”}convert{/} and deliver technical manuals in accordance with (IAW) this TMCR{#tmcr\_type == “S1000D”}, the attached S1000D Decision Point Tool (section 3), and supplied Business Rules (BRs){/}{#tmcr\_type == “Linear”} and the attached TMSS Tailoring Tool (section 3){/} that supports the {program\_mod\_system\_name} requirements for technically usable manuals. {/}{#tmcr\_type == “CDA”}
2. TO Program Scope. The Contractor must tailor Section 2 of this document to propose the TO types (Table 1- TMSS Requirements for the {program\_mod\_system\_name}) and source data, TO updates, commercial manuals, supplements, supplement manuals, and TOs prepared to Non-Government Standards (NGS) (Table 2 – Additional TM Type Selections) required to conduct the {program\_mod\_system\_name} objectives.
   1. The Contractor must ensure that all applicable TO requirements of this contract are levied on all suppliers. The Contractor must ensure that suppliers furnish operation and maintenance information applicable to the equipment being acquired, including changes and/or revisions, for inclusion of such information in applicable operation and maintenance TOs for the system/equipment which the equipment supports. When a supplier prepares system TOs, the Contractor must supply required interface data.
   2. The Contractor must pass through and enforce all requirements in this TMCR to all sub-Contractors.{/}{#tmcr\_type == “S1000D”}
3. S1000D Technical Manual Content and Product Plan. The Contractor must develop and deliver a Technical Manual Content and Product Plan IAW the requirements specified within this TMCR. This plan must be developed in the Contractor’s format and will specify the development of the S1000D Interactive Electronic Technical Manual(s) (IETM) incorporating all applicable Business Rule requirements and the preliminary functionality requirements. For the purposes of this contractual document, the term IETM is considered synonymous with the S1000D term Interactive Electronic Technical Publication (IETP). The plan must also detail the total technical content coverage for each system, subsystem, equipment, and major components including a preliminary Data Management Requirement List (DMRL) listing all Data Modules (DMs) and Publication Modules (PMs) to be developed in support of the weapon system/equipment and a List of Applicable Publications if the DMs are to be a part of more than one Technical Publication or IETM. The DMRL must also reference the proposed DM schema type each module is written against. The plan must document the solution architecture requirements necessary for IETM development, to include solution diagrams, solution test cases, and applicable testing documentation.
   1. Additional Content Information. Problems regarding requirements, interpretation, and application must be identified within the plan. Conflicts between standards and guidance documents must be highlighted. An explanation or initial demonstration of how the technical content information will be rendered on the display device and an overview of how the user will access the technical information must be provided. The Contractor may propose opportunities for data (text, graphics, other media) re-use across data types (including training data), weapons system/equipment configurations and foreign military sales. The plan must include a list of re-use objects with future potential to be used across DoD, as well as those items that are unique to the system addressed in the listed IETM(s). The Contractor must also detail their approach to managing the relationship between content and weapon system/equipment applicability. Prior to award, guidance will be outlined in Section L of the RFP,as referenced for development of the IETM(s) guidance. Upon award, opportunities or recommended new language should not be incorporated unless unique and original. The acceptance of any contractor tailored content will be at the discretion of the government and is not in effect until accepted in writing by the PCO or specified in the contract.
   2. Product Coverage. The plan must include Contractor recommendations for the packaging of the IETM content, (i.e., single IETM or multiple IETM products), based on the defined maintenance concept. The Contractor must include external and internal links and references within the plan.{#new\_revision != “conversion”} Additionally, the plan must include the use of Commercial-Off-The-Shelf (COTS) and/or other TMs listed within Section 2, Table 2 of this TMCR, and other manuals as applicable.{/}
   3. Alternative Recommendations. The Contractor may propose, within the plan and as outlined in Section L of the RFP, alternative recommendations for certain technical manual types that may not readily conform to the provided functionality requirements and proposed program BRs.{#new\_revision != “conversion”} Additionally, the Contractor may propose alterations and alternative IETM constructs for paper-based requirements to better optimize page output and minimize print cost. Alterations will be in compliance with AF TMSS requirements.{/}{/}{#tmcr\_type != “CDA” && new\_revision == “modification”}
4. Commercial Manuals. Contractors must recommend the use of existing commercial manuals to the maximum extent possible without impairing program support objectives. All proposed commercial manuals are subject to Government review and approval. Contractors must use Data Item Description (DID) DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* to provide recommendation data. A copy is available through ASSIST at <http://quicksearch.dla.mil/qsSearch.aspx>.
   1. The Contractor must provide the ability to electronically store, print, distribute, update and decollate the commercial manual to allow for printing. Commercial manuals must be delivered as Portable Document Format (PDF) unless otherwise specified.
   2. Approved Commercial-Off-The-Shelf (COTS) Manuals must be delivered with an Identifying TO Publication Sheet (ITPS), IAW MIL-PRF-32216, *Performance Specification: Evaluation Of Commercial Off-The-Shelf (COTS) Manuals And Preparation Of Supplemental Data*. All PDF files of commercial data must be non-password protected to allow the AF to decollate the manual for printing.
   3. If the proposed COTS data is found to be insufficient after review by the Government, the Contractor must prepare supplemental data for the COTS manual as required IAW Military Standard (MIL-STD)-38784. If the COTS data cannot be supplemented sufficiently the Contractor will develop new TM data IAW the applicable TMSS listed in Section 2, Table 1.{/}{#tmcr\_type == “CDA”}
5. Commercial Manuals. The Contractor must propose the use of existing commercial manuals to the maximum extent possible without impairing program support objectives. The Contractor must describe the method used to recommend and submit specific manuals to the AF for review and approval. AF activities will use Military Performance Specifications (MIL-PRF)-32216, *Evaluation of Commercial Off-The-Shelf (COTS) Manuals and Preparation of Supplemental Data*, as a guide for review and acceptance of all recommended commercial manuals and Military Detail Specifications (MIL-DTL)-7700, *Flight Manuals, Air Refueling Procedures, And Abbreviated Checklists*, as an additional guide for commercial Flight Manual contents.
   1. Commercial Manual Ratings for commercial manuals submitted for use by USAF will be evaluated using MIL-PRF-32216 and MIL-DTL-7700 as stated in paragraph 3 of this TMCR. The following are possible ratings, with applicable correction requirements, that will be used:

* **Acceptable**: No correction required. Manual is acceptable as written.
* **Acceptable with Additional Data**: Manual requires additional information to be acceptable. This can be in the form of Supplemental Data Sheets or making necessary changes to the manuals themselves. The method of correction must be determined by the TOMA (see paragraph 1 of this TMCR). DID DI-TMSS-80527D (<https://assist.dla.mil/online/start/>) will be used to develop supplemental data.
* **Unacceptable**: Manuals do not meet the requirements of the TMCR and Supplemental Data Sheets or minor corrections will not correct the problem. The submitted manual must be corrected to meet the requirements called out in this TMCR and re-submitted for re-evaluation.
  1. Unique changes to the core commercial manuals that are not driven by the {program\_mod\_system\_name} modification are anticipated to change/add the following:
* TO Title Page IAW AF directives
* Safety or hazardous situations/conditions:
  + Warnings
  + Cautions
  + Notes
  1. {program\_mod\_system\_name} does not anticipate making any changes to the core commercial manuals that will negatively effect FAA certification. Anything outside of these conditions, would drive a separately funded change.
  2. The intent is to use commercial data to support the {program\_mod\_system\_name}TOs in an S1000D Interactive Electronic Technical Manuals (IETM) format. Before any Military Specifications (MIL-SPEC) manuals are proposed, an evaluation IAW MIL-PRF-32216 must be accomplished.
     1. The Contractor must include recommendations for supplemental data required for each commercial manual in the Contractor Furnished Aeronautical Equipment/Contractor Furnished Equipment (CFAE/CFE) notice or letter of recommendation.
     2. If adequate commercial manuals are not available from one supplier, the Contractor must evaluate alternate sources for the data, or recommend the most cost-effective alternatives to provide long-term maintainability of the equipment acquired.
     3. If the AF disapproves or rejects a commercial manual, the Contractor must prepare supplemental data or new MIL-SPEC manuals as specified in Table 1. If a new manual is required the Contractor will submit a revised CFAE/CFE notice through the PCO.
  3. The Contractor, if commercial data is approved, must merge commercial manual information along with modification data into a single data file.{#new\_revision == “new”}
  4. The AF will assign TO numbers to approved commercial manuals. When multi-manuals are furnished by the Contractor, the AF may assign more than one TO number, e.g., one for the operation manual, one for the maintenance manual and one for the parts identification manual.{/}{#new\_revision == “revision”}
  5. If the new data cannot be merged and a new manual is developed, the AF will assign TO numbers to the approved commercial manuals. When multi-manuals are furnished by the Contractor, the AF may assign more than one TO number, e.g., one for the operation manual, one for the maintenance manual and one for the parts identification manual.{/}
  6. When recommending use of commercial manuals, the Contractor must determine if they have been previously-approved for AF use. Furnish approved commercial manual TO or Technical Manuals (TM) numbers with the manual recommendation when available.{/}{#tmcr\_type != “CDA”}

1. Technical Manual Specifications and Standards (TMSS) Tailoring. AF TMSS tailoring options and some Joint Service TMSS have been documented in preliminary Specification/Standard Interface Records (SIRS) included in Section 3. These preliminary SIRs provide the starting point for further tailoring. Contractors may recommend additional tailoring of the Joint Service TMSS SIRs and provide recommended SIRs for other TMSS as applicable. Tailoring must not change or delete mandatory requirements which are part of the XML schema structure or Document Type Definition (DTD) located in Section 2, Table 1.

**NOTE:** TMSS requirements marked “(F)” are specifically for Air Force use; “(A)” is for Army, “(M)” is Marine Corps and “(N)” is Navy. Comply with all unmarked and “(F)” TMSS requirements as modified by the tailoring options in each TMSS.

* 1. Questions concerning TMSS requirements may be submitted in writing with suggestions for resolution and supporting information to the PCO and {toma\_name}, {toma\_office\_symbol}, {toma\_address}, {toma\_phone}. Deficiencies and suggested improvements may be submitted to the TMSS Preparing Activity (PA). Recommendations, corrections and clarifications approved by the PCO, if any, will be maintained with contract documentation. {#new\_revision != “conversion”}

1. Subsequent TO/Data Requirements. When new TO requirements are identified the Contractor must notify the Government utilizing DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* or approved Contractor formats. This process must require Government review and approval of recommended additional requirements prior to developing additional data. When approved, the Contractor must incorporate the requirements within the Technical Manual Content and Product Plan where applicable.{/}{/} {#tmcr\_type == “CDA”}
2. Commercial Technical Manual (TM) Tailoring. The selected TMs in Table 1 are required for the {program\_mod\_system\_name}. TCTOs will use the most current version of MIL-PRF-38804, Preparation of Time Compliance Technical Orders (TCTOs) or commercial service bulletins as contractually authorized.
   1. Deficiencies, improvements, and questions concerning TM requirements within Table 1 may be resolved by written request and justified recommendations/suggestions for resolution submitted through the PCO and TOMA {toma\_name}, {toma\_office\_symbol}, {toma\_address}, {toma\_phone}. Approved recommendations, corrections, and clarifications will be maintained with contract documentation.
3. Subsequent TO/Data Requirements. When new TO requirements are identified the Contractor must notify the Government utilizing DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* or approved Contractor formats. This process must require Government review and approval of recommended additional requirements prior to developing additional data. When approved, the Contractor must incorporate the requirements within the Technical Manual Content and Product Plan where applicable.
   1. The Contractor must ensure that TO requirements contained herein do not duplicate other tasks or data requirements of the contract.
4. TO Development. Any TOs developed must be written in the same style and format of the existing commercial manuals to support the {program\_mod\_system\_name} operations and maintenance concepts.{/}{#tmcr\_type != “CDA”}
5. TO Development. TOs must be written to a scope and depth of coverage to support the {program\_mod\_system\_name} operations and maintenance concepts.{/}{#tmcr\_type == “S1000D”}
   1. TO data must be developed IAW ASD/AIA S1000D, *International Specification for Technical Publications Utilizing a Common Source Database*, and MIL-STD-3048, *Air Force Business Rules for the Implementation of S1000D*. For S1000D, this includes program tailored functionality requirements and Project Business Rules when implemented. The Government tailored functionality requirements and Business Rule Decision Points for MIL-STD-3048 are included in the SIR found in Section 3 of this document. All delivered graphics must conform to the approved graphic creation and format guidelines listed in Attachment 1, *Graphics Format Guidelines*. If needed, the Contractor must contact the PCO and TOMA to request guidance from the Air Force PA, AFLCMC/GBS, Technical Data Section, 4170 Hebble Creek Rd, Bldg. 280, Door 15, WPAFB OH 45433-5653.{/} {#tmcr\_type == “Linear”}
   2. Standard Generalized Markup Language (SGML) tagged TO files must include required illustration (graphics) files in an approved graphics exchange format. Illustration files developed and delivered for other purposes must be used in lieu of developing special TM illustration files whenever possible. All delivered graphics must conform to the approved graphic creation and format guidelines listed in Attachment 1, *Graphics Format Guidelines*. For assistance with illustration requirements contact AF TMSS via (e-mail: [SGMLSupport@us.af.mil](mailto:SGMLSupport@us.af.mil)).
   3. Page-oriented Military Specification (MIL-SPEC) TOs must be formatted with text, graphics and delivered according to the TMSS specified in Section 2. The Contractor must develop TO files (tagged instances) using SGML according to the DTDs referenced in the appendix to MIL-STD-38784 and each applicable military detail specification (MIL-DTL). Multiple SGML file instances for a single TO document are not authorized.{/} {#tmcr\_type == “CDA”}
   4. The Contractor may propose use of other commercial NGS for development of TOs, but must justify this choice based on life-cycle cost savings to the AF and compatibility with existing systems.
   5. Data and updates for flight manuals, operational checklists, maintenance manuals, and maintenance checklists must be usable by tablet type devices and standard desk-top.
   6. Flight/Maintenance Manuals Operational Supplements will be developed and delivered as replacement change pages unless otherwise mutually agreed upon between the Contractor and Technical Order Management Agency/Flight Manual Manager (TOMA/FMM).
   7. The Contractor must furnish supplemental manuals in the same style and format as the original manual, or as required by specifications cited in Table 2. Supplemental manuals are normally used to segregate classified from unclassified TO data. The Title Page of the supplemental manual must contain the statement, "This manual is incomplete without TO NOXX-XXXX”-XX". Supplemental manuals differ from supplements in that they are assigned a separate TO number and are not incorporated in the referenced manual at a later date.{/}{#new\_revision != “conversion” && !(new\_revision == “revision” && tmcr\_type == “S1000D”)}
6. TO Numbering. Contractors must notify the Government, in writing, of manuals which require TO numbers. TO numbers are not required for manuals to be used exclusively by the Contractor’s own personnel. Requests for new TO numbers must be submitted to the TOMA utilizing the TO numbering worksheet. (Attachment 2, *Request for Technical Order Number*){/}
7. Data Rights. Contractors must comply with 10 U.S.C. 2320 and Defense Federal Acquisition Regulation Supplement (DFARS) provisions and clauses. The Government’s rights in technical data are specified in DFARS 252.227-7013, *Rights in Technical Data-Noncommercial Items*, 252.227-7014, *Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation*, and 252.227-7015, *Technical Data-Commercial Items* and other applicable provisions and clauses from DFARS 227, 252.227, and DFARS 252.227-7018 *Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR)*. {#tmcr\_type != “CDA”}In accordance with those clauses and provisions, the Contractor grants the Government Unlimited Rights, as defined therein, in all source data, TO publications, TO updates, and TO-related documents prepared specifically for the contract. The Contractor also grants the Government Unlimited Rights in all Government-funded business rules (tailoring and application methods and procedures) and documented business processes developed under the contract for the purpose of or for use in TO development. The contractor is required to deliver TO data with the data rights license required by the applicable DFARS clauses. {/}Contractor must identify any data to be delivered to the Government with other than Unlimited Rights IAW DFARS 252.227-7017, *Identification and Assertion of Use, Release, or Disclosure Restrictions* and must mark such data only in accordance with the applicable DFARS clause. {#tmcr\_type != “CDA”}The Contractor must pass through and enforce all requirements in this TMCR to all sub-Contractors.{/}{#tmcr\_type == “CDA”}See data rights clause within the contract.{/}
   1. {#data\_rights == “Unlimited Rights”}The Government shall have unlimited rights in technical data that are data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds; studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance; created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes; form, fit, and function data; necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data); corrections or changes to technical data furnished to the Contractor by the Government; otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party; data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or data furnished to the Government, under this or any other Government contract or subcontract thereunder, with Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.{/}{#data\_rights == “Government Purpose Rights”}The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data that pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause (DFARS 252.227-7013); or created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause (DFARS 252.227-7013). Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data. The Government shall not release or disclose technical data in which it has government purpose rights unless prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at [227.7103-7](https://www.acquisition.gov/dfars/part-227-patents-data-and-copyrights#DFARS_227.7103-7) of the Defense Federal Acquisition Regulation Supplement (DFARS); or the recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS [252.227-7025](https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS_252.227-7025) , Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause (DFARS 252.227-7013).{/}{#data\_rights == “Limited Rights”}Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause (DFARS 252.227-7013), the Government shall have limited rights in technical data pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed. The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data. The Contractor acknowledges that Limited rights data are authorized to be released or disclosed to covered Government support contractors. The Contractor will be notified of such release or disclosure; the Contractor (or the party asserting restrictions as identified in the limited rights legend) may require each such covered Government support contractor to enter into a non-disclosure agreement directly with the Contractor (or the party asserting restrictions) regarding the covered Government support contractor’s use of such data, or alternatively, that the Contractor (or party asserting restrictions) may waive in writing the requirement for a non-disclosure agreement; and any such non-disclosure agreement shall address the restrictions on the covered Government support contractor's use of the limited rights data as set forth in the clause at [252.227-7025](https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS_252.227-7025) , Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The non-disclosure agreement shall not include any additional terms and conditions unless mutually agreed to by the parties to the non-disclosure agreement.{/}{#data\_rights == “Specifically Negotiated License Rights”}The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause (DFARS 252.227-7013), including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(14) of this clause (DFARS 252.227-7013). Any rights so negotiated shall be identified in a license agreement made part of this contract. { special\_data\_rights}{/}{#data\_rights == “Prior Government Rights”}Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless the parties have agreed otherwise; or any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.{/}{#data\_rights == “Release from Liability”}The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(14) or (b)(2)(iii) of this clause (DFARS 252.227-7013), in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause (DFARS 252.227-7013), or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.{/}{#tmcr\_type != “CDA”}
8. Classification, Distribution, Destruction, Disclosure, Export Control Notices, and Cyber Security. Contractors must {#new\_revision != “conversion”}recommend{/}{#new\_revision == “conversion”}follow{/} the correct markings and controls for classified and restricted distribution data and TOs IAW the program’s Security Classification Guide and Department of Defense Manual (DODM) 5200.01V2 AFMAN 16-1404V2, Department of Defense Instruction (DODI) 5230.24, Department of Defense Directive (DODD) 5230.25, DoDI 5200.48*, Controlled Unclassified Information,* DAFI 61-201, *Management of Scientific and Technical Information* (STINFO), and MIL-STD-38784 (available at <https://www.esd.whs.mil/dd/dod-issuances/>, <http://www.e-publishing.af.mil/> or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR). The Contractor must also apply policy and procedures for *Cybersecurity Program Management* IAW AFI 17-130, AFMAN 17-1301, *Computer Security (COMPUSEC)*

**NOTE:** Distribution limitations will be determined on a case-by-case basis as TOs are developed, dependent upon TO content.{/}{#tmcr\_type == “CDA”}

1. Classification, Distribution, Destruction, Disclosure, Export Control Notices, and Cyber Security. Contractors must recommend the correct markings and controls for classified and restricted distribution data and TOs IAW the {program\_mod\_system\_name} Security Classification Guide and Department of Defense Manual (DODM) 5200.01V2 AFMAN 16-1404V2, Department of Defense Instruction (DODI) 5230.24, Department of Defense Directive (DODD) 5230.25, DoDI 5200.48, *Controller Unclassified Information*, DAFI 61-201, *Management of Scientific and Technical Information (STINFO)*, and MIL-STD-38784 (available at <https://www.esd.whs.mil/dd/dod-issuances/>, <http://www.e-publishing.af.mil/> or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR). The Contractor must also apply policy and procedures for *Cybersecurity Program Management* IAW AFI 17-130, AFMAN 17-1301, *Computer Security (COMPUSEC)* The Contractor must contact the Program Office PCO and TOMA for requests to modifying or developing any new DTDs to support use of NGS, canceled TMSS, or undeveloped TMSS DTDs. If permission is granted, the Contractor must submit any proposed DTDs through the PCO and TOMA to AFLCMC/GBS, WPAFB, OH 45433-5653 for validation of TMSS compatibility with approved electronic TO (eTO) viewing solutions. New DTDs must not be developed in lieu of existing DTDs, including those for legacy TMSS. Rules must be so constructed that TO output complies with the functional requirements of the associated TMSS, and must be documented in a SIR. DTDs and rule sets submitted and approved in execution of the contract must become the property of the AF. Direct questions about the application of SGML tagging to digital TO files to AFLCMC/GBS (email: SGMLSupport@us.af.mil/ or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR).

**NOTE:** Distribution limitations will be determined on a case-by-case basis as TOs are developed, dependent upon TO content.{/}

1. TO Quality. The Contractor must ensure {#new\_revision != “conversion”}prepared{/}{#new\_revision == “conversion”}converted{/} TOs are: a) technically accurate and safe; b) written to a scope and depth of coverage to support the operations and maintenance concepts; c) properly classified and marked with export control and distribution limitation statements. The Contractor must maintain a Technical Manual Quality Assurance (TMQA) Program Plan for this effort. The TMQA Program Plan must be available for review at the TO Guidance Conference. The TMQA Program Plan must be sufficiently detailed to support TO certification to include actual performance of procedures or desk-top analysis for non-procedural data. Simulation (walk-through/talk-through) should be reserved for those procedures which would activate explosive devices or present a hazard to personnel or equipment. {#jnwps\_eod\_data}

**NOTE:** Quality requirements for the Joint Nuclear Weapons Publications System (JNWPS) and for Non-nuclear Explosive Ordnance Disposal (EOD) Data are contained in TO 11N-1-1 *Joint Nuclear Weapons Publication System Operating Procedures, Specifications and Standards,* and DODD 5160.62, *Single Manager Responsibility for Military Explosive Ordnance Disposal Technology and Training*, respectively. The Government will conduct performance-tests on all JNWPS and EOD TOs. {/jnwps\_eod\_data}{#tmcr\_type == “CDA”}

* 1. Conferences and reviews must be held at locations and times agreed upon by Contractor and TOMA {program\_mod\_system\_name} to control and manage the program and oversee the TO preparation process. The Contractor must minimize holding reviews for individual manuals.
     1. The Contractor must prepare minutes for all TO related meetings. Draft meeting minutes must be available at the conclusion of the meetings or event and must be reviewed and approved by the TOMA or designated individual prior to distribution. Formal meeting minutes must be delivered not later than 10 working days after completion of the meeting or event.{/}
  2. Initial Technical Order Guidance Conference (TOGC). Working through the TOMA, the Contractor must co-host and participate in a guidance conference for this effort. The TOGC will be held within 60 calendar days after contract award. The Technical Manual Schedule and Status will be formalized at this conference. The Contractor must present a briefing on their interpretation of the basic contract, SOW/Performance Work Statement, CDRLs, Data Item Descriptions (DIDs), MIL-SPEC, MIL-DTL, MIL-STD, SIRs, this document and the planned preparation and delivery of the TOs and related data. {#tmcr\_type == “S1000D”}The Contractor must also provide their S1000D Technical Manual Content and Product Plan for review and approval.{/}
  3. In-Process Reviews. The Contractor must participate and co-chair In-Process Reviews (IPR) of the data {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} for this effort{#tmcr\_type != “CDA”} IAW the TOMA-provided IPR checklists{/}. In-Process Reviews are to ensure that data being {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} as part of this effort is adequate and accurate and IAW contract requirements and cited specifications. The Contractor must ensure that all appropriate personnel required to execute a successful TO program will either attend or participate in the IPR. IPRs will be held IAW with TO 00-5-3 or as defined by the program office. During the IPRs the Contractor will be responsible to maintain a master markup or documented list of approved changes for the content being reviewed. {#tmcr\_type != “CDA”}The Contractor must develop meeting minutes after each review documenting all approved changes and concurrent agreements for Government review and approval. This{/}{#tmcr\_type == “CDA”} The Contractor must provide advance copies 30 Days prior to the IPR. The{/} master markup or documented list of approved changes will be made available at the next scheduled review. A copy of the markup will be provided to the TOMA or designated individual at the conclusion of the review. The Contractor must ensure all comments from previous IPRs have been incorporated prior to the next scheduled IPR. With prior approval of the TOMA, IPRs may be combined.
  4. TO Delivery Requirements for In-Process Reviews. IPR TO data must be technically edited and reviewed according to the TMQA Program Plan. Manuscript (handwritten) data is not acceptable for any data to be reviewed. The TMQA Program Plan checklists must be available for review by the Government during the IPRs. {#tmcr\_type == “S1000D”}IPRs subsequent to the initial review may be accomplished using the approved IETM viewing presentation system and as specified within the Government provided IPR checklist. {/}Delivery requirements are contained in Section 2 of the TMCR.
  5. TO Certification. The Contractor must certify that new {#tmcr\_type == “CDA”}or modified {/}TO procedures and data {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} to support the program are safe, accurate, adequate, current, and usable for their intended purpose. The Government may witness the certification activities. The Contractor must incorporate comments generated by the certification process into the TOs prior to submitting the TOs for verification. At the completion of the certification, the Contractor must submit a letter to the TOMA through the Government PCO and PM stating that certification has been completed, the certification method used, and that any deficiencies identified during the process have been corrected. The Contractor will ensure all necessary changes and corrections to affected manuals are accomplished in time to meet contract delivery schedule requirements. The Contractor must notify the Government, as identified in the contract, at least 180 days prior to the need date, of any Government Furnished Property (GFP), Government Furnished Information (GFI), and/or Government Furnished Equipment (GFE) as required, to perform certification tasks. Technical Order 00-5-1 and 00-5-3 must be referenced for additional information on TO certification requirements.
     1. The Contractor must propose opportunities to perform TO certification activities in conjunction with Government verification IAW TO 00-5-3, where applicable.
  6. Verification Support. The Contractor must support Government verification activities as required by the TOMA and the program Technical Order Life Cycle Verification Plan (TOLCVP). Contractor verification support will consist of on station technical writing and engineering support. The Contractor must maintain a master mark-up of the TM or list of approved changes and record meeting-minute items during the Government verification process. The Contractor must also support all post verification reviews and ensure availability until 100% task verification is attained by the Government.{#tmcr\_type == “S1000D”}
     1. Verification of IETMs requires unique processes and procedures to verify the content. Verification results can be incorporated using traditional pre-publication review methods or updated in real-time during the verification. The Contractor must provide technical support and common source database maintenance personnel required for changes resulting from verification.{/}
  7. TO Prepublication Reviews (PPR). PPRs are examinations of TOs that ensure incorporation of agreed upon changes from previous reviews and verification activities. The Contractor must prepare and deliver copies of TOs and TO updates in contract compliance {#tmcr\_type == “Linear”}(MIL-SPEC or as otherwise identified) {/}for the PPR as shown in the delivery matrix. The TOs for PPR must be approved by the Contractor’s QA, be in compliance with the contract specification/DTLs/STDs, and incorporate all verification comments and corrections approved by the TOMA or program management office representative.{#tmcr\_type != “CDA”}
  8. Technical Data Assessment (TDA). The Contractor must submit in-work samples of each specified TM type deliverable to the Government for specification and standardization compliance review. TDAs may be accomplished by using organic TO sustainment environments with the assistance of AFLCMC/GBS (AF TMSS Office, SGMLSUPPORT@us.af.mil). {#tmcr\_type == “S1000D”}
     1. S1000D (XML) Data Files. The Contractor must submit S1000D XML tagged DMs, all layered BREX and all referenced graphics for assessment. During assessment, these DMs will be evaluated against the TMSS S1000D Validation Tool to parse/validate each DM to confirm all submitted DMs are S1000D compliant.{/}{#tmcr\_type == “Linear”}
     2. MIL-SPEC (SGML) TO Data. The Contractor must submit an SGML tagged TO file, associated graphics files, a PDF rendition of the SGML tagged TO file composed by the Contractor and any associated companion files necessary for PDF composition. During assessment, the SGML tagged TO file will be parsed against the appropriate TMSS DTD (and optionally run through the Tagging Utilization Tool (TUT)) to determine DTD compliance and correct tag usage. The SGML tagged TO file and associated graphics will be composed by the program office and the rendered PDF will be compared with the submitted PDF to check for completeness, indexing, and MIL-SPEC/DTL/STD compliant formatting.{/}
     3. Error Resolution. The Contractor must correct any errors found during the TDA prior to each IPR. Additional TDAs may be necessary based on the amount of errors found during the initial TDA. Completion of a TDA in no way relieves the Contractor from the requirement to fix errors found during future reviews.{/}

1. TO Delivery. TO file delivery requirements are located in Section 2, Table 3{#tmcr\_type == “S1000D”} and Table 4{/} of this document. {#tmcr\_type == “S1000D”}
   1. S1000D Source Files. The Contractor must parse and deliver everything necessary to properly generate and view the data in the approved IETM viewer or produce the desired presentation to the user. This includes all DMs, database files, BREX, XSL, cascading style sheets (CSS), conversion scripts (such as Java or Perl), graphics, XML, viewer software, referenced HTML/PDF files, native source data files, process and training documentation, etc.{/} {#tmcr\_type == “Linear”}
   2. MIL-SPEC (SGML) Tagged Files. The Contractor must parse all SGML files required for the TOs prior to Government delivery and must verify the SGML is compliant with the appropriate DTD.

**NOTE:** The Government will parse the files prior to acceptance using the SGML parser agreed upon prior to submission. Additional resources can be obtained via AFMC AFLCMC/LZP by submitting a request to [AFLCMC.PDSS.TOAPVIPR@us.af.mil](mailto:AFLCMC.PDSS.TOAPVIPR@us.af.mil). {/}{#tmcr\_type == “CDA”}

* 1. The Contractor must propose practices and procedures for secure access to or delivery of digital (electronic) TO files, including those for Preliminary Technical Order (PTO), source data, reproduction masters, and program support data. Practices and procedures must be compatible with the program’s Integrated Digital Environment (IDE). TO file delivery formats must be according to the tailored TM Delivery Requirements Matrices included in Section 2 of this document. Paper TO delivery is not acceptable for final delivery of TOs. All manual types identified in Section 2, Table 1 will be delivered IAW the requirements and guidance outlined within this document.
  2. When accepted after review by AF using MIL-PRF-32216, the Contractor must digitally integrate COTS manuals and military content. This file will be presented and distributed as a single file. If commercial manual is not acceptable a manual must be prepared IAW with Table 1.
  3. IETM data base delivery must be according to the business rules documented in MIL-STD-3048. The IETM must be capatable for delivery with ETIMS for large file distribution.

**NOTE:** Contractors will protect GFI provided for the purposes of TO development IAW DFARS 252.204-7000 *Disclosure of Information* and DFARS 252.227-7025, *Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends.*

1. TO and Source Data Maintenance. The Contractor must propose methods for maintaining accuracy, currency, and configuration of TOs, to include GFI and source data throughout the contract period of performance. Maintenance includes preparation of TO and source data updates to incorporate corrections; equipment configuration changes; and maintenance and operational concept changes.
   1. The Contractor must provide the Government a Configuration Control Management Plan. The Contractor will provide a minimum of annual updates frequently throughout the life of the contract as directed in writing from the PCO. Maintenance includes preparation of source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes. Additionally, the Contractor must ensure the accuracy, currency, and configuration of applicable data provided by their sub-Contractors as it effects the technical baseline.
   2. The Contractor must incorporate all TO Publication Change Requests (PCR), service bulletins, changes, and revisions resulting from the regularly planned commercial revision programs applicable as required. The Contractor must establish and maintain Original Equipment Manufacturer (OEM) agreements for access to the commercial source data, including aircraft technical manual revision service, proprietary data, Wire Information and Release System (WIRS), and commercial Illustrated Parts Catalog (IPC) changes as necessary to accomplish the requirements in this contract. The Contractor must incorporate commercial Federal Aviation Administration (FAA) approved aircraft manual changes into TOs as required. The Contractor must ensure all agreements with OEM are in place at the time of contract award. The Contractor must prepare and deliver TO changes in the style and format of existing manuals.
   3. The Contractor must deliver electronic copies of commercial TO updates per the requirements in TO 00-5-3, Chapter 3.11 and Table 4-1 to the offices identified in this document. The Contractor must recommend the category of the recommended change to {program\_mod\_system\_name}. The Contractor must incorporate Government furnished supplements into the file.
   4. The Contractor must deliver the TOs in electronic copy per FMM direction. The Contractor must deliver copies of the OEM’s flight manual change in the form of operations manual bulletins and revisions to the offices identified by the FMM for review and approval. Approval or disapproval will be returned to the Contractor within ten (10) working days. Supplements must not be incorporated in the flight manual TOs unless specifically directed by the FMM.
   5. The Contractor must track and incorporate service bulletin literature Wiring Diagram Manual (WDM) changes for all affected WDM TOs and update the WIRS database for all AF approved service literature. The Contractor must submit commercial PCRs to the OEM for service literature changes to the maintenance manuals and track service literature incorporation for all affected maintenance manuals. The Contractor must maintain and deliver a {program\_mod\_system\_name} approved Service Bulletin and Airworthiness Directive Status Report.
   6. The Contractor must include updated checklist and work card changes simultaneously with TO changes, as required.
   7. Contractors must maintain TOs by preparing emergency, urgent, routine changes/revisions or supplements and source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes IAW TO 00-5-3. The Contractor must assist the Government, where applicable, by incorporating and delivering approved changes to the technical data in the field NLT the specified time limits within TO 00-5-3 for Urgent, Work Stoppage, or Emergency changes originating from an approved Recommended Change (RC) process and/or Publication Change Request (PCR) in the Enhanced Technical Information Management System (ETIMS). In the event of non-ETIMS access, AFTO FORM 22, 252 policy or other approved change request forms processes will be adhered to (IAW TO 00-5-3). The specified time limits upon receipt of specified change requests is 40 calendar days for urgent changes/revisions, 72 hours for work stoppage changes/revisions, and 48 hours for emergency changes/revisions.

**NOTE:** AF policy requires delivery of verified TOs prior to or concurrently with delivery of operational equipment to the field (DAFI 63-101/20-101, *Integrated Life Cycle Management*). This policy will determine TO development and delivery schedules throughout the acquisition phase of a program.{/}{#tmcr\_type != “CDA”}

1. Source Data Maintenance. Contractors must maintain accuracy, currency and configuration of TO source data, to include GFI, throughout the contract period of performance. The Contractor must provide the Government a Configuration Control Management Plan. The Contractor will provide a minimum of annual updates frequently throughout the life of the contract as directed in writing from the PCO. Maintenance includes preparation of source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes. Additionally, the Contractor must ensure the accuracy, currency, and configuration of applicable data provided by their sub-Contractors as it effects the technical baseline.

**NOTE:** Contractors will protect GFI provided for the purposes of TO {#new\_revision != “conversion”}development{/}{#new\_revision== “conversion”}conversion{/} IAW DFARS 252.204-7000 *Disclosure of Information* and DFARS 252.227-7025, *Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends.*{/}{#ctr\_maintained\_conversion\_tos || tmcr\_type != “CDA”}

1. TO Maintenance. Contractors must maintain TOs by preparing emergency, urgent, routine changes/revisions or supplements and source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes IAW TO 00-5-3. The Contractor must assist the Government, where applicable, by incorporating and delivering approved changes to the technical data in the field NLT the specified time limits within TO 00-5-3 for Urgent, Work Stoppage, or Emergency changes originating from an approved Recommended Change (RC) process and/or Publication Change Request (PCR) in the Enhanced Technical Information Management System (ETIMS). In the event of non-ETIMS access, AFTO FORM 22, 252 policy or other approved change request forms processes will be adhered to (IAW TO 00-5-1). The specified time limits upon receipt of specified change requests is 40 calendar days for urgent changes/revisions, 72 hours for work stoppage changes/revisions, and 48 hours for emergency changes/revisions.{/}
2. Schedules. The Contractor must develop and maintain an Integrated Technical Manual Schedule and Status throughout the period of performance for all TO {#new\_revision != “conversion”}development{/}{#new\_revision == “conversion”}conversion{/} activities associated with this order for the life of the contract. The schedule must be to the system/book or TCTO{#tmcr\_type == “CDA”}/Service bulletin{/} level and cover all major milestones of development. Any changes to the Integrated Technical Manual Schedule and Status after the TO Guidance Conference must be coordinated with and approved by program TOMA and PCO. {#ctr\_maintained\_conversion\_tos || tmcr\_type == “Linear” || ( tmcr\_type == “S1000D” && new\_revision != “conversion” )}
3. Time Compliance Technical Orders (TCTOs). The Contractor must prepare TCTOs, ITCTOs and resulting TO updates as required in support of {program\_mod\_system\_name} IAW TO 00-5-15 and MIL-DTL-38804 content requirements. TCTOs will be used to document all permanent modifications, initiate special “one time” inspections, or impose temporary restrictions on systems or equipment within specified time limits effecting {program\_mod\_system\_name}. Costs for TCTO package development must be IAW with DAFI 65-601Vol.1.
   1. The Contractor must deliver Immediate Action TCTO drafts with comments incorporated within 24 hours of receipt of comments.
   2. The Contractor must deliver Urgent Action TCTO final drafts with “final” customer comments incorporated, within 48 hours of receipt of comments.
   3. The Contractor must deliver routine safety TCTO final drafts with “final” customer comments incorporated, within 5 working days of receipt of comments.
   4. The Contractor must deliver routine TCTO final drafts with “final” customer comments incorporated, within 5 working days of receipt of comments.{/}{#tmcr\_type == “CDA”}
4. Time Compliance Technical Orders (TCTOs)/Servive Bulletin (SB). The Contractor must prepare TCTOs, ITCTOs, and Service Bulletins (SB) resulting in TO updates as required in support of {program\_mod\_system\_name} IAW TO 00-5-15 content requirements. TCTOs/SB’s will be used to document all permanent modifications, initiate special “one time” inspections, or impose temporary restrictions on systems or equipment within specified time limits effecting {program\_mod\_system\_name}. Costs for TCTO package development must be IAW with DAFI 65-601Vol.1.
   1. The Contractor must deliver certified drafts of Immediate Action TCTO/SB, to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver drafts with comments incorporated, in order to meet the delivery requirement within 24 hours of receipt of comments.
   2. The Contractor must deliver initial certified drafts of Urgent Action TCTO/SB, to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 48 hours of receipt of comments.
   3. The Contractor must deliver initial certified drafts of routine safety TCTO/SB to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 5 working days of receipt of comments.
   4. The Contractor must deliver certified drafts of routine TCTO/SB to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 5 working days of receipt of comments.{/} {#tmcr\_type == “S1000D”}
5. Information Technology (IT) Requirements. The Contractor must develop IETM requirements utilizing the designated Air Force TO System infrastructure. The Contractor, thru the TOMA and program management office, must acquire the appropriate licenses and network access permissions for operation on the AF approved technical order authoring and publishing solution. (IAW TO 00-5-3, para. 3.25){/}

**Section 2. TM Type and Delivery Requirements**

**Technical Manual Type Selection Tables.**

| **Table 1**  **TMSS Requirements for the {program\_mod\_system\_name} Program** | | | | |
| --- | --- | --- | --- | --- |
| **Title or Type of Manuals** | **Specification** | | **Required** | |
| 1. {#tmss\_1\_a || tmss\_1\_b || tmss\_1\_c || tmss\_1\_d || tmss\_1\_e}Inspection TOs | MIL-DTL-5096 | | {/} | |
| * 1. {#tmss\_1\_a}Inspection and Maintenance Requirements (-6) Manual |  | | ☒{/tmss\_1\_a} | |
| * 1. {#tmss\_1\_b}Inspection Workcards (-6WC) |  | | ☒{/tmss\_1\_b} | |
| * 1. {#tmss\_1\_c}Maintenance/Operations Checklists |  | | ☒{/tmss\_1\_c} | |
| 1. {#tmss\_2\_a || tmss\_2\_b || tmss\_2\_c}Cargo Aircraft Loading and Offloading TOs | MIL-DTL-5288 | | {/} | |
| * 1. {#tmss\_2\_a}Loading Instructions Manual |  | | ☒{/tmss\_2\_a} | |
| * 1. {#tmss\_2\_b}Nuclear Weapon Cargo Loading Manual |  | | ☒{/tmss\_2\_b} | |
| * 1. {#tmss\_2\_c}Checklists |  | | ☒{/tmss\_2\_c} | |
| 1. {#tmss\_3\_a\_1 || tmss\_3\_a\_2 || tmss\_3\_a\_3 || tmss\_3\_a\_4 || tmss\_3\_a\_5 || tmss\_3\_a\_6 || tmss\_3\_a\_7 || tmss\_3\_a\_8 || tmss\_3\_a\_9 || tmss\_3\_a\_10 || tmss\_3\_a\_11 || tmss\_3\_a\_12 || tmss\_3\_a\_13 || tmss\_3\_a\_14 || tmss\_3\_a\_15 || tmss\_3\_a\_16 || tmss\_3\_b\_1 || tmss\_3\_b\_2 || tmss\_3\_b\_3}Flight Operation Manuals | MIL-DTL-7700 | | {/} | |
| {#tmss\_3\_a\_1 || tmss\_3\_a\_2 || tmss\_3\_a\_3 || tmss\_3\_a\_4 || tmss\_3\_a\_5 || tmss\_3\_a\_6 || tmss\_3\_a\_7 || tmss\_3\_a\_8 || tmss\_3\_a\_9 || tmss\_3\_a\_10 || tmss\_3\_a\_11 || tmss\_3\_a\_12 || tmss\_3\_a\_13 || tmss\_3\_a\_14} Flight Manuals |  | | {/} | |
| * 1. {#tmss\_3\_a\_1}Flight Manual |  | | ☒{/tmss\_3\_a\_1} | |
| * 1. {#tmss\_3\_a\_2}Performance Data Manual |  | | ☒{/tmss\_3\_a\_2} | |
| * 1. {#tmss\_3\_a\_3}Mission Crew Manual and Associated Checklists |  | | ☒{/tmss\_3\_a\_3} | |
| * 1. {#tmss\_3\_a\_4}Fanfold Checklists |  | | ☒{/tmss\_3\_a\_4} | |
| * 1. {#tmss\_3\_a\_5}Supplemental Manual |  | | ☒{/tmss\_3\_a\_5} | |
| * 1. {#tmss\_3\_a\_6}Abbreviated Flight Crew Checklist |  | | ☒{/tmss\_3\_a\_6} | |
| * 1. {#tmss\_3\_a\_7}Non-nuclear Weapon Delivery Manual |  | | ☒{/tmss\_3\_a\_7} | |
| * 1. {#tmss\_3\_a\_8}Aircrew Nuclear Bomb Delivery Manual (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_8} | |
| * 1. {#tmss\_3\_a\_9}Aircrew Nuclear Missile Delivery Manual (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_9} | |
| * 1. {#tmss\_3\_a\_10}Aircrew Nuclear Bomb Delivery Manual (Tactical Aircraft) |  | | ☒{/tmss\_3\_a\_10} | |
| * 1. {#tmss\_3\_a\_11}Non-nuclear Weapon Delivery Checklist |  | | ☒{/tmss\_3\_a\_11} | |
| * 1. {#tmss\_3\_a\_12}Nuclear Weapon Delivery Checklist (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_12} | |
| * 1. {#tmss\_3\_a\_13}Aircrew Nuclear Bomb Delivery Checklist (Tactical Aircraft) |  | | ☒{/tmss\_3\_a\_13} | |
| * 1. {#tmss\_3\_a\_14}Non-nuclear Weapon Delivery Source Data Packages |  | | ☒{/tmss\_3\_a\_14} | |
| * 1. {#tmss\_3\_a\_15}Acceptance and Functional Check Flight (FCF) Procedures (-6CF) Manual |  | | ☒{/tmss\_3\_a\_15} | |
| * 1. {#tmss\_3\_a\_16}Acceptance and Functional Check Flight (-6CL) Checklist |  | | ☒{/tmss\_3\_a\_16} | |
| {#tmss\_3\_b\_1 || tmss\_3\_b\_2 || tmss\_3\_b\_3}Weight and Balance (Aircraft) |  | | {/} | |
| 1. {#tmss\_3\_b\_1}Loading Data Manual |  | | ☒{/tmss\_3\_b\_1} | |
| 1. {#tmss\_3\_b\_2}Sample Basic Weight Checklists |  | | ☒{/tmss\_3\_b\_2} | |
| 1. {#tmss\_3\_b\_3}Combined Sample Basic Weight Checklists and Loading Data Manual |  | | ☒{/tmss\_3\_b\_3} | |
| 1. {#tmss\_4\_a}List of Applicable Publications | MIL-DTL-8031 | | ☒{/tmss\_4\_a} | |
| 1. {#tmss\_5\_a}Structural Repair Manuals (for Aircraft) | MIL-DTL-9854 | | ☒{/tmss\_5\_a} | |
| 1. {#tmss\_7\_a || tmss\_7\_b || tmss\_7\_c || tmss\_7\_d || tmss\_7\_e || tmss\_7\_f || tmss\_7\_g || tmss\_7\_h || tmss\_7\_i || tmss\_7\_j || tmss\_7\_k || tmss\_7\_l || tmss\_7\_m || tmss\_7\_n || tmss\_7\_o || tmss\_7\_p}Munitions/Weapons Loading Procedures, Non- nuclear and Nuclear TOs | MIL-DTL-9977 | |  | |
| * 1. {#tmss\_7\_a}Nuclear Weapons Basic Information and Loading Procedures |  | | ☒{/tmss\_7\_a} | |
| * 1. {#tmss\_7\_b}Nuclear Weapons Loading Procedures |  | | ☒{/tmss\_7\_b} | |
| * 1. {#tmss\_7\_c}Non-nuclear Munitions Basic Information |  | | ☒{/tmss\_7\_c} | |
| * 1. {#tmss\_7\_d}Non-nuclear Loading Procedures |  | | ☒{/tmss\_7\_d} | |
| * 1. {#tmss\_7\_e}Integrated Combat Turnaround Procedures Manual |  | | ☒{/tmss\_7\_e} | |
| * 1. {#tmss\_7\_f}Non-nuclear Munitions Loading Standard Data Packages (SDPs) |  | | ☒{/tmss\_7\_f} | |
| * 1. {#tmss\_7\_g}Loading Procedures Checklist | |  | | ☒{/tmss\_7\_g} |
| * 1. {#tmss\_7\_h}Single Loading Procedures Checklist | |  | | ☒{/tmss\_7\_h} |
| * 1. {#tmss\_7\_i}Integrated Loading Procedures Checklists |  | | ☒{/tmss\_7\_i} | |
| * 1. {#tmss\_7\_j}Family Group Loading Procedures Checklist |  | | ☒{/tmss\_7\_j} | |
| * 1. {#tmss\_7\_k}Nuclear Weapons Loading Procedure Checklists |  | | ☒{/tmss\_7\_k} | |
| * 1. {#tmss\_7\_l}Functional Check Procedures Checklist |  | | ☒{/tmss\_7\_l} | |
| * 1. {#tmss\_7\_m}Integrated Combat Turnaround Procedures Checklist |  | | ☒{/tmss\_7\_m} | |
| * 1. {#tmss\_7\_n}NATO Stage B Cross-Servicing Checklists |  | | ☒{/tmss\_7\_n} | |
| * 1. {#tmss\_7\_o}End of Runway (EOR) Procedures Checklist |  | | ☒{/tmss\_7\_o} | |
| * 1. {#tmss\_7\_p}Smart Weapons Load Checklist |  | | ☒{/tmss\_7\_p}{/} | |
| 1. {#tmss\_8\_a}Space Operations and Support Documentation (Intercontinental Ballistic Missiles) | MIL-PRF-38311 | | ☒{/tmss\_8\_a} | |
| 1. {#tmss\_10\_a || tmss\_10\_b || tmss\_10\_c}Work Unit Code Manual | MIL-DTL-38769 | |  | |
| * 1. {#tmss\_10\_a}Standard WUC Manual |  | | ☒{/tmss\_10\_a} | |
| * 1. {#tmss\_10\_b}Two Chapter Manual |  | | ☒{/tmss\_10\_b} | |
| * 1. {#tmss\_10\_c}Three Chapter Manual |  | | ☒{/tmss\_10\_c}{/} | |
| 1. {#tmss\_11\_a}Calibration Procedures | MIL-PRF-38793 | | ☒{/tmss\_11\_a} | |
| 1. {#tmss\_12\_a || tmss\_12\_b}Time Compliance Technical Orders (TCTOs) | MIL-DTL-38804 | |  | |
| * 1. {#tmss\_12\_a}TCTO |  | | ☒{/tmss\_12\_a} | |
| * 1. {#tmss\_12\_b}TCTO Supplement |  | | ☒{/tmss\_12\_b}{/} | |
| 1. {#tmss\_13\_a}Aircraft Battle Damage Assessment and Repair TOs | MIL-DTL-87158 | | ☒{/tmss\_13\_a} | |
| 1. {#tmss\_14\_a}Illustrated Parts Breakdown | MIL-DTL-38807 | | ☒{/tmss\_14\_a} | |
| 1. {#tmss\_15\_a || tmss\_15\_b || tmss\_15\_c || tmss\_15\_d || tmss\_15\_e || tmss\_15\_f || tmss\_15\_g || tmss\_15\_h}On-Equipment Organizational Maintenance Manual Set | MIL-DTL-83495 | |  | |
| * 1. {#tmss\_15\_a}General Equipment (GE) Manual |  | | ☒{/tmss\_15\_a} | | |
| * 1. {#tmss\_15\_b}General System (GS) Manuals |  | | ☒{/tmss\_15\_b} | | |
| * 1. {#tmss\_15\_c}Combined GE & GS Manual |  | | ☒{/tmss\_15\_c} | | |
| * 1. {#tmss\_15\_d}Job Guide (JG) Manuals |  | | ☒{/tmss\_15\_d} | |
| * 1. {#tmss\_15\_e}Fault Reporting (FR) Manual |  | | ☒{/tmss\_15\_e} | |
| * 1. {#tmss\_15\_f}Fault Isolation (FI) Manual |  | | ☒{/tmss\_15\_f} | |
| * 1. {#tmss\_15\_g}Wiring Data (WD) Manual |  | | ☒{/tmss\_15\_g} | |
| * 1. {#tmss\_15\_h}Schematic Diagram (SD) Manual |  | | ☒{/tmss\_15\_h}{/} | |
| 1. {#tmss\_16\_a\_1 || tmss\_16\_a\_2 || tmss\_16\_a\_3 || tmss\_16\_a\_4 || tmss\_16\_a\_5 || tmss\_16\_b || tmss\_16\_c\_1 || tmss\_16\_c\_2 || tmss\_16\_c\_3 || tmss\_16\_c\_4 || tmss\_16\_c\_5 || tmss\_16\_c\_6 || tmss\_16\_c\_7 || tmss\_16\_c\_8 || tmss\_16\_c\_9 || tmss\_16\_c\_10 || tmss\_16\_c\_11 || tmss\_16\_d}Operation and Maintenance Instructions in Work Package Format | MIL-DTL-87929 | |  | |
| * 1. {#tmss\_16\_a\_1 || tmss\_16\_a\_2 || tmss\_16\_a\_3 || tmss\_16\_a\_4 || tmss\_16\_a\_5}Maintenance Manuals |  | |  | |
| * + 1. {#tmss\_16\_a\_1}Organizational Maintenance |  | | ☒{/tmss\_16\_a\_1} | |
| * + 1. {#tmss\_16\_a\_2}Intermediate Maintenance |  | | ☒{/tmss\_16\_a\_2} | |
| * + 1. {#tmss\_16\_a\_3}Depot Maintenance |  | | ☒{/tmss\_16\_a\_3} | |
| * + 1. {#tmss\_16\_a\_4}Combined (I&D) Maintenance |  | | ☒{/tmss\_16\_a\_4} | |
| * + 1. {#tmss\_16\_a\_5}On Condition Maintenance |  | | ☒{/tmss\_16\_a\_5}{/} | |
| * 1. {#tmss\_16\_b}Operation & Maintenance Instruction Manuals |  | | ☒{/tmss\_16\_b} | |
| * 1. {#tmss\_16\_c\_1 || tmss\_16\_c\_2 || tmss\_16\_c\_3 || tmss\_16\_c\_4 || tmss\_16\_c\_5 || tmss\_16\_c\_6 || tmss\_16\_c\_7 || tmss\_16\_c\_8 || tmss\_16\_c\_9 || tmss\_16\_c\_10 || tmss\_16\_c\_11}Special Manuals |  | |  | |
| * + 1. {#tmss\_16\_c\_1}Aircraft Engine Testing and Trending Procedures |  | | ☒{/tmss\_16\_c\_1} | |
| * + 1. {#tmss\_16\_c\_2}Aircraft Power Package Testing Procedures |  | | ☒{/tmss\_16\_c\_2} | |
| * + 1. {#tmss\_16\_c\_3}Static Firing of Missile Motors |  | | ☒{/tmss\_16\_c\_3} | |
| * + 1. {#tmss\_16\_c\_4}System Peculiar Corrosion Control |  | | ☒{/tmss\_16\_c\_4} | |
| * + 1. {#tmss\_16\_c\_5}Nondestructive Inspection (NDI) |  | | ☒{/tmss\_16\_c\_5} | |
| * + 1. {#tmss\_16\_c\_6}Aircraft Structural Integrity Program (ASIP) |  | | ☒{/tmss\_16\_c\_6} | |
| * + 1. {#tmss\_16\_c\_7}ATE Operator Test Procedures |  | | ☒{/tmss\_16\_c\_7} | |
| * + 1. {#tmss\_16\_c\_8}Special Requirements for Storage and Maintenance Procedures; AUR Munitions/Launchers and Associated Support Equipment, Conventional Components and CMBR Agents |  | | ☒{/tmss\_16\_c\_8} | |
| * + 1. {#tmss\_16\_c\_9}Parachute Packing Procedures |  | | ☒{/tmss\_16\_c\_9} | |
| * + 1. {#tmss\_16\_c\_10}Operators Instructions (Hand‑Held Flight Computers) |  | | ☒{/tmss\_16\_c\_10} | |
| * + 1. {#tmss\_16\_c\_11}Installation‑Engineering Facility (Ground C-E Equipment) |  | | ☒{/tmss\_16\_c\_11}{/} | |
| * 1. {#tmss\_16\_d}Checklists (IAW MIL-DTL-5096) |  | | ☒{/tmss\_16\_d} | |
| * 1. {#tmss\_16\_e}With Illustrated Parts Breakdown |  | | ☒{/tmss\_16\_e}{/} | |
| 1. {#tmss\_17\_a}Aircraft Cross-servicing Guide | MIL-DTL-22202 | | ☒{/tmss\_17\_a} | |
| 1. {#tmss\_18\_a}Commercial Manuals (Evaluate according to MIL-PRF-32216) |  | | ☒{/tmss\_18\_a} | |
| 1. {#tmss\_19\_a}IETM |  | | ☒{/tmss\_19\_a} | |

**Table 2**

**Sustainment/Modification Updates TM Type Selections**

**NOTES:**

* Check all applicable boxes.
* For existing manuals not being updated to latest specification requirements, enter “Same style and format” under the specification heading.

| **TO Number, Title, or  Type of Manual** | **Specification** | **Change** | **Revision** | **Supple­ment** | **Supple­mental TM** | **Source Data** |
| --- | --- | --- | --- | --- | --- | --- |
| {#false} | Empty row for formatting |  |  |  |  | {/} |
| 1. {#table2}{title} | {specification} | {#change}{/change}{^change}¨{/change} | {#revision}{/revision}{^revision}¨{/revision} | {#supplement}{/supplement}{^supplement}¨{/supplement} | {#supplementaltm}{/supplementaltm}{^supplementaltm}¨{/supplementaltm} | {#sourcedata}{/sourcedata}{^sourcedata}¨{/sourcedata}{/table2} |

{#tmcr\_type == “S1000D”}

**Table 3**

**IETM Functionality Requirements**

**Specification/Standard Interface Record for MIL-STD-3048C (15 May 2023)**

**Air Force Business Rules for the Implementation of S1000D**

**PART I: B-1 Mandatory Functionality Requirements**

|  |  |  |
| --- | --- | --- |
| **Selection** | **Functionality Category** | **Requirements** |
|  | Annotations | Global data annotations  The IETM shall have the capability to enter, store, and display globally applicable supplemental data. Globally means it applies at the Air Force level and can be seen by all users of the IETM, whether it's an Air Force Instruction, policy memo, urgent change, or supplemental data to the IETM. |
|  | Annotations | Local data annotations  The IETM shall have the capability to enter, store, and display locally applicable supplemental data.  Local can mean either wing level, base level, MAJCOM level or any similar level and can be seen by the applicable users of the IETM at the specified level, whether it's a local instruction or policy. |
|  | Delivery and Distribution | Network delivery/distribution  Technical data shall be delivered/distributed via network such as Internet, Intranet, or LAN and shall use approved transfer protocols (FTP, HTTPS). |
|  | Graphics Functionality | Pan and zoom  At a minimum, the IETM shall provide users the capability to pan and zoom graphics. Other graphic manipulation capabilities, such as rotating or magnifying glass view, may be included. |
|  | Linking | Hot spotting  Graphics shall contain hot spots/embedded links to related information as needed. The most common  example are parts illustrations where the callouts are linked to the appropriate parts listing. |
|  | Linking | Internal and external links  All references, both internal to the document/data module and external to other documents/data modules,  shall be hyperlinked and take the user to the referenced material when clicked. |
|  | Navigation and Tracking | Filter content per applicability  The IETM shall filter the content displayed to the user based on applicability criteria given by the user. For example, the user specifies the tail number of the aircraft and only information relevant to that particular aircraft is shown. Filtering criteria are displayed in the "Additional Comments" field. At a  minimum, both tail number and TCTO (pre and post) filtering options shall be provided. |
|  | Navigation and Tracking | Next and previous  The IETM shall include "Next" and "Previous" navigation functions. These functions shall act in an  equivalent manner to the "Forward" and "Back" arrows of web browsers. |
|  | Navigation and Tracking | Restore initial navigation view  The IETM shall provide users the capability to restore the IETM interface to a default view. Frames and  other parts of the IETM interface that have been resized, moved, or hidden will be reset to the IETM's default setting. |
|  | Navigation and Tracking | Search  The IETM shall provide users the capability to search the technical content for specific characters, words,  or phrases. Users shall be able to specify whether whole or partial matches should be returned and whether to search a single data module, a range of data modules, or the entire IETM. |
|  | Navigation and Tracking | Simultaneous display of multiple content objects  The IETM shall provide the users the capability to display technical content text and any tables or graphics  simultaneously. This can be accomplished either through separate panes on the IETM interface, separate pop-up windows, or a combination of both. |
|  | Navigation and Tracking | System/subsystem navigation  The IETM shall provide users the capability to navigate through the technical content via the product's system/subsystem breakdown. User's would start at the highest level of the product (such as the aircraft itself), and would then navigate down through the system structure (such as airframe, cockpit) to find the appropriate data. |
|  | Navigation and Tracking | Text, graphic, and table searchability  All text in the technical content shall be searchable, including all text located in graphics and tables. |
|  | Printing | Data module printing  The IETM shall provide users the capability to print the current data module being viewed. TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Printing | Print screen  The IETM shall provide users the capability to print the screen currently being viewed. TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Printing | Printing data module and linked data  The IETM shall provide users the capability to print the current data module being viewed as well as any data referenced by the data module. Printed linked data shall be limited to one level of linking (i.e. any  referenced data in the linked data shall not also be printed). TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Publishing | Complete page-based PDF technical manual publishing  The publishing system shall be able to publish fully formatted, linear, page-based technical manuals as a PDF from authored S1000D data modules. This would be a complete publication, not an excerpt or a  single data module. |
|  | Special Content | Emergency procedure quick access  The IETM shall provide users quick (one click) access to associated emergency procedures. The IETM  shall also provide users quick (one click) access to a listing of all emergency procedures. |
|  | Special Content | Help documentation  The IETM shall have a "Help" option which provides users with documentation and guidance on how to  use the IETM and all its options. |
|  | Updates | Active change indications and markings  The IETM shall display appropriately authored change markers in the technical data and provide users with the capability to toggle the display of change markers on/off. |
|  | User Operation Mode | Connected mode  The IETM shall be able to access the network and/or the CSDB wirelessly during use. This functionality is necessary for integrating with external applications such as parts ordering or maintenance data collections. |
|  | User Operation Mode | Disconnected mode  The IETM shall be able to operate entirely in a stand-alone or disconnected mode where the IETM is not connected to any network or Internet. |
|  | User Operation Mode | Web browser viewable  The IETM technical content shall be viewable in a standard web browser that is part of the Air Force standard desktop. Web browser plug-ins or helper applications may be used to enable additional IETM functionalities that are not possible with the standard browser. |

**PART II: B-2 Optional Functionality Requirements**

|  |  |  |
| --- | --- | --- |
| **Selection** | **Functionality Category** | **Requirement** |
| {#sec2b2\_roles} | Access | IETM tailoring via user roles/profiles  The IETM shall be customizable based on user roles. Examples of customization include enabling/disabling menu options and allowing/disallowing access of certain data modules. {/sec2b2\_roles} |
| {#sec2b2\_cac} | Access | Login/Logout via Common Access Card (CAC)  The IETM shall provide users the capability to login and logout with their CAC. {/sec2b2\_cac} |
| {#sec2b2\_username} | Access | Login/Logout via username and password  The IETM shall provide users the capability to login and logout with a username and password. {/sec2b2\_username} |
| {#sec2b2\_login} | Access | Login/Logout  The IETM shall provide users the capability to login and logout. {/sec2b2\_login} |
| {#sec2b2\_suspend} | Access | Suspend/Restart  The IETM shall provide users the capability to suspend their current session and to restart the session at a future time at the point where they left off. {/sec2b2\_suspend} |
| {#sec2b2\_complete} | Annotations | Action complete indicators  The IETM shall provide users the capability to indicate that actions called for by the technical data have been completed. This is normally represented as a checkbox. {/sec2b2\_complete} |
| {#sec2b2\_personal} | Annotations | Personal annotations  The IETM shall provide users the capability to add supplemental information or notes to the data. Personal annotations can be added or deleted at the end user's discretion but is not retained at the end of the user session. {/sec2b2\_personal} |
| {#sec2b2\_redline\_graphics} | Annotations | Redlining graphics  The IETM shall provide users the capability to redline/annotate graphics using markings for deletions, insertions, and changes. These markings are saved as feedback to correct/improve the publication during  development and verification. {/sec2b2\_redline\_graphics} |
| {#sec2b2\_redline\_text} | Annotations | Redlining text  The IETM shall provide users the capability to redline/annotate text using markings for deletions, insertions, and changes. These markings are saved as feedback to correct/improve the publication during  development and verification. {/sec2b2\_redline\_text} |
| {#sec2b2\_paper\_distro} | Delivery and Distribution | Paper delivery/distribution  Technical data shall be delivered/distributed via printed paper publications. {/sec2b2\_paper\_distro} |
| {#sec2b2\_physical\_distro} | Delivery and Distribution | Physical media delivery/distribution  Technical data shall be delivered/distributed via physical media such as DVD or hard drive. {/sec2b2\_physical\_distro} |
| {#sec2b2\_dynamic\_diags} | Diagnostics and Prognostics | Dynamic diagnostics  The IETM shall interface with the product to utilize onboard monitoring devices (e.g. Built-In Test) and support/test equipment for fault detection/isolation. Troubleshooting is based on results returned from the product rather than inputs received from the maintainer. This may require external software and the  product must also support this functionality. {/sec2b2\_dynamic\_diags} |
| {#sec2b2\_software\_diags} | Diagnostics and Prognostics | Software driven diagnostics  The IETM shall guide the user (via software) through troubleshooting by analyzing maintainer inputs, fault codes, and their correlations to display the appropriate starting point/action for fault isolation instead of the maintainer using a predefined fault tree. This will require a logic engine and one or more process  data modules. {/sec2b2\_software\_diags} |
| {#sec2b2\_simulation} | Diagnostics and Prognostics | System simulation  The IETM shall have the capability to represent the behavior or characteristics of the system function/malfunction to determine or reenact the problem. System simulation allows the user to introduce stimulus (such as pressure, valve positions, temperatures, voltages, sensor inputs, switch positions) and  present the results in a manner that models the system behaviors. This can be used to model hydraulic, fuel,  pneumatic and other systems. {/sec2b2\_simulation} |
| {#sec2b2\_system\_tracing} | Diagnostics and  Prognostics | Wire/Fluid system tracing  The IETM shall provide users the capability to select wires, fluid, pneumatic or (HVAC) line in a graphic  (diagram or schematic) and have continuity highlighted thru the circuit or schematic. {/sec2b2\_system\_tracing} |
| {#sec2b2\_deficiency\_reporting} | External Processes | Deficiency/improvement reporting  The IETM shall provide users the capability to report errors/improvements to the technical data by initiating  the AFTO 22 process from within the IETM. {/sec2b2\_deficiency\_reporting} |
| {#sec2b2\_config\_mgmt} | External Processes | Maintenance data collection integration  The IETM shall have the capability to capture and transmit configuration change data (i.e. removed and  installed part number information), tasks authorized, tasks performed, results of that work, etc. This  information would be transmitted to Air Force maintenance data collection systems (such as REMIS). {/sec2b2\_config\_mgmt} |
| {#sec2b2\_external\_system} | External Processes | Other external system integration  If there are any other external systems beyond the ones already listed (parts ordering, AFTO 22 change  process, maintenance data collection) that should be integrated into the IETM, then these will be listed in the  "Additional Comments" field. {/sec2b2\_external\_system} |
| {#sec2b2\_external\_parts} | External  Processes | Parts ordering integration  The IETM shall interface with the supply system to allow users to order parts from within the IETM.{/sec2b2\_external\_parts} |
| {#sec2b2\_pdf} | Functionality Category - Annotations | PDF action complete indicators  The PDF shall provide users the capability to indicate that actions called for by the technical data have been  completed. This is normally represented as a checkbox. {/sec2b2\_pdf} |
| {#sec2b2\_modeling} | Graphics Functionality | 3D modeling  The product and it's components shall be modeled using 3D, solid object graphical figures and are  displayed by the IETM. The use of 3D models can allow virtual assembly, disassembly, removal and  installation of parts of the product using animation, simulation and/or virtual reality concepts. {/sec2b2\_modeling} |
| {#sec2b2\_tooltips} | Linking | Hot reference (tool tips)  The IETM shall display tool tips to the user on relevant "mouse overs". At a minimum, all IETM menu  options shall have tool tips as well as all acronyms and footnotes displayed in the technical data. {/sec2b2\_tooltips} |
| {#sec2b2\_audit} | Navigation and Tracking | Audit trail  The IETM shall track and log all user interactions during a session. These interactions can then be retrieved  to recreate the session in case an audit is needed. {/sec2b2\_audit} |
| {#sec2b2\_dialog\_nav} | Navigation and Tracking | Dialog driven navigation  The IETM shall prompt the user for input and would then jump to the appropriate location based on the  response. This requires the use of one or more process data modules. {/sec2b2\_dialog\_nav} |
| {#sec2b2\_graphic\_nav} | Navigation and Tracking | Graphical navigation  The IETM shall provide users the capability to navigate the technical data via graphical representations of the product's system/subsystem breakdown. Heavy use of hotspotting is required on the graphics. For example, from a graphical overview of the aircraft, the user selects a wing. A graphical overview of the wing is presented. The user then selects the flaps. A graphical overview of the flaps is presented. The user selects the actuator. Information on the actuator is presented. {/sec2b2\_graphic\_nav} |
| {#sec2b2\_history\_nav} | Navigation and Tracking | History of traversed links  The IETM shall provide the capability to display to the user a history of all links traversed by the user. {/sec2b2\_history\_nav} |
| {#sec2b2\_bookmarks\_nav} | Navigation and Tracking | User creation of bookmarks  The IETM shall provide the capability to allow the user to create their own bookmarks or navigational links to specific locations in the data. This would require login functionality as the bookmarks are tied to the specific user login. {/sec2b2\_bookmarks\_nav} |
| {#sec2b2\_voice\_nav} | Navigation and Tracking | Voice activated commands  The IETM shall provide users the capability to navigate through the technical content via voice commands. {/sec2b2\_voice\_nav} |
| {#sec2b2\_animated\_spec} | Special Content | Animated graphics support  The IETM shall have the capability to display animated graphic contained within the technical content for the user. {/sec2b2\_animated\_spec} |
| {#sec2b2\_audio\_spec} | Special Content | Audio file support  The IETM shall have the capability to play audio files contained within the technical content for the user. {/sec2b2\_audio\_spec} |
| {#sec2b2\_training\_spec} | Special Content | Link to external training  The IETM shall include built-in links to external training sites for relevant maintainer/operator training courses/data. {/sec2b2\_training\_spec} |
| {#sec2b2\_video\_spec} | Special Content | Motion video file support  The IETM shall have the capability to play video files contained within the technical content for the user. {/sec2b2\_video\_spec} |
| {#sec2b2\_warning\_spec} | Special Content | Warning and caution acknowledgement  The IETM shall require acknowledgement from the user for each warning and caution encountered in the technical data. The user must acknowledge the warning or caution via a button or dialog prompt before being allowed to proceed. {/sec2b2\_warning\_spec} |

**PART III: S1000D Decision Point Tool**

The S1000D Decision Point Tool will be used to provide outputs of both the Project’s Functionality Requirements, the Project’s Business Rules, and tailored SIRs. Utilize the TMCR S1000D Decision Point Tool located at <https://techdata.wpafb.af.mil/tmss/index.html> for the MIL-STD-3048 SIR, Air Force Business Rules for the Implementation of S1000D, by selecting all applicable project functionality requirements, project business rules, and the desired tailoring options expressed in paragraphs 4. Attach the completed S1000D Decision Point Tool spreadsheet.

[**Attach the completed S1000D Decision Point Tool spreadsheet in this section**]

**Table 4 – S1000D TM Delivery Requirements**

**For {program\_mod\_system\_name}**

**NOTES:**

* For all other media types indicate (Y)es or (N)o
* TCTO requirements are specified in the contract vehicle approving the TCTO.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DELIVERY SCHEDULE | | | | | | |
| Enter physical mailing address, electronic delivery location or web access point  | {delivery\_address} | | | | | |
|
|
| Event Number of {typeof\_review\_days} days data required **prior** to event  | PDR (Preliminary Design Review) | CDR (Critical Design Review) | In Process Review(s) | Verification | Prepublication Review | Final Delivery |
| ( {pdr\_days} Days) | ( {cdr\_days} Days) | ( {process\_review\_days} Days) | ( {verification\_days} Days) | ( {prepub\_review\_days} Days) |  |
| Deliverable | | | | | | |
| Common Source Data Base (CSDB) | {#cdsb\_pdr}{/cdsb\_pdr}{^cdsb\_pdr}¨{/cdsb\_pdr} | {#cdsb\_cdr}{/cdsb\_cdr}{^cdsb\_cdr}¨{/cdsb\_cdr} | {#cdsb\_process\_review}{/cdsb\_process\_review}{^cdsb\_process\_review}¨{/cdsb\_process\_review} | {#cdsb\_verification}{/cdsb\_verification}{^cdsb\_verification}¨{/cdsb\_verification} | {#cdsb\_prepub\_review}{/cdsb\_prepub\_review}{^cdsb\_prepub\_review}¨{/cdsb\_prepub\_review} | {#cdsb\_final\_delivery}{/cdsb\_final\_delivery}{^cdsb\_final\_delivery}¨{/cdsb\_final\_delivery} |
| Business Rules Exchange (BREX) files | {#brex\_pdr}{/brex\_pdr}{^brex\_pdr}¨{/brex\_pdr} | {#brex\_cdr}{/brex\_cdr}{^brex\_cdr}¨{/brex\_cdr} | {#brex\_process\_review}{/brex\_process\_review}{^brex\_process\_review}¨{/brex\_process\_review} | {#brex\_verification}{/brex\_verification}{^brex\_verification}¨{/brex\_verification} | {#brex\_prepub\_review}{/brex\_prepub\_review}{^brex\_prepub\_review}¨{/brex\_prepub\_review} | {#brex\_final\_delivery}{/brex\_final\_delivery}{^brex\_final\_delivery}¨{/brex\_final\_delivery} |
| Data Management Requirements List (DMRL) | {#dmrl\_pdr}{/dmrl\_pdr}{^dmrl\_pdr}¨{/dmrl\_pdr} | {#dmrl\_cdr}{/dmrl\_cdr}{^dmrl\_cdr}¨{/dmrl\_cdr} | {#dmrl\_process\_review}{/dmrl\_process\_review}{^dmrl\_process\_review}¨{/dmrl\_process\_review} | {#dmrl\_verification}{/dmrl\_verification}{^dmrl\_verification}¨{/dmrl\_verification} | {#dmrl\_prepub\_review}{/dmrl\_prepub\_review}{^dmrl\_prepub\_review}¨{/dmrl\_prepub\_review} | {#dmrl\_final\_delivery}{/dmrl\_final\_delivery}{^dmrl\_final\_delivery}¨{/dmrl\_final\_delivery} |
| Stylesheets | {#stylesheets\_pdr}{/stylesheets\_pdr}{^stylesheets\_pdr}¨{/stylesheets\_pdr} | {#stylesheets\_cdr}{/stylesheets\_cdr}{^stylesheets\_cdr}¨{/stylesheets\_cdr} | {#stylesheets\_process\_review}{/stylesheets\_process\_review}{^stylesheets\_process\_review}¨{/stylesheets\_process\_review} | {#stylesheets\_verification}{/stylesheets\_verification}{^stylesheets\_verification}¨{/stylesheets\_verification} | {#stylesheets\_prepub\_review}{/stylesheets\_prepub\_review}{^stylesheets\_prepub\_review}¨{/stylesheets\_prepub\_review} | {#stylesheets\_final\_delivery}{/stylesheets\_final\_delivery}{^stylesheets\_final\_delivery}¨{/stylesheets\_final\_delivery} |
| Output Generation Tools/Files | {#generation\_pdr}{/generation\_pdr}{^generation\_pdr}¨{/generation\_pdr} | {#generation\_cdr}{/generation\_cdr}{^generation\_cdr}¨{/generation\_cdr} | {#generation\_process\_review}{/generation\_process\_review}{^generation\_process\_review}¨{/generation\_process\_review} | {#generation\_verification}{/generation\_verification}{^generation\_verification}¨{/generation\_verification} | {#generation\_prepub\_review}{/generation\_prepub\_review}{^generation\_prepub\_review}¨{/generation\_prepub\_review} | {#generation\_final\_delivery}{/generation\_final\_delivery}{^generation\_final\_delivery}¨{/generation\_final\_delivery} |
| Multimedia Files | {#multimedia\_pdr}{/multimedia\_pdr}{^multimedia\_pdr}¨{/multimedia\_pdr} | {#multimedia\_cdr}{/multimedia\_cdr}{^multimedia\_cdr}¨{/multimedia\_cdr} | {#multimedia\_process\_review}{/multimedia\_process\_review}{^multimedia\_process\_review}¨{/multimedia\_process\_review} | {#multimedia\_verification}{/multimedia\_verification}{^multimedia\_verification}¨{/multimedia\_verification} | {#multimedia\_prepub\_review}{/multimedia\_prepub\_review}{^multimedia\_prepub\_review}¨{/multimedia\_prepub\_review} | {#multimedia\_final\_delivery}{/multimedia\_final\_delivery}{^multimedia\_final\_delivery}¨{/multimedia\_final\_delivery} |
| Graphic Files | {#graphics\_pdr}{/graphics\_pdr}{^graphics\_pdr}¨{/graphics\_pdr} | {#graphics\_cdr}{/graphics\_cdr}{^graphics\_cdr}¨{/graphics\_cdr} | {#graphics\_process\_review}{/graphics\_process\_review}{^graphics\_process\_review}¨{/graphics\_process\_review} | {#graphics\_verification}{/graphics\_verification}{^graphics\_verification}¨{/graphics\_verification} | {#graphics\_prepub\_review}{/graphics\_prepub\_review}{^graphics\_prepub\_review}¨{/graphics\_prepub\_review} | {#graphics\_final\_delivery}{/graphics\_final\_delivery}{^graphics\_final\_delivery}¨{/graphics\_final\_delivery} |
| Authoring Guide(s) | {#auth\_guide\_pdr}{/auth\_guide\_pdr}{^auth\_guide\_pdr}¨{/auth\_guide\_pdr} | {#auth\_guide\_cdr}{/auth\_guide\_cdr}{^auth\_guide\_cdr}¨{/auth\_guide\_cdr} | {#auth\_guide\_process\_review}{/auth\_guide\_process\_review}{^auth\_guide\_process\_review}¨{/auth\_guide\_process\_review} | {#auth\_guide\_verification}{/auth\_guide\_verification}{^auth\_guide\_verification}¨{/auth\_guide\_verification} | {#auth\_guide\_prepub\_review}{/auth\_guide\_prepub\_review}{^auth\_guide\_prepub\_review}¨{/auth\_guide\_prepub\_review} | {#auth\_guide\_final\_delivery}{/auth\_guide\_final\_delivery}{^auth\_guide\_final\_delivery}¨{/auth\_guide\_final\_delivery} |
| Technical Manual Content and Product Plan | {#product\_plan\_pdr}{/product\_plan\_pdr}{^product\_plan\_pdr}¨{/product\_plan\_pdr} | {#product\_plan\_cdr}{/product\_plan\_cdr}{^product\_plan\_cdr}¨{/product\_plan\_cdr} | {#product\_plan\_process\_review}{/product\_plan\_process\_review}{^product\_plan\_process\_review}¨{/product\_plan\_process\_review} | {#product\_plan\_verification}{/product\_plan\_verification}{^product\_plan\_verification}¨{/product\_plan\_verification} | {#product\_plan\_prepub\_review}{/product\_plan\_prepub\_review}{^product\_plan\_prepub\_review}¨{/product\_plan\_prepub\_review} | {#product\_plan\_final\_delivery}{/product\_plan\_final\_delivery}{^product\_plan\_final\_delivery}¨{/product\_plan\_final\_delivery} |
| Configuration Control Management Plan | {#cm\_plan\_pdr}{/cm\_plan\_pdr}{^cm\_plan\_pdr}¨{/cm\_plan\_pdr} | {#cm\_plan\_cdr}{/cm\_plan\_cdr}{^cm\_plan\_cdr}¨{/cm\_plan\_cdr} | {#cm\_plan\_process\_review}{/cm\_plan\_process\_review}{^cm\_plan\_process\_review}¨{/cm\_plan\_process\_review} | {#cm\_plan\_verification}{/cm\_plan\_verification}{^cm\_plan\_verification}¨{/cm\_plan\_verification} | {#cm\_plan\_prepub\_review}{/cm\_plan\_prepub\_review}{^cm\_plan\_prepub\_review}¨{/cm\_plan\_prepub\_review} | {#cm\_plan\_final\_delivery}{/cm\_plan\_final\_delivery}{^cm\_plan\_final\_delivery}¨{/cm\_plan\_final\_delivery} |
| {#table4\_custom}{Text} | {#pdr}{/pdr}{^pdr}¨{/pdr} | {#cdr}{/cdr}{^cdr}¨{/cdr} | {#process\_review}{/process\_review}{^process\_review}¨{/process\_review} | {#verification}{/verification}{^verification}¨{/verification} | {#prepub\_review}{/prepub\_review}{^prepub\_review}¨{/prepub\_review} | {#final\_delivery}{/final\_delivery}{^final\_delivery}¨{/final\_delivery}{/table4\_custom} |

{/}{#tmcr\_type == “Linear” || tmcr\_type == “CDA”}

**Table 3 – {#tmcr\_type == “Linear”}SGML/XML{/}{#tmcr\_type==“CDA”}CDA{/} TM Delivery Requirements**

**For {program\_mod\_system\_name}**

**NOTES:**

* **For Paper and CD/DVD media delivery indicate required quantity**
* **For all other media types indicate (Y)es or (N)o**
* TCTO/SB requirements are specified in the contract vehicle approving the TCTO/SB.
* All SGML/XML file delivers MUST include ALL graphic files.
* All TO files must not be password protected.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DELIVERY SCHEDULE | | | | | |
| Event Number of {typeof\_review\_days} days data required **prior** to event  | In Process Review(s) ({in\_process\_review\_days} Days) | Verification  ({verification\_days} Days) | Prepublication Review ({prepublication\_review\_days} Days) | | Final TO Delivery |
| Enter physical mailing address, electronic delivery location or web access point  |  | | | | |
| {#false} |  |  |  | {/} | |
| {#table2linear}{address} | Paper/ {inprocess .paper}  SGML/ {#inprocess .sgml}Y{/}{^inprocess .sgml}N{/}  (I)PDF / {#inprocess .pdf}Y{/}{^inprocess .pdf}N{/}  XML / {#inprocess .xml}Y{/}{^inprocess .xml}N{/}  CD-DVD/ {inprocess .cddvd} | Paper/ {verification .paper}  SGML/ {#verification .sgml}Y{/}{^verification .sgml}N{/}  (I)PDF / {#verification .pdf}Y{/}{^verification .pdf}N{/}  XML / {#verification .xml}Y{/}{^verification .xml}N{/}  CD-DVD/ {verification .cddvd} | Paper/ {prepublication .paper}  SGML/ {#prepublication .sgml}Y{/}{^prepublication .sgml}N{/}  (I)PDF / {#prepublication .pdf}Y{/}{^prepublication .pdf}N{/}  XML / {#prepublication .xml}Y{/}{^prepublication .xml}N{/}  CD-DVD / {prepublication .cddvd} | Paper/ {final .paper}  SGML/ {#final .sgml}Y{/}{^final .sgml}N{/}  (I)PDF / {#final .pdf}Y{/}{^final .pdf}N{/}  XML / {#final .xml}Y{/}{^final .xml}N{/}  CD-DVD / {final .cddvd}{/} | |

{/}

**Section 3. Specification/Standard Interface Records (SIRs)**

**NOTES:**

1. **All** **TMSS applicable to this contract** must have an appropriately tailored SIR attached to this section.
2. SIRs included in the untailored TMCR format represent the minimum tailoring requirements that must be included in the final contract, **unless the entire SIR is not applicable**; e.g., if MIL-DTL-22202D is not required, the entire SIR can be deleted.{#tmcr\_type == “Linear”}
3. Utilize the TMSS Tailoring Tool located at <https://techdata.wpafb.af.mil/tmss/index.html> by selecting all applicable TMSS requirements, and the desired tailoring options expressed in paragraphs 6.2. Attach the TMSS Tailoring Tool spreadsheet output in the specified section listed below.{/}
4. Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from Acquisition Streamlining and Standardization Information System (ASSIST) web page, <https://assist.dla.mil/online/start/index.cfm>.
5. TMSS entries designated with A, F, M or N refer to Army, Air Force, Marine Corps or Navy requirements.
6. Comments (recommendations, additions, deletions) and any pertinent data which may be in use in improving Air Force TMSS documents should be submitted to AFLCMC/GBS 4170 Hebble Creek Road, Bldg. 280, Door 15, Area A, Wright-Patterson AFB, Oh 45433-5653 or by email to; [SGMLsupport@us.af.mil](mailto:SGMLsupport@us.af.mil). Do not include the street address, a building number or a zip+4.

[**Attach tailored SIRs {#tmcr\_type == “Linear”}and TMSS Tailoring Tool {/}in this section**]

**Attachment 1**

**Graphics Format Guidelines**

**GUIDELINES:**

{#graphics\_eps} **Encapsulated Post Script (EPS):**

* Raster based images will not be saved as EPS but will be saved as TIFF images.
* EPS files must not be a mix of vector and raster images. Vector based images must be saved as EPS.
* Vector based images saved as EPS will include illustrations containing both vector and raster images.
* Any source data (photos used for tracing etc.); used in aiding of creation of EPS (templates, etc.) will be deleted from illustration prior to saving/exporting.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.

{/graphics\_eps}{#graphics\_tiff} **Tagged Image File Format (TIFF):**

* Black and white raster images should only be saved as Bitmap and not Grayscale, RGB or CMYK.
* Grayscale or Color images (screenshots, etc.) will be saved as such (Grayscale, RGB or CMYK) and will not be bitmap converted using a halftone screen.
* To further aid in file size reduction for storage purposes, images should be compressed using Group 4 compression when saving/exporting.

{/graphics\_tiff}{#graphics\_cgm} **Computer Graphics Metafile (CGM):**

* Raster based images will not be saved as CGM.
* Any source data used in aiding of creation of CGM (templates, etc.) will be deleted from illustration prior to saving/exporting.
* CGM files must not be a mix of vector and raster images. Vector only.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.
* Unless Version 4 is specifically required for hotspots and/or hyper linking, CGMs should be exported as version 3 to increase cross platform compatibility.

{/graphics\_cgm}{#graphics\_dwg} **DWG File Format:**

* Raster based images will not be saved as DWG.
* DWG files must not be a mix of vector and raster images. Vector only.
* Any source data used in aiding of creation of DWG (templates, etc.) will be deleted from illustration prior to saving/exporting.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.

{/graphics\_dwg}{#graphics\_jpg} **Joint Photographic Expert Group (JPEG):**

**(Caution: JPEG 2000 files are not to be used at all due to platform display issues.)**

* JPEG File format should be used as last resort. Color screenshots/photos should be saved as TIFFs due to possible system compatibility issues.
* B&W Bitmaps should not be saved as JPEGs.

{/graphics\_jpg}{#graphics\_png} **Portable Network Graphics (PNG):**

* Used for raster graphics
* Supports lossless data compression

{/graphics\_png}{#graphics\_bmp} **Bitmap (BMP):**

* Used for raster graphics

{/graphics\_bmp}{#graphics\_svg} **Scalable Vector Graphics (SVG):**

* Two-dimensional vector and mixed vector/raster graphics

{/graphics\_svg}{#graphics\_none} **No graphics required for this contract**{/graphics\_none}

{#new\_revision == “new”}

**Attachment 2**

**REQUEST FOR TECHNICAL ORDER NUMBER**

1. **\*PRIME SYSTEM APPLICATION** (If Applicable or N/A)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **\*CONTRACT NUMBER/PURCHASE REQUEST (PR) NUMBER:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **\*MISSION DESIGN SERIES/NOMENCLATURE** (Name Of Equipment) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **\*FEDERAL STOCK CLASS:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
5. **\*PART NUMBER**(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. **\*NSN/FSN:** (or temp NSN) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. **\*PUBLICATION TYPE** (Opn & Maint with IPB, Overhaul, WUC, IPB, LOAP, etc.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. **\*SUGGESTED TECHNICAL ORDER NUMBER**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. **\*RECOMMENDED TITLE OF MANUAL (Leave Blank if Classified)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **\*CLASSIFICATION OF MANUAL**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **\*CLASSIFICATION OF TITLE:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **\*KIND OF EQUIPMENT** (Airborne / Ground / Not Applicable):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **\*TEST EQUIPMENT? Yes / No**
5. PROGRAM ELEMENT CODE (PEC): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. LEAD COMMAND: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. DOES MANUAL EXIST FOR SAME/SIMILAR EQUIPMENT? **Yes / No**
8. EXISTING MANUAL TO NUMBER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. COMMERCIAL OFF THE SHELF (COTS) ITEM: **Yes / No**
10. CONTRACTOR INFORMATION: (If Applicable)
11. NAME OF VENDOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. ADDRESS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. MANUFACTURER'S CODE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. POINT OF CONTACT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. FOREIGN MILITARY SALES (FMS) YES \_\_\_ NO \_\_\_\_ (If YES, complete item 21)
16. COUNTRY CODES (For CSTO/FMS manuals): (See TO 00-5-19) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. COMMENTS:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\* = Mandatory Field{/}{/}{#$index == 1}**

## Air Force Technical Manual Contract Requirements (TMCR)

## {program\_mod\_system\_name}

ATTACHMENT {#attachment}{attachment}, {/attachment} CDRL SEQUENCE NUMBER {cdrl\_sequence\_number}{#exhibit}, EXHIBIT {exhibit}{/exhibit}

CONTRACT NUMBER {rfp\_contract}, CLIN {clin}

CONTRACT TYPE: {#contract\_type == “Other”}{other\_contract\_type}{/}{#contract\_type != “Other”}{contract\_type}{/}

{#new\_revision == “new”}New Acquisition{/}{#new\_revision == “revision”}Modification{/}{#new\_revision == “conversion”}Conversion{/}

TMCR TYPE: {#tmcr\_type == “Linear”}SGML/XML{/}{#tmcr\_type != “Linear”}{tmcr\_type}{/}

[LEFT BLANK FOR USER GRAPHIC]

## Section 1. Technical Order (TO) Program Requirements – {#tmcr\_type == “S1000D”}S1000D/IETM{/}{#tmcr\_type == “Linear”}TMSS SGML/XML TMs{/}{#tmcr\_type == “CDA”}CDA TMs{/}

1. TMCR Tailoring.  The Contractor may propose and submit, in writing, additional tailoring to the Technical Order Manager Agency/Agent (TOMA), Government Program Manager (PM) and Procuring Contracting Officer (PCO) as required by Section L of the RFP. The contractor may also submit additional Section 2 tailoring to propose new TO types (Table 1) and source data and TO updates (Table 2) required to support the {program\_mod\_system\_name} program’s objectives. {#tmcr\_type != “CDA”}Modifications to contracts can continue to utilize the existing format until renegotiated/replaced. {/}The acceptance of any contractor tailored TMCR will be at the discretion of the government and is not in effect until accepted in writing by the PCO or specified in the contract.{#tmcr\_type == “CDA”}
   1. The Contractor must develop the TOs and the TO Program In Accordance With (IAW) TO 00-5-3. In the event of a conflict between the TMCR and the references herein, the TMCR must take precedence. Any additional conflict must be resolved by a decision by the PCO, in coordination with the Technical Order Management Agent/Agency (TOMA).

**NOTE:** TO 00-5-3 can be accessed at the following link: <https://www.tinker.af.mil/Resources/Technical-Orders/>{/}{#tmcr\_type != “CDA”}

1. TO Program Scope. The Contractor must {#new\_revision != “conversion”}develop{/}{#new\_revision == “conversion”}convert{/} and deliver technical manuals in accordance with (IAW) this TMCR{#tmcr\_type == “S1000D”}, the attached S1000D Decision Point Tool (section 3), and supplied Business Rules (BRs){/}{#tmcr\_type == “Linear”} and the attached TMSS Tailoring Tool (section 3){/} that supports the {program\_mod\_system\_name} requirements for technically usable manuals. {/}{#tmcr\_type == “CDA”}
2. TO Program Scope. The Contractor must tailor Section 2 of this document to propose the TO types (Table 1- TMSS Requirements for the {program\_mod\_system\_name}) and source data, TO updates, commercial manuals, supplements, supplement manuals, and TOs prepared to Non-Government Standards (NGS) (Table 2 – Additional TM Type Selections) required to conduct the {program\_mod\_system\_name} objectives.
   1. The Contractor must ensure that all applicable TO requirements of this contract are levied on all suppliers. The Contractor must ensure that suppliers furnish operation and maintenance information applicable to the equipment being acquired, including changes and/or revisions, for inclusion of such information in applicable operation and maintenance TOs for the system/equipment which the equipment supports. When a supplier prepares system TOs, the Contractor must supply required interface data.
   2. The Contractor must pass through and enforce all requirements in this TMCR to all sub-Contractors.{/}{#tmcr\_type == “S1000D”}
3. S1000D Technical Manual Content and Product Plan. The Contractor must develop and deliver a Technical Manual Content and Product Plan IAW the requirements specified within this TMCR. This plan must be developed in the Contractor’s format and will specify the development of the S1000D Interactive Electronic Technical Manual(s) (IETM) incorporating all applicable Business Rule requirements and the preliminary functionality requirements. For the purposes of this contractual document, the term IETM is considered synonymous with the S1000D term Interactive Electronic Technical Publication (IETP). The plan must also detail the total technical content coverage for each system, subsystem, equipment, and major components including a preliminary Data Management Requirement List (DMRL) listing all Data Modules (DMs) and Publication Modules (PMs) to be developed in support of the weapon system/equipment and a List of Applicable Publications if the DMs are to be a part of more than one Technical Publication or IETM. The DMRL must also reference the proposed DM schema type each module is written against. The plan must document the solution architecture requirements necessary for IETM development, to include solution diagrams, solution test cases, and applicable testing documentation.
   1. Additional Content Information. Problems regarding requirements, interpretation, and application must be identified within the plan. Conflicts between standards and guidance documents must be highlighted. An explanation or initial demonstration of how the technical content information will be rendered on the display device and an overview of how the user will access the technical information must be provided. The Contractor may propose opportunities for data (text, graphics, other media) re-use across data types (including training data), weapons system/equipment configurations and foreign military sales. The plan must include a list of re-use objects with future potential to be used across DoD, as well as those items that are unique to the system addressed in the listed IETM(s). The Contractor must also detail their approach to managing the relationship between content and weapon system/equipment applicability. Prior to award, guidance will be outlined in Section L of the RFP,as referenced for development of the IETM(s) guidance. Upon award, opportunities or recommended new language should not be incorporated unless unique and original. The acceptance of any contractor tailored content will be at the discretion of the government and is not in effect until accepted in writing by the PCO or specified in the contract.
   2. Product Coverage. The plan must include Contractor recommendations for the packaging of the IETM content, (i.e., single IETM or multiple IETM products), based on the defined maintenance concept. The Contractor must include external and internal links and references within the plan.{#new\_revision != “conversion”} Additionally, the plan must include the use of Commercial-Off-The-Shelf (COTS) and/or other TMs listed within Section 2, Table 2 of this TMCR, and other manuals as applicable.{/}
   3. Alternative Recommendations. The Contractor may propose, within the plan and as outlined in Section L of the RFP, alternative recommendations for certain technical manual types that may not readily conform to the provided functionality requirements and proposed program BRs.{#new\_revision != “conversion”} Additionally, the Contractor may propose alterations and alternative IETM constructs for paper-based requirements to better optimize page output and minimize print cost. Alterations will be in compliance with AF TMSS requirements.{/}{/}{#tmcr\_type != “CDA” && new\_revision == “modification”}
4. Commercial Manuals. Contractors must recommend the use of existing commercial manuals to the maximum extent possible without impairing program support objectives. All proposed commercial manuals are subject to Government review and approval. Contractors must use Data Item Description (DID) DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* to provide recommendation data. A copy is available through ASSIST at <http://quicksearch.dla.mil/qsSearch.aspx>.
   1. The Contractor must provide the ability to electronically store, print, distribute, update and decollate the commercial manual to allow for printing. Commercial manuals must be delivered as Portable Document Format (PDF) unless otherwise specified.
   2. Approved Commercial-Off-The-Shelf (COTS) Manuals must be delivered with an Identifying TO Publication Sheet (ITPS), IAW MIL-PRF-32216, *Performance Specification: Evaluation Of Commercial Off-The-Shelf (COTS) Manuals And Preparation Of Supplemental Data*. All PDF files of commercial data must be non-password protected to allow the AF to decollate the manual for printing.
   3. If the proposed COTS data is found to be insufficient after review by the Government, the Contractor must prepare supplemental data for the COTS manual as required IAW Military Standard (MIL-STD)-38784. If the COTS data cannot be supplemented sufficiently the Contractor will develop new TM data IAW the applicable TMSS listed in Section 2, Table 1.{/}{#tmcr\_type == “CDA”}
5. Commercial Manuals. The Contractor must propose the use of existing commercial manuals to the maximum extent possible without impairing program support objectives. The Contractor must describe the method used to recommend and submit specific manuals to the AF for review and approval. AF activities will use Military Performance Specifications (MIL-PRF)-32216, *Evaluation of Commercial Off-The-Shelf (COTS) Manuals and Preparation of Supplemental Data*, as a guide for review and acceptance of all recommended commercial manuals and Military Detail Specifications (MIL-DTL)-7700, *Flight Manuals, Air Refueling Procedures, And Abbreviated Checklists*, as an additional guide for commercial Flight Manual contents.
   1. Commercial Manual Ratings for commercial manuals submitted for use by USAF will be evaluated using MIL-PRF-32216 and MIL-DTL-7700 as stated in paragraph 3 of this TMCR. The following are possible ratings, with applicable correction requirements, that will be used:

* **Acceptable**: No correction required. Manual is acceptable as written.
* **Acceptable with Additional Data**: Manual requires additional information to be acceptable. This can be in the form of Supplemental Data Sheets or making necessary changes to the manuals themselves. The method of correction must be determined by the TOMA (see paragraph 1 of this TMCR). DID DI-TMSS-80527D (<https://assist.dla.mil/online/start/>) will be used to develop supplemental data.
* **Unacceptable**: Manuals do not meet the requirements of the TMCR and Supplemental Data Sheets or minor corrections will not correct the problem. The submitted manual must be corrected to meet the requirements called out in this TMCR and re-submitted for re-evaluation.
  1. Unique changes to the core commercial manuals that are not driven by the {program\_mod\_system\_name} modification are anticipated to change/add the following:
* TO Title Page IAW AF directives
* Safety or hazardous situations/conditions:
  + Warnings
  + Cautions
  + Notes
  1. {program\_mod\_system\_name} does not anticipate making any changes to the core commercial manuals that will negatively effect FAA certification. Anything outside of these conditions, would drive a separately funded change.
  2. The intent is to use commercial data to support the {program\_mod\_system\_name}TOs in an S1000D Interactive Electronic Technical Manuals (IETM) format. Before any Military Specifications (MIL-SPEC) manuals are proposed, an evaluation IAW MIL-PRF-32216 must be accomplished.
     1. The Contractor must include recommendations for supplemental data required for each commercial manual in the Contractor Furnished Aeronautical Equipment/Contractor Furnished Equipment (CFAE/CFE) notice or letter of recommendation.
     2. If adequate commercial manuals are not available from one supplier, the Contractor must evaluate alternate sources for the data, or recommend the most cost-effective alternatives to provide long-term maintainability of the equipment acquired.
     3. If the AF disapproves or rejects a commercial manual, the Contractor must prepare supplemental data or new MIL-SPEC manuals as specified in Table 1. If a new manual is required the Contractor will submit a revised CFAE/CFE notice through the PCO.
  3. The Contractor, if commercial data is approved, must merge commercial manual information along with modification data into a single data file.{#new\_revision == “new”}
  4. The AF will assign TO numbers to approved commercial manuals. When multi-manuals are furnished by the Contractor, the AF may assign more than one TO number, e.g., one for the operation manual, one for the maintenance manual and one for the parts identification manual.{/}{#new\_revision == “revision”}
  5. If the new data cannot be merged and a new manual is developed, the AF will assign TO numbers to the approved commercial manuals. When multi-manuals are furnished by the Contractor, the AF may assign more than one TO number, e.g., one for the operation manual, one for the maintenance manual and one for the parts identification manual.{/}
  6. When recommending use of commercial manuals, the Contractor must determine if they have been previously-approved for AF use. Furnish approved commercial manual TO or Technical Manuals (TM) numbers with the manual recommendation when available.{/}{#tmcr\_type != “CDA”}

1. Technical Manual Specifications and Standards (TMSS) Tailoring. AF TMSS tailoring options and some Joint Service TMSS have been documented in preliminary Specification/Standard Interface Records (SIRS) included in Section 3. These preliminary SIRs provide the starting point for further tailoring. Contractors may recommend additional tailoring of the Joint Service TMSS SIRs and provide recommended SIRs for other TMSS as applicable. Tailoring must not change or delete mandatory requirements which are part of the XML schema structure or Document Type Definition (DTD) located in Section 2, Table 1.

**NOTE:** TMSS requirements marked “(F)” are specifically for Air Force use; “(A)” is for Army, “(M)” is Marine Corps and “(N)” is Navy. Comply with all unmarked and “(F)” TMSS requirements as modified by the tailoring options in each TMSS.

* 1. Questions concerning TMSS requirements may be submitted in writing with suggestions for resolution and supporting information to the PCO and {toma\_name}, {toma\_office\_symbol}, {toma\_address}, {toma\_phone}. Deficiencies and suggested improvements may be submitted to the TMSS Preparing Activity (PA). Recommendations, corrections and clarifications approved by the PCO, if any, will be maintained with contract documentation. {#new\_revision != “conversion”}

1. Subsequent TO/Data Requirements. When new TO requirements are identified the Contractor must notify the Government utilizing DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* or approved Contractor formats. This process must require Government review and approval of recommended additional requirements prior to developing additional data. When approved, the Contractor must incorporate the requirements within the Technical Manual Content and Product Plan where applicable.{/}{/} {#tmcr\_type == “CDA”}
2. Commercial Technical Manual (TM) Tailoring. The selected TMs in Table 1 are required for the {program\_mod\_system\_name}. TCTOs will use the most current version of MIL-PRF-38804, Preparation of Time Compliance Technical Orders (TCTOs) or commercial service bulletins as contractually authorized.
   1. Deficiencies, improvements, and questions concerning TM requirements within Table 1 may be resolved by written request and justified recommendations/suggestions for resolution submitted through the PCO and TOMA {toma\_name}, {toma\_office\_symbol}, {toma\_address}, {toma\_phone}. Approved recommendations, corrections, and clarifications will be maintained with contract documentation.
3. Subsequent TO/Data Requirements. When new TO requirements are identified the Contractor must notify the Government utilizing DI-TMSS-80067C, *Technical Manual (TM) Contractor Furnished Aeronautical Equipment or Contractor Furnished Equipment (CFAE/CFE) Notices,* or approved Contractor formats. This process must require Government review and approval of recommended additional requirements prior to developing additional data. When approved, the Contractor must incorporate the requirements within the Technical Manual Content and Product Plan where applicable.
   1. The Contractor must ensure that TO requirements contained herein do not duplicate other tasks or data requirements of the contract.
4. TO Development. Any TOs developed must be written in the same style and format of the existing commercial manuals to support the {program\_mod\_system\_name} operations and maintenance concepts.{/}{#tmcr\_type != “CDA”}
5. TO Development. TOs must be written to a scope and depth of coverage to support the {program\_mod\_system\_name} operations and maintenance concepts.{/}{#tmcr\_type == “S1000D”}
   1. TO data must be developed IAW ASD/AIA S1000D, *International Specification for Technical Publications Utilizing a Common Source Database*, and MIL-STD-3048, *Air Force Business Rules for the Implementation of S1000D*. For S1000D, this includes program tailored functionality requirements and Project Business Rules when implemented. The Government tailored functionality requirements and Business Rule Decision Points for MIL-STD-3048 are included in the SIR found in Section 3 of this document. All delivered graphics must conform to the approved graphic creation and format guidelines listed in Attachment 1, *Graphics Format Guidelines*. If needed, the Contractor must contact the PCO and TOMA to request guidance from the Air Force PA, AFLCMC/GBS, Technical Data Section, 4170 Hebble Creek Rd, Bldg. 280, Door 15, WPAFB OH 45433-5653.{/} {#tmcr\_type == “Linear”}
   2. Standard Generalized Markup Language (SGML) tagged TO files must include required illustration (graphics) files in an approved graphics exchange format. Illustration files developed and delivered for other purposes must be used in lieu of developing special TM illustration files whenever possible. All delivered graphics must conform to the approved graphic creation and format guidelines listed in Attachment 1, *Graphics Format Guidelines*. For assistance with illustration requirements contact AF TMSS via (e-mail: [SGMLSupport@us.af.mil](mailto:SGMLSupport@us.af.mil)).
   3. Page-oriented Military Specification (MIL-SPEC) TOs must be formatted with text, graphics and delivered according to the TMSS specified in Section 2. The Contractor must develop TO files (tagged instances) using SGML according to the DTDs referenced in the appendix to MIL-STD-38784 and each applicable military detail specification (MIL-DTL). Multiple SGML file instances for a single TO document are not authorized.{/} {#tmcr\_type == “CDA”}
   4. The Contractor may propose use of other commercial NGS for development of TOs, but must justify this choice based on life-cycle cost savings to the AF and compatibility with existing systems.
   5. Data and updates for flight manuals, operational checklists, maintenance manuals, and maintenance checklists must be usable by tablet type devices and standard desk-top.
   6. Flight/Maintenance Manuals Operational Supplements will be developed and delivered as replacement change pages unless otherwise mutually agreed upon between the Contractor and Technical Order Management Agency/Flight Manual Manager (TOMA/FMM).
   7. The Contractor must furnish supplemental manuals in the same style and format as the original manual, or as required by specifications cited in Table 2. Supplemental manuals are normally used to segregate classified from unclassified TO data. The Title Page of the supplemental manual must contain the statement, "This manual is incomplete without TO NOXX-XXXX”-XX". Supplemental manuals differ from supplements in that they are assigned a separate TO number and are not incorporated in the referenced manual at a later date.{/}{#new\_revision != “conversion” && !(new\_revision == “revision” && tmcr\_type == “S1000D”)}
6. TO Numbering. Contractors must notify the Government, in writing, of manuals which require TO numbers. TO numbers are not required for manuals to be used exclusively by the Contractor’s own personnel. Requests for new TO numbers must be submitted to the TOMA utilizing the TO numbering worksheet. (Attachment 2, *Request for Technical Order Number*){/}
7. Data Rights. Contractors must comply with 10 U.S.C. 2320 and Defense Federal Acquisition Regulation Supplement (DFARS) provisions and clauses. The Government’s rights in technical data are specified in DFARS 252.227-7013, *Rights in Technical Data-Noncommercial Items*, 252.227-7014, *Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation*, and 252.227-7015, *Technical Data-Commercial Items* and other applicable provisions and clauses from DFARS 227, 252.227, and DFARS 252.227-7018 *Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR)*. {#tmcr\_type != “CDA”}In accordance with those clauses and provisions, the Contractor grants the Government Unlimited Rights, as defined therein, in all source data, TO publications, TO updates, and TO-related documents prepared specifically for the contract. The Contractor also grants the Government Unlimited Rights in all Government-funded business rules (tailoring and application methods and procedures) and documented business processes developed under the contract for the purpose of or for use in TO development. The contractor is required to deliver TO data with the data rights license required by the applicable DFARS clauses. {/}Contractor must identify any data to be delivered to the Government with other than Unlimited Rights IAW DFARS 252.227-7017, *Identification and Assertion of Use, Release, or Disclosure Restrictions* and must mark such data only in accordance with the applicable DFARS clause. {#tmcr\_type != “CDA”}The Contractor must pass through and enforce all requirements in this TMCR to all sub-Contractors.{/}{#tmcr\_type == “CDA”}See data rights clause within the contract.{/}
   1. {#data\_rights == “Unlimited Rights”}The Government shall have unlimited rights in technical data that are data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds; studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance; created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes; form, fit, and function data; necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data); corrections or changes to technical data furnished to the Contractor by the Government; otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party; data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or data furnished to the Government, under this or any other Government contract or subcontract thereunder, with Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.{/}{#data\_rights == “Government Purpose Rights”}The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data that pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause (DFARS 252.227-7013); or created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause (DFARS 252.227-7013). Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data. The Government shall not release or disclose technical data in which it has government purpose rights unless prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at [227.7103-7](https://www.acquisition.gov/dfars/part-227-patents-data-and-copyrights#DFARS_227.7103-7) of the Defense Federal Acquisition Regulation Supplement (DFARS); or the recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS [252.227-7025](https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS_252.227-7025) , Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause (DFARS 252.227-7013).{/}{#data\_rights == “Limited Rights”}Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause (DFARS 252.227-7013), the Government shall have limited rights in technical data pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes. The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed. The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data. The Contractor acknowledges that Limited rights data are authorized to be released or disclosed to covered Government support contractors. The Contractor will be notified of such release or disclosure; the Contractor (or the party asserting restrictions as identified in the limited rights legend) may require each such covered Government support contractor to enter into a non-disclosure agreement directly with the Contractor (or the party asserting restrictions) regarding the covered Government support contractor’s use of such data, or alternatively, that the Contractor (or party asserting restrictions) may waive in writing the requirement for a non-disclosure agreement; and any such non-disclosure agreement shall address the restrictions on the covered Government support contractor's use of the limited rights data as set forth in the clause at [252.227-7025](https://www.acquisition.gov/dfars/part-252-solicitation-provisions-and-contract-clauses#DFARS_252.227-7025) , Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The non-disclosure agreement shall not include any additional terms and conditions unless mutually agreed to by the parties to the non-disclosure agreement.{/}{#data\_rights == “Specifically Negotiated License Rights”}The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause (DFARS 252.227-7013), including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(14) of this clause (DFARS 252.227-7013). Any rights so negotiated shall be identified in a license agreement made part of this contract. {special\_data\_rights}{/}{#data\_rights == “Prior Government Rights”}Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless the parties have agreed otherwise; or any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.{/}{#data\_rights == “Release from Liability”}The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(14) or (b)(2)(iii) of this clause (DFARS 252.227-7013), in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause (DFARS 252.227-7013), or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.{/}{#tmcr\_type != “CDA”}
8. Classification, Distribution, Destruction, Disclosure, Export Control Notices, and Cyber Security. Contractors must {#new\_revision != “conversion”}recommend{/}{#new\_revision == “conversion”}follow{/} the correct markings and controls for classified and restricted distribution data and TOs IAW the program’s Security Classification Guide and Department of Defense Manual (DODM) 5200.01V2 AFMAN 16-1404V2, Department of Defense Instruction (DODI) 5230.24, Department of Defense Directive (DODD) 5230.25, DoDI 5200.48*, Controlled Unclassified Information,* DAFI 61-201, *Management of Scientific and Technical Information* (STINFO), and MIL-STD-38784 (available at <https://www.esd.whs.mil/dd/dod-issuances/>, <http://www.e-publishing.af.mil/> or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR). The Contractor must also apply policy and procedures for *Cybersecurity Program Management* IAW AFI 17-130, AFMAN 17-1301, *Computer Security (COMPUSEC)*

**NOTE:** Distribution limitations will be determined on a case-by-case basis as TOs are developed, dependent upon TO content.{/}{#tmcr\_type == “CDA”}

1. Classification, Distribution, Destruction, Disclosure, Export Control Notices, and Cyber Security. Contractors must recommend the correct markings and controls for classified and restricted distribution data and TOs IAW the {program\_mod\_system\_name} Security Classification Guide and Department of Defense Manual (DODM) 5200.01V2 AFMAN 16-1404V2, Department of Defense Instruction (DODI) 5230.24, Department of Defense Directive (DODD) 5230.25, DoDI 5200.48, *Controller Unclassified Information*, DAFI 61-201, *Management of Scientific and Technical Information (STINFO)*, and MIL-STD-38784 (available at <https://www.esd.whs.mil/dd/dod-issuances/>, <http://www.e-publishing.af.mil/> or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR). The Contractor must also apply policy and procedures for *Cybersecurity Program Management* IAW AFI 17-130, AFMAN 17-1301, *Computer Security (COMPUSEC)* The Contractor must contact the Program Office PCO and TOMA for requests to modifying or developing any new DTDs to support use of NGS, canceled TMSS, or undeveloped TMSS DTDs. If permission is granted, the Contractor must submit any proposed DTDs through the PCO and TOMA to AFLCMC/GBS, WPAFB, OH 45433-5653 for validation of TMSS compatibility with approved electronic TO (eTO) viewing solutions. New DTDs must not be developed in lieu of existing DTDs, including those for legacy TMSS. Rules must be so constructed that TO output complies with the functional requirements of the associated TMSS, and must be documented in a SIR. DTDs and rule sets submitted and approved in execution of the contract must become the property of the AF. Direct questions about the application of SGML tagging to digital TO files to AFLCMC/GBS (email: SGMLSupport@us.af.mil/ or <https://quicksearch.dla.mil/qsSearch.aspx>). The markings and notices must be reviewed during In-Process Reviews (IPR).

**NOTE:** Distribution limitations will be determined on a case-by-case basis as TOs are developed, dependent upon TO content.{/}

1. TO Quality. The Contractor must ensure {#new\_revision != “conversion”}prepared{/}{#new\_revision == “conversion”}converted{/} TOs are: a) technically accurate and safe; b) written to a scope and depth of coverage to support the operations and maintenance concepts; c) properly classified and marked with export control and distribution limitation statements. The Contractor must maintain a Technical Manual Quality Assurance (TMQA) Program Plan for this effort. The TMQA Program Plan must be available for review at the TO Guidance Conference. The TMQA Program Plan must be sufficiently detailed to support TO certification to include actual performance of procedures or desk-top analysis for non-procedural data. Simulation (walk-through/talk-through) should be reserved for those procedures which would activate explosive devices or present a hazard to personnel or equipment. {#jnwps\_eod\_data}

**NOTE:** Quality requirements for the Joint Nuclear Weapons Publications System (JNWPS) and for Non-nuclear Explosive Ordnance Disposal (EOD) Data are contained in TO 11N-1-1 *Joint Nuclear Weapons Publication System Operating Procedures, Specifications and Standards,* and DODD 5160.62, *Single Manager Responsibility for Military Explosive Ordnance Disposal Technology and Training*, respectively. The Government will conduct performance-tests on all JNWPS and EOD TOs. {/jnwps\_eod\_data}{#tmcr\_type == “CDA”}

* 1. Conferences and reviews must be held at locations and times agreed upon by Contractor and TOMA {program\_mod\_system\_name} to control and manage the program and oversee the TO preparation process. The Contractor must minimize holding reviews for individual manuals.
     1. The Contractor must prepare minutes for all TO related meetings. Draft meeting minutes must be available at the conclusion of the meetings or event and must be reviewed and approved by the TOMA or designated individual prior to distribution. Formal meeting minutes must be delivered not later than 10 working days after completion of the meeting or event.{/}
  2. Initial Technical Order Guidance Conference (TOGC). Working through the TOMA, the Contractor must co-host and participate in a guidance conference for this effort. The TOGC will be held within 60 calendar days after contract award. The Technical Manual Schedule and Status will be formalized at this conference. The Contractor must present a briefing on their interpretation of the basic contract, SOW/Performance Work Statement, CDRLs, Data Item Descriptions (DIDs), MIL-SPEC, MIL-DTL, MIL-STD, SIRs, this document and the planned preparation and delivery of the TOs and related data. {#tmcr\_type == “S1000D”}The Contractor must also provide their S1000D Technical Manual Content and Product Plan for review and approval.{/}
  3. In-Process Reviews. The Contractor must participate and co-chair In-Process Reviews (IPR) of the data {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} for this effort{#tmcr\_type != “CDA”} IAW the TOMA-provided IPR checklists{/}. In-Process Reviews are to ensure that data being {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} as part of this effort is adequate and accurate and IAW contract requirements and cited specifications. The Contractor must ensure that all appropriate personnel required to execute a successful TO program will either attend or participate in the IPR. IPRs will be held IAW with TO 00-5-3 or as defined by the program office. During the IPRs the Contractor will be responsible to maintain a master markup or documented list of approved changes for the content being reviewed. {#tmcr\_type != “CDA”}The Contractor must develop meeting minutes after each review documenting all approved changes and concurrent agreements for Government review and approval. This{/}{#tmcr\_type == “CDA”} The Contractor must provide advance copies 30 Days prior to the IPR. The{/} master markup or documented list of approved changes will be made available at the next scheduled review. A copy of the markup will be provided to the TOMA or designated individual at the conclusion of the review. The Contractor must ensure all comments from previous IPRs have been incorporated prior to the next scheduled IPR. With prior approval of the TOMA, IPRs may be combined.
  4. TO Delivery Requirements for In-Process Reviews. IPR TO data must be technically edited and reviewed according to the TMQA Program Plan. Manuscript (handwritten) data is not acceptable for any data to be reviewed. The TMQA Program Plan checklists must be available for review by the Government during the IPRs. {#tmcr\_type == “S1000D”}IPRs subsequent to the initial review may be accomplished using the approved IETM viewing presentation system and as specified within the Government provided IPR checklist. {/}Delivery requirements are contained in Section 2 of the TMCR.
  5. TO Certification. The Contractor must certify that new {#tmcr\_type == “CDA”}or modified {/}TO procedures and data {#new\_revision != “conversion”}developed{/}{#new\_revision == “conversion”}converted{/} to support the program are safe, accurate, adequate, current, and usable for their intended purpose. The Government may witness the certification activities. The Contractor must incorporate comments generated by the certification process into the TOs prior to submitting the TOs for verification. At the completion of the certification, the Contractor must submit a letter to the TOMA through the Government PCO and PM stating that certification has been completed, the certification method used, and that any deficiencies identified during the process have been corrected. The Contractor will ensure all necessary changes and corrections to affected manuals are accomplished in time to meet contract delivery schedule requirements. The Contractor must notify the Government, as identified in the contract, at least 180 days prior to the need date, of any Government Furnished Property (GFP), Government Furnished Information (GFI), and/or Government Furnished Equipment (GFE) as required, to perform certification tasks. Technical Order 00-5-1 and 00-5-3 must be referenced for additional information on TO certification requirements.
     1. The Contractor must propose opportunities to perform TO certification activities in conjunction with Government verification IAW TO 00-5-3, where applicable.
  6. Verification Support. The Contractor must support Government verification activities as required by the TOMA and the program Technical Order Life Cycle Verification Plan (TOLCVP). Contractor verification support will consist of on station technical writing and engineering support. The Contractor must maintain a master mark-up of the TM or list of approved changes and record meeting-minute items during the Government verification process. The Contractor must also support all post verification reviews and ensure availability until 100% task verification is attained by the Government.{#tmcr\_type == “S1000D”}
     1. Verification of IETMs requires unique processes and procedures to verify the content. Verification results can be incorporated using traditional pre-publication review methods or updated in real-time during the verification. The Contractor must provide technical support and common source database maintenance personnel required for changes resulting from verification.{/}
  7. TO Prepublication Reviews (PPR). PPRs are examinations of TOs that ensure incorporation of agreed upon changes from previous reviews and verification activities. The Contractor must prepare and deliver copies of TOs and TO updates in contract compliance {#tmcr\_type == “Linear”}(MIL-SPEC or as otherwise identified) {/}for the PPR as shown in the delivery matrix. The TOs for PPR must be approved by the Contractor’s QA, be in compliance with the contract specification/DTLs/STDs, and incorporate all verification comments and corrections approved by the TOMA or program management office representative.{#tmcr\_type != “CDA”}
  8. Technical Data Assessment (TDA). The Contractor must submit in-work samples of each specified TM type deliverable to the Government for specification and standardization compliance review. TDAs may be accomplished by using organic TO sustainment environments with the assistance of AFLCMC/GBS (AF TMSS Office, SGMLSUPPORT@us.af.mil). {#tmcr\_type == “S1000D”}
     1. S1000D (XML) Data Files. The Contractor must submit S1000D XML tagged DMs, all layered BREX and all referenced graphics for assessment. During assessment, these DMs will be evaluated against the TMSS S1000D Validation Tool to parse/validate each DM to confirm all submitted DMs are S1000D compliant.{/}{#tmcr\_type == “Linear”}
     2. MIL-SPEC (SGML) TO Data. The Contractor must submit an SGML tagged TO file, associated graphics files, a PDF rendition of the SGML tagged TO file composed by the Contractor and any associated companion files necessary for PDF composition. During assessment, the SGML tagged TO file will be parsed against the appropriate TMSS DTD (and optionally run through the Tagging Utilization Tool (TUT)) to determine DTD compliance and correct tag usage. The SGML tagged TO file and associated graphics will be composed by the program office and the rendered PDF will be compared with the submitted PDF to check for completeness, indexing, and MIL-SPEC/DTL/STD compliant formatting.{/}
     3. Error Resolution. The Contractor must correct any errors found during the TDA prior to each IPR. Additional TDAs may be necessary based on the amount of errors found during the initial TDA. Completion of a TDA in no way relieves the Contractor from the requirement to fix errors found during future reviews.{/}

1. TO Delivery. TO file delivery requirements are located in Section 2, Table 3{#tmcr\_type == “S1000D”} and Table 4{/} of this document. {#tmcr\_type == “S1000D”}
   1. S1000D Source Files. The Contractor must parse and deliver everything necessary to properly generate and view the data in the approved IETM viewer or produce the desired presentation to the user. This includes all DMs, database files, BREX, XSL, cascading style sheets (CSS), conversion scripts (such as Java or Perl), graphics, XML, viewer software, referenced HTML/PDF files, native source data files, process and training documentation, etc.{/} {#tmcr\_type == “Linear”}
   2. MIL-SPEC (SGML) Tagged Files. The Contractor must parse all SGML files required for the TOs prior to Government delivery and must verify the SGML is compliant with the appropriate DTD.

**NOTE:** The Government will parse the files prior to acceptance using the SGML parser agreed upon prior to submission. Additional resources can be obtained via AFMC AFLCMC/LZP by submitting a request to [AFLCMC.PDSS.TOAPVIPR@us.af.mil](mailto:AFLCMC.PDSS.TOAPVIPR@us.af.mil). {/}{#tmcr\_type == “CDA”}

* 1. The Contractor must propose practices and procedures for secure access to or delivery of digital (electronic) TO files, including those for Preliminary Technical Order (PTO), source data, reproduction masters, and program support data. Practices and procedures must be compatible with the program’s Integrated Digital Environment (IDE). TO file delivery formats must be according to the tailored TM Delivery Requirements Matrices included in Section 2 of this document. Paper TO delivery is not acceptable for final delivery of TOs. All manual types identified in Section 2, Table 1 will be delivered IAW the requirements and guidance outlined within this document.
  2. When accepted after review by AF using MIL-PRF-32216, the Contractor must digitally integrate COTS manuals and military content. This file will be presented and distributed as a single file. If commercial manual is not acceptable a manual must be prepared IAW with Table 1.
  3. IETM data base delivery must be according to the business rules documented in MIL-STD-3048. The IETM must be capatable for delivery with ETIMS for large file distribution.

**NOTE:** Contractors will protect GFI provided for the purposes of TO development IAW DFARS 252.204-7000 *Disclosure of Information* and DFARS 252.227-7025, *Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends.*

1. TO and Source Data Maintenance. The Contractor must propose methods for maintaining accuracy, currency, and configuration of TOs, to include GFI and source data throughout the contract period of performance. Maintenance includes preparation of TO and source data updates to incorporate corrections; equipment configuration changes; and maintenance and operational concept changes.
   1. The Contractor must provide the Government a Configuration Control Management Plan. The Contractor will provide a minimum of annual updates frequently throughout the life of the contract as directed in writing from the PCO. Maintenance includes preparation of source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes. Additionally, the Contractor must ensure the accuracy, currency, and configuration of applicable data provided by their sub-Contractors as it effects the technical baseline.
   2. The Contractor must incorporate all TO Publication Change Requests (PCR), service bulletins, changes, and revisions resulting from the regularly planned commercial revision programs applicable as required. The Contractor must establish and maintain Original Equipment Manufacturer (OEM) agreements for access to the commercial source data, including aircraft technical manual revision service, proprietary data, Wire Information and Release System (WIRS), and commercial Illustrated Parts Catalog (IPC) changes as necessary to accomplish the requirements in this contract. The Contractor must incorporate commercial Federal Aviation Administration (FAA) approved aircraft manual changes into TOs as required. The Contractor must ensure all agreements with OEM are in place at the time of contract award. The Contractor must prepare and deliver TO changes in the style and format of existing manuals.
   3. The Contractor must deliver electronic copies of commercial TO updates per the requirements in TO 00-5-3, Chapter 3.11 and Table 4-1 to the offices identified in this document. The Contractor must recommend the category of the recommended change to {program\_mod\_system\_name}. The Contractor must incorporate Government furnished supplements into the file.
   4. The Contractor must deliver the TOs in electronic copy per FMM direction. The Contractor must deliver copies of the OEM’s flight manual change in the form of operations manual bulletins and revisions to the offices identified by the FMM for review and approval. Approval or disapproval will be returned to the Contractor within ten (10) working days. Supplements must not be incorporated in the flight manual TOs unless specifically directed by the FMM.
   5. The Contractor must track and incorporate service bulletin literature Wiring Diagram Manual (WDM) changes for all affected WDM TOs and update the WIRS database for all AF approved service literature. The Contractor must submit commercial PCRs to the OEM for service literature changes to the maintenance manuals and track service literature incorporation for all affected maintenance manuals. The Contractor must maintain and deliver a {program\_mod\_system\_name} approved Service Bulletin and Airworthiness Directive Status Report.
   6. The Contractor must include updated checklist and work card changes simultaneously with TO changes, as required.
   7. Contractors must maintain TOs by preparing emergency, urgent, routine changes/revisions or supplements and source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes IAW TO 00-5-3. The Contractor must assist the Government, where applicable, by incorporating and delivering approved changes to the technical data in the field NLT the specified time limits within TO 00-5-3 for Urgent, Work Stoppage, or Emergency changes originating from an approved Recommended Change (RC) process and/or Publication Change Request (PCR) in the Enhanced Technical Information Management System (ETIMS). In the event of non-ETIMS access, AFTO FORM 22, 252 policy or other approved change request forms processes will be adhered to (IAW TO 00-5-3). The specified time limits upon receipt of specified change requests is 40 calendar days for urgent changes/revisions, 72 hours for work stoppage changes/revisions, and 48 hours for emergency changes/revisions.

**NOTE:** AF policy requires delivery of verified TOs prior to or concurrently with delivery of operational equipment to the field (DAFI 63-101/20-101, *Integrated Life Cycle Management*). This policy will determine TO development and delivery schedules throughout the acquisition phase of a program.{/}{#tmcr\_type != “CDA”}

1. Source Data Maintenance. Contractors must maintain accuracy, currency and configuration of TO source data, to include GFI, throughout the contract period of performance. The Contractor must provide the Government a Configuration Control Management Plan. The Contractor will provide a minimum of annual updates frequently throughout the life of the contract as directed in writing from the PCO. Maintenance includes preparation of source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes. Additionally, the Contractor must ensure the accuracy, currency, and configuration of applicable data provided by their sub-Contractors as it effects the technical baseline.

**NOTE:** Contractors will protect GFI provided for the purposes of TO {#new\_revision != “conversion”}development{/}{#new\_revision== “conversion”}conversion{/} IAW DFARS 252.204-7000 *Disclosure of Information* and DFARS 252.227-7025, *Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends.*{/}{#ctr\_maintained\_conversion\_tos || tmcr\_type != “CDA”}

1. TO Maintenance. Contractors must maintain TOs by preparing emergency, urgent, routine changes/revisions or supplements and source data updates to incorporate corrections, equipment configuration changes, and maintenance and operational concept changes IAW TO 00-5-3. The Contractor must assist the Government, where applicable, by incorporating and delivering approved changes to the technical data in the field NLT the specified time limits within TO 00-5-3 for Urgent, Work Stoppage, or Emergency changes originating from an approved Recommended Change (RC) process and/or Publication Change Request (PCR) in the Enhanced Technical Information Management System (ETIMS). In the event of non-ETIMS access, AFTO FORM 22, 252 policy or other approved change request forms processes will be adhered to (IAW TO 00-5-1). The specified time limits upon receipt of specified change requests is 40 calendar days for urgent changes/revisions, 72 hours for work stoppage changes/revisions, and 48 hours for emergency changes/revisions.{/}
2. Schedules. The Contractor must develop and maintain an Integrated Technical Manual Schedule and Status throughout the period of performance for all TO {#new\_revision != “conversion”}development{/}{#new\_revision == “conversion”}conversion{/} activities associated with this order for the life of the contract. The schedule must be to the system/book or TCTO{#tmcr\_type == “CDA”}/Service bulletin{/} level and cover all major milestones of development. Any changes to the Integrated Technical Manual Schedule and Status after the TO Guidance Conference must be coordinated with and approved by program TOMA and PCO. {#ctr\_maintained\_conversion\_tos || tmcr\_type == “Linear” || ( tmcr\_type == “S1000D” && new\_revision != “conversion” )}
3. Time Compliance Technical Orders (TCTOs). The Contractor must prepare TCTOs, ITCTOs and resulting TO updates as required in support of {program\_mod\_system\_name} IAW TO 00-5-15 and MIL-DTL-38804 content requirements. TCTOs will be used to document all permanent modifications, initiate special “one time” inspections, or impose temporary restrictions on systems or equipment within specified time limits effecting {program\_mod\_system\_name}. Costs for TCTO package development must be IAW with DAFI 65-601Vol.1.
   1. The Contractor must deliver Immediate Action TCTO drafts with comments incorporated within 24 hours of receipt of comments.
   2. The Contractor must deliver Urgent Action TCTO final drafts with “final” customer comments incorporated, within 48 hours of receipt of comments.
   3. The Contractor must deliver routine safety TCTO final drafts with “final” customer comments incorporated, within 5 working days of receipt of comments.
   4. The Contractor must deliver routine TCTO final drafts with “final” customer comments incorporated, within 5 working days of receipt of comments.{/}{#tmcr\_type == “CDA”}
4. Time Compliance Technical Orders (TCTOs)/Servive Bulletin (SB). The Contractor must prepare TCTOs, ITCTOs, and Service Bulletins (SB) resulting in TO updates as required in support of {program\_mod\_system\_name} IAW TO 00-5-15 content requirements. TCTOs/SB’s will be used to document all permanent modifications, initiate special “one time” inspections, or impose temporary restrictions on systems or equipment within specified time limits effecting {program\_mod\_system\_name}. Costs for TCTO package development must be IAW with DAFI 65-601Vol.1.
   1. The Contractor must deliver certified drafts of Immediate Action TCTO/SB, to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver drafts with comments incorporated, in order to meet the delivery requirement within 24 hours of receipt of comments.
   2. The Contractor must deliver initial certified drafts of Urgent Action TCTO/SB, to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 48 hours of receipt of comments.
   3. The Contractor must deliver initial certified drafts of routine safety TCTO/SB to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 5 working days of receipt of comments.
   4. The Contractor must deliver certified drafts of routine TCTO/SB to meet program office plans to satisfy requirements outlined in TO 00-5-15. The Contractor must deliver final drafts with “final” customer comments incorporated, in order to meet the delivery requirement within 5 working days of receipt of comments.{/} {#tmcr\_type == “S1000D”}
5. Information Technology (IT) Requirements. The Contractor must develop IETM requirements utilizing the designated Air Force TO System infrastructure. The Contractor, thru the TOMA and program management office, must acquire the appropriate licenses and network access permissions for operation on the AF approved technical order authoring and publishing solution. (IAW TO 00-5-3, para. 3.25){/}

**Section 2. TM Type and Delivery Requirements**

**Technical Manual Type Selection Tables.**

| **Table 1**  **TMSS Requirements for the {program\_mod\_system\_name} Program** | | | | |
| --- | --- | --- | --- | --- |
| **Title or Type of Manuals** | **Specification** | | **Required** | |
| 1. {#tmss\_1\_a || tmss\_1\_b || tmss\_1\_c}Inspection TOs | MIL-DTL-5096 | | {/} | |
| * 1. {#tmss\_1\_a}Inspection and Maintenance Requirements (-6) Manual |  | | ☒{/tmss\_1\_a} | |
| * 1. {#tmss\_1\_b}Inspection Workcards (-6WC) |  | | ☒{/tmss\_1\_b} | |
| * 1. {#tmss\_1\_c}Maintenance/Operations Checklists |  | | ☒{/tmss\_1\_c} | |
| 1. {#tmss\_2\_a || tmss\_2\_b || tmss\_2\_c}Cargo Aircraft Loading and Offloading TOs | MIL-DTL-5288 | | {/} | |
| * 1. {#tmss\_2\_a}Loading Instructions Manual |  | | ☒{/tmss\_2\_a} | |
| * 1. {#tmss\_2\_b}Nuclear Weapon Cargo Loading Manual |  | | ☒{/tmss\_2\_b} | |
| * 1. {#tmss\_2\_c}Checklists |  | | ☒{/tmss\_2\_c} | |
| 1. {#tmss\_3\_a\_1 || tmss\_3\_a\_2 || tmss\_3\_a\_3 || tmss\_3\_a\_4 || tmss\_3\_a\_5 || tmss\_3\_a\_6 || tmss\_3\_a\_7 || tmss\_3\_a\_8 || tmss\_3\_a\_9 || tmss\_3\_a\_10 || tmss\_3\_a\_11 || tmss\_3\_a\_12 || tmss\_3\_a\_13 || tmss\_3\_a\_14 || tmss\_3\_a\_15 || tmss\_3\_a\_16 || tmss\_3\_b\_1 || tmss\_3\_b\_2 || tmss\_3\_b\_3}Flight Operation Manuals | MIL-DTL-7700 | | {/} | |
| {#tmss\_3\_a\_1 || tmss\_3\_a\_2 || tmss\_3\_a\_3 || tmss\_3\_a\_4 || tmss\_3\_a\_5 || tmss\_3\_a\_6 || tmss\_3\_a\_7 || tmss\_3\_a\_8 || tmss\_3\_a\_9 || tmss\_3\_a\_10 || tmss\_3\_a\_11 || tmss\_3\_a\_12 || tmss\_3\_a\_13 || tmss\_3\_a\_14 || tmss\_3\_a\_15 || tmss\_3\_a\_16} Flight Manuals |  | | {/} | |
| * 1. {#tmss\_3\_a\_1}Flight Manual |  | | ☒{/tmss\_3\_a\_1} | |
| * 1. {#tmss\_3\_a\_2}Performance Data Manual |  | | ☒{/tmss\_3\_a\_2} | |
| * 1. {#tmss\_3\_a\_3}Mission Crew Manual and Associated Checklists |  | | ☒{/tmss\_3\_a\_3} | |
| * 1. {#tmss\_3\_a\_4}Fanfold Checklists |  | | ☒{/tmss\_3\_a\_4} | |
| * 1. {#tmss\_3\_a\_5}Supplemental Manual |  | | ☒{/tmss\_3\_a\_5} | |
| * 1. {#tmss\_3\_a\_6}Abbreviated Flight Crew Checklist |  | | ☒{/tmss\_3\_a\_6} | |
| * 1. {#tmss\_3\_a\_7}Non-nuclear Weapon Delivery Manual |  | | ☒{/tmss\_3\_a\_7} | |
| * 1. {#tmss\_3\_a\_8}Aircrew Nuclear Bomb Delivery Manual (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_8} | |
| * 1. {#tmss\_3\_a\_9}Aircrew Nuclear Missile Delivery Manual (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_9} | |
| * 1. {#tmss\_3\_a\_10}Aircrew Nuclear Bomb Delivery Manual (Tactical Aircraft) |  | | ☒{/tmss\_3\_a\_10} | |
| * 1. {#tmss\_3\_a\_11}Non-nuclear Weapon Delivery Checklist |  | | ☒{/tmss\_3\_a\_11} | |
| * 1. {#tmss\_3\_a\_12}Nuclear Weapon Delivery Checklist (Strategic Bomber Aircraft) |  | | ☒{/tmss\_3\_a\_12} | |
| * 1. {#tmss\_3\_a\_13}Aircrew Nuclear Bomb Delivery Checklist (Tactical Aircraft) |  | | ☒{/tmss\_3\_a\_13} | |
| * 1. {#tmss\_3\_a\_14}Non-nuclear Weapon Delivery Source Data Packages |  | | ☒{/tmss\_3\_a\_14} | |
| * 1. {#tmss\_3\_a\_15}Acceptance and Functional Check Flight (FCF) Procedures (-6CF) Manual |  | | ☒{/tmss\_3\_a\_15} | |
| * 1. {#tmss\_3\_a\_16}Acceptance and Functional Check Flight (-6CL) Checklist |  | | ☒{/tmss\_3\_a\_16} | |
| {#tmss\_3\_b\_1 || tmss\_3\_b\_2 || tmss\_3\_b\_3} Weight and Balance (Aircraft) |  | | {/} | |
| 1. {#tmss\_3\_b\_1}Loading Data Manual |  | | ☒{/tmss\_3\_b\_1} | |
| 1. {#tmss\_3\_b\_2}Sample Basic Weight Checklists |  | | ☒{/tmss\_3\_b\_2} | |
| 1. {#tmss\_3\_b\_3}Combined Sample Basic Weight Checklists and Loading Data Manual |  | | ☒{/tmss\_3\_b\_3} | |
| 1. {#tmss\_4\_a}List of Applicable Publications | MIL-DTL-8031 | | ☒{/tmss\_4\_a} | |
| 1. {#tmss\_5\_a}Structural Repair Manuals (for Aircraft) | MIL-DTL-9854 | | ☒{/tmss\_5\_a} | |
| 1. {#tmss\_7\_a || tmss\_7\_b || tmss\_7\_c || tmss\_7\_d || tmss\_7\_e || tmss\_7\_f || tmss\_7\_g || tmss\_7\_h || tmss\_7\_i || tmss\_7\_j || tmss\_7\_k || tmss\_7\_l || tmss\_7\_m || tmss\_7\_n || tmss\_7\_o || tmss\_7\_p}Munitions/Weapons Loading Procedures, Non- nuclear and Nuclear TOs | MIL-DTL-9977 | |  | |
| * 1. {#tmss\_7\_a}Nuclear Weapons Basic Information and Loading Procedures |  | | ☒{/tmss\_7\_a} | |
| * 1. {#tmss\_7\_b}Nuclear Weapons Loading Procedures |  | | ☒{/tmss\_7\_b} | |
| * 1. {#tmss\_7\_c}Non-nuclear Munitions Basic Information |  | | ☒{/tmss\_7\_c} | |
| * 1. {#tmss\_7\_d}Non-nuclear Loading Procedures |  | | ☒{/tmss\_7\_d} | |
| * 1. {#tmss\_7\_e}Integrated Combat Turnaround Procedures Manual |  | | ☒{/tmss\_7\_e} | |
| * 1. {#tmss\_7\_f}Non-nuclear Munitions Loading Standard Data Packages (SDPs) |  | | ☒{/tmss\_7\_f} | |
| * 1. {#tmss\_7\_g}Loading Procedures Checklist | |  | | ☒{/tmss\_7\_g} |
| * 1. {#tmss\_7\_h}Single Loading Procedures Checklist | |  | | ☒{/tmss\_7\_h} |
| * 1. {#tmss\_7\_i}Integrated Loading Procedures Checklists |  | | ☒{/tmss\_7\_i} | |
| * 1. {#tmss\_7\_j}Family Group Loading Procedures Checklist |  | | ☒{/tmss\_7\_j} | |
| * 1. {#tmss\_7\_k}Nuclear Weapons Loading Procedure Checklists |  | | ☒{/tmss\_7\_k} | |
| * 1. {#tmss\_7\_l}Functional Check Procedures Checklist |  | | ☒{/tmss\_7\_l} | |
| * 1. {#tmss\_7\_m}Integrated Combat Turnaround Procedures Checklist |  | | ☒{/tmss\_7\_m} | |
| * 1. {#tmss\_7\_n}NATO Stage B Cross-Servicing Checklists |  | | ☒{/tmss\_7\_n} | |
| * 1. {#tmss\_7\_o}End of Runway (EOR) Procedures Checklist |  | | ☒{/tmss\_7\_o} | |
| * 1. {#tmss\_7\_p}Smart Weapons Load Checklist |  | | ☒{/tmss\_7\_p}{/} | |
| 1. {#tmss\_8\_a}Space Operations and Support Documentation (Intercontinental Ballistic Missiles) | MIL-PRF-38311 | | ☒{/tmss\_8\_a} | |
| 1. {#tmss\_10\_a || tmss\_10\_b || tmss\_10\_c}Work Unit Code Manual | MIL-DTL-38769 | |  | |
| * 1. {#tmss\_10\_a}Standard WUC Manual |  | | ☒{/tmss\_10\_a} | |
| * 1. {#tmss\_10\_b}Two Chapter Manual |  | | ☒{/tmss\_10\_b} | |
| * 1. {#tmss\_10\_c}Three Chapter Manual |  | | ☒{/tmss\_10\_c}{/} | |
| 1. {#tmss\_11\_a}Calibration Procedures | MIL-PRF-38793 | | ☒{/tmss\_11\_a} | |
| 1. {#tmss\_12\_a || tmss\_12\_b}Time Compliance Technical Orders (TCTOs) | MIL-DTL-38804 | |  | |
| * 1. {#tmss\_12\_a}TCTO |  | | ☒{/tmss\_12\_a} | |
| * 1. {#tmss\_12\_b}TCTO Supplement |  | | ☒{/tmss\_12\_b}{/} | |
| 1. {#tmss\_13\_a}Aircraft Battle Damage Assessment and Repair TOs | MIL-DTL-87158 | | ☒{/tmss\_13\_a} | |
| 1. {#tmss\_14\_a}Illustrated Parts Breakdown | MIL-DTL-38807 | | ☒{/tmss\_14\_a} | |
| 1. {#tmss\_15\_a || tmss\_15\_b || tmss\_15\_c || tmss\_15\_d || tmss\_15\_e || tmss\_15\_f || tmss\_15\_g || tmss\_15\_h}On-Equipment Organizational Maintenance Manual Set | MIL-DTL-83495 | |  | |
| * 1. {#tmss\_15\_a}General Equipment (GE) Manual |  | | ☒{/tmss\_15\_a} | | |
| * 1. {#tmss\_15\_b}General System (GS) Manuals |  | | ☒{/tmss\_15\_b} | | |
| * 1. {#tmss\_15\_c}Combined GE & GS Manual |  | | ☒{/tmss\_15\_c} | | |
| * 1. {#tmss\_15\_d}Job Guide (JG) Manuals |  | | ☒{/tmss\_15\_d} | |
| * 1. {#tmss\_15\_e}Fault Reporting (FR) Manual |  | | ☒{/tmss\_15\_e} | |
| * 1. {#tmss\_15\_f}Fault Isolation (FI) Manual |  | | ☒{/tmss\_15\_f} | |
| * 1. {#tmss\_15\_g}Wiring Data (WD) Manual |  | | ☒{/tmss\_15\_g} | |
| * 1. {#tmss\_15\_h}Schematic Diagram (SD) Manual |  | | ☒{/tmss\_15\_h}{/} | |
| 1. {#tmss\_16\_a\_1 || tmss\_16\_a\_2 || tmss\_16\_a\_3 || tmss\_16\_a\_4 || tmss\_16\_a\_5 || tmss\_16\_b || tmss\_16\_c\_1 || tmss\_16\_c\_2 || tmss\_16\_c\_3 || tmss\_16\_c\_4 || tmss\_16\_c\_5 || tmss\_16\_c\_6 || tmss\_16\_c\_7 || tmss\_16\_c\_8 || tmss\_16\_c\_9 || tmss\_16\_c\_10 || tmss\_16\_c\_11 || tmss\_16\_d}Operation and Maintenance Instructions in Work Package Format | MIL-DTL-87929 | |  | |
| * 1. {#tmss\_16\_a\_1 || tmss\_16\_a\_2 || tmss\_16\_a\_3 || tmss\_16\_a\_4 || tmss\_16\_a\_5}Maintenance Manuals |  | |  | |
| * + 1. {#tmss\_16\_a\_1}Organizational Maintenance |  | | ☒{/tmss\_16\_a\_1} | |
| * + 1. {#tmss\_16\_a\_2}Intermediate Maintenance |  | | ☒{/tmss\_16\_a\_2} | |
| * + 1. {#tmss\_16\_a\_3}Depot Maintenance |  | | ☒{/tmss\_16\_a\_3} | |
| * + 1. {#tmss\_16\_a\_4}Combined (I&D) Maintenance |  | | ☒{/tmss\_16\_a\_4} | |
| * + 1. {#tmss\_16\_a\_5}On Condition Maintenance |  | | ☒{/tmss\_16\_a\_5}{/} | |
| * 1. {#tmss\_16\_b}Operation & Maintenance Instruction Manuals |  | | ☒{/tmss\_16\_b} | |
| * 1. {#tmss\_16\_c\_1 || tmss\_16\_c\_2 || tmss\_16\_c\_3 || tmss\_16\_c\_4 || tmss\_16\_c\_5 || tmss\_16\_c\_6 || tmss\_16\_c\_7 || tmss\_16\_c\_8 || tmss\_16\_c\_9 || tmss\_16\_c\_10 || tmss\_16\_c\_11}Special Manuals |  | |  | |
| * + 1. {#tmss\_16\_c\_1}Aircraft Engine Testing and Trending Procedures |  | | ☒{/tmss\_16\_c\_1} | |
| * + 1. {#tmss\_16\_c\_2}Aircraft Power Package Testing Procedures |  | | ☒{/tmss\_16\_c\_2} | |
| * + 1. {#tmss\_16\_c\_3}Static Firing of Missile Motors |  | | ☒{/tmss\_16\_c\_3} | |
| * + 1. {#tmss\_16\_c\_4}System Peculiar Corrosion Control |  | | ☒{/tmss\_16\_c\_4} | |
| * + 1. {#tmss\_16\_c\_5}Nondestructive Inspection (NDI) |  | | ☒{/tmss\_16\_c\_5} | |
| * + 1. {#tmss\_16\_c\_6}Aircraft Structural Integrity Program (ASIP) |  | | ☒{/tmss\_16\_c\_6} | |
| * + 1. {#tmss\_16\_c\_7}ATE Operator Test Procedures |  | | ☒{/tmss\_16\_c\_7} | |
| * + 1. {#tmss\_16\_c\_8}Special Requirements for Storage and Maintenance Procedures; AUR Munitions/Launchers and Associated Support Equipment, Conventional Components and CMBR Agents |  | | ☒{/tmss\_16\_c\_8} | |
| * + 1. {#tmss\_16\_c\_9}Parachute Packing Procedures |  | | ☒{/tmss\_16\_c\_9} | |
| * + 1. {#tmss\_16\_c\_10}Operators Instructions (Hand‑Held Flight Computers) |  | | ☒{/tmss\_16\_c\_10} | |
| * + 1. {#tmss\_16\_c\_11}Installation‑Engineering Facility (Ground C-E Equipment) |  | | ☒{/tmss\_16\_c\_11}{/} | |
| * 1. {#tmss\_16\_d}Checklists (IAW MIL-DTL-5096) |  | | ☒{/tmss\_16\_d} | |
| * 1. {#tmss\_16\_e}With Illustrated Parts Breakdown |  | | ☒{/tmss\_16\_e}{/} | |
| 1. {#tmss\_17\_a}Aircraft Cross-servicing Guide | MIL-DTL-22202 | | ☒{/tmss\_17\_a} | |
| 1. {#tmss\_18\_a}Commercial Manuals (Evaluate according to MIL-PRF-32216) |  | | ☒{/tmss\_18\_a} | |
| 1. {#tmss\_19\_a}IETM |  | | ☒{/tmss\_19\_a} | |

**Table 2**

**Sustainment/Modification Updates TM Type Selections**

**NOTES:**

* Check all applicable boxes.
* For existing manuals not being updated to latest specification requirements, enter “Same style and format” under the specification heading.

| **TO Number, Title, or  Type of Manual** | **Specification** | **Change** | **Revision** | **Supple­ment** | **Supple­mental TM** | **Source Data** |
| --- | --- | --- | --- | --- | --- | --- |
| {#false} | Empty row for formatting |  |  |  |  | {/} |
| 1. {#table2}{title} | {specification} | {#change}{/change}{^change}¨{/change} | {#revision}{/revision}{^revision}¨{/revision} | {#supplement}{/supplement}{^supplement}¨{/supplement} | {#supplementaltm}{/supplementaltm}{^supplementaltm}¨{/supplementaltm} | {#sourcedata}{/sourcedata}{^sourcedata}¨{/sourcedata}{/table2} |

{#tmcr\_type == “S1000D”}

**Table 3**

**IETM Functionality Requirements**

**Specification/Standard Interface Record for MIL-STD-3048C (15 May 2023)**

**Air Force Business Rules for the Implementation of S1000D**

**PART I: B-1 Mandatory Functionality Requirements**

|  |  |  |
| --- | --- | --- |
| **Selection** | **Functionality Category** | **Requirements** |
|  | Annotations | Global data annotations  The IETM shall have the capability to enter, store, and display globally applicable supplemental data. Globally means it applies at the Air Force level and can be seen by all users of the IETM, whether it's an Air Force Instruction, policy memo, urgent change, or supplemental data to the IETM. |
|  | Annotations | Local data annotations  The IETM shall have the capability to enter, store, and display locally applicable supplemental data.  Local can mean either wing level, base level, MAJCOM level or any similar level and can be seen by the applicable users of the IETM at the specified level, whether it's a local instruction or policy. |
|  | Delivery and Distribution | Network delivery/distribution  Technical data shall be delivered/distributed via network such as Internet, Intranet, or LAN and shall use approved transfer protocols (FTP, HTTPS). |
|  | Graphics Functionality | Pan and zoom  At a minimum, the IETM shall provide users the capability to pan and zoom graphics. Other graphic manipulation capabilities, such as rotating or magnifying glass view, may be included. |
|  | Linking | Hot spotting  Graphics shall contain hot spots/embedded links to related information as needed. The most common  example are parts illustrations where the callouts are linked to the appropriate parts listing. |
|  | Linking | Internal and external links  All references, both internal to the document/data module and external to other documents/data modules,  shall be hyperlinked and take the user to the referenced material when clicked. |
|  | Navigation and Tracking | Filter content per applicability  The IETM shall filter the content displayed to the user based on applicability criteria given by the user. For example, the user specifies the tail number of the aircraft and only information relevant to that particular aircraft is shown. Filtering criteria are displayed in the "Additional Comments" field. At a  minimum, both tail number and TCTO (pre and post) filtering options shall be provided. |
|  | Navigation and Tracking | Next and previous  The IETM shall include "Next" and "Previous" navigation functions. These functions shall act in an  equivalent manner to the "Forward" and "Back" arrows of web browsers. |
|  | Navigation and Tracking | Restore initial navigation view  The IETM shall provide users the capability to restore the IETM interface to a default view. Frames and  other parts of the IETM interface that have been resized, moved, or hidden will be reset to the IETM's default setting. |
|  | Navigation and Tracking | Search  The IETM shall provide users the capability to search the technical content for specific characters, words,  or phrases. Users shall be able to specify whether whole or partial matches should be returned and whether to search a single data module, a range of data modules, or the entire IETM. |
|  | Navigation and Tracking | Simultaneous display of multiple content objects  The IETM shall provide the users the capability to display technical content text and any tables or graphics  simultaneously. This can be accomplished either through separate panes on the IETM interface, separate pop-up windows, or a combination of both. |
|  | Navigation and Tracking | System/subsystem navigation  The IETM shall provide users the capability to navigate through the technical content via the product's system/subsystem breakdown. User's would start at the highest level of the product (such as the aircraft itself), and would then navigate down through the system structure (such as airframe, cockpit) to find the appropriate data. |
|  | Navigation and Tracking | Text, graphic, and table searchability  All text in the technical content shall be searchable, including all text located in graphics and tables. |
|  | Printing | Data module printing  The IETM shall provide users the capability to print the current data module being viewed. TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Printing | Print screen  The IETM shall provide users the capability to print the screen currently being viewed. TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Printing | Printing data module and linked data  The IETM shall provide users the capability to print the current data module being viewed as well as any data referenced by the data module. Printed linked data shall be limited to one level of linking (i.e. any  referenced data in the linked data shall not also be printed). TO policy must be followed with regards to printing excerpts (such as printing distribution and security statements). |
|  | Publishing | Complete page-based PDF technical manual publishing  The publishing system shall be able to publish fully formatted, linear, page-based technical manuals as a PDF from authored S1000D data modules. This would be a complete publication, not an excerpt or a  single data module. |
|  | Special Content | Emergency procedure quick access  The IETM shall provide users quick (one click) access to associated emergency procedures. The IETM  shall also provide users quick (one click) access to a listing of all emergency procedures. |
|  | Special Content | Help documentation  The IETM shall have a "Help" option which provides users with documentation and guidance on how to  use the IETM and all its options. |
|  | Updates | Active change indications and markings  The IETM shall display appropriately authored change markers in the technical data and provide users with the capability to toggle the display of change markers on/off. |
|  | User Operation Mode | Connected mode  The IETM shall be able to access the network and/or the CSDB wirelessly during use. This functionality is necessary for integrating with external applications such as parts ordering or maintenance data collections. |
|  | User Operation Mode | Disconnected mode  The IETM shall be able to operate entirely in a stand-alone or disconnected mode where the IETM is not connected to any network or Internet. |
|  | User Operation Mode | Web browser viewable  The IETM technical content shall be viewable in a standard web browser that is part of the Air Force standard desktop. Web browser plug-ins or helper applications may be used to enable additional IETM functionalities that are not possible with the standard browser. |

**PART II: B-2 Optional Functionality Requirements**

|  |  |  |
| --- | --- | --- |
| **Selection** | **Functionality Category** | **Requirement** |
| {#sec2b2\_roles} | Access | IETM tailoring via user roles/profiles  The IETM shall be customizable based on user roles. Examples of customization include enabling/disabling menu options and allowing/disallowing access of certain data modules. {/sec2b2\_roles} |
| {#sec2b2\_cac} | Access | Login/Logout via Common Access Card (CAC)  The IETM shall provide users the capability to login and logout with their CAC. {/sec2b2\_cac} |
| {#sec2b2\_username} | Access | Login/Logout via username and password  The IETM shall provide users the capability to login and logout with a username and password. {/sec2b2\_username} |
| {#sec2b2\_login} | Access | Login/Logout  The IETM shall provide users the capability to login and logout. {/sec2b2\_login} |
| {#sec2b2\_suspend} | Access | Suspend/Restart  The IETM shall provide users the capability to suspend their current session and to restart the session at a future time at the point where they left off. {/sec2b2\_suspend} |
| {#sec2b2\_complete} | Annotations | Action complete indicators  The IETM shall provide users the capability to indicate that actions called for by the technical data have been completed. This is normally represented as a checkbox. {/sec2b2\_complete} |
| {#sec2b2\_personal} | Annotations | Personal annotations  The IETM shall provide users the capability to add supplemental information or notes to the data. Personal annotations can be added or deleted at the end user's discretion but is not retained at the end of the user session. {/sec2b2\_personal} |
| {#sec2b2\_redline\_graphics} | Annotations | Redlining graphics  The IETM shall provide users the capability to redline/annotate graphics using markings for deletions, insertions, and changes. These markings are saved as feedback to correct/improve the publication during  development and verification. {/sec2b2\_redline\_graphics} |
| {#sec2b2\_redline\_text} | Annotations | Redlining text  The IETM shall provide users the capability to redline/annotate text using markings for deletions, insertions, and changes. These markings are saved as feedback to correct/improve the publication during  development and verification. {/sec2b2\_redline\_text} |
| {#sec2b2\_paper\_distro} | Delivery and Distribution | Paper delivery/distribution  Technical data shall be delivered/distributed via printed paper publications. {/sec2b2\_paper\_distro} |
| {#sec2b2\_physical\_distro} | Delivery and Distribution | Physical media delivery/distribution  Technical data shall be delivered/distributed via physical media such as DVD or hard drive. {/sec2b2\_physical\_distro} |
| {#sec2b2\_dynamic\_diags} | Diagnostics and Prognostics | Dynamic diagnostics  The IETM shall interface with the product to utilize onboard monitoring devices (e.g. Built-In Test) and support/test equipment for fault detection/isolation. Troubleshooting is based on results returned from the product rather than inputs received from the maintainer. This may require external software and the  product must also support this functionality. {/sec2b2\_dynamic\_diags} |
| {#sec2b2\_software\_diags} | Diagnostics and Prognostics | Software driven diagnostics  The IETM shall guide the user (via software) through troubleshooting by analyzing maintainer inputs, fault codes, and their correlations to display the appropriate starting point/action for fault isolation instead of the maintainer using a predefined fault tree. This will require a logic engine and one or more process  data modules. {/sec2b2\_software\_diags} |
| {#sec2b2\_simulation} | Diagnostics and Prognostics | System simulation  The IETM shall have the capability to represent the behavior or characteristics of the system function/malfunction to determine or reenact the problem. System simulation allows the user to introduce stimulus (such as pressure, valve positions, temperatures, voltages, sensor inputs, switch positions) and  present the results in a manner that models the system behaviors. This can be used to model hydraulic, fuel,  pneumatic and other systems. {/sec2b2\_simulation} |
| {#sec2b2\_system\_tracing} | Diagnostics and  Prognostics | Wire/Fluid system tracing  The IETM shall provide users the capability to select wires, fluid, pneumatic or (HVAC) line in a graphic  (diagram or schematic) and have continuity highlighted thru the circuit or schematic. {/sec2b2\_system\_tracing} |
| {#sec2b2\_deficiency\_reporting} | External Processes | Deficiency/improvement reporting  The IETM shall provide users the capability to report errors/improvements to the technical data by initiating  the AFTO 22 process from within the IETM. {/sec2b2\_deficiency\_reporting} |
| {#sec2b2\_config\_mgmt} | External Processes | Maintenance data collection integration  The IETM shall have the capability to capture and transmit configuration change data (i.e. removed and  installed part number information), tasks authorized, tasks performed, results of that work, etc. This  information would be transmitted to Air Force maintenance data collection systems (such as REMIS). {/sec2b2\_config\_mgmt} |
| {#sec2b2\_external\_system} | External Processes | Other external system integration  If there are any other external systems beyond the ones already listed (parts ordering, AFTO 22 change  process, maintenance data collection) that should be integrated into the IETM, then these will be listed in the  "Additional Comments" field. {/sec2b2\_external\_system} |
| {#sec2b2\_external\_parts} | External  Processes | Parts ordering integration  The IETM shall interface with the supply system to allow users to order parts from within the IETM.{/sec2b2\_external\_parts} |
| {#sec2b2\_pdf} | Functionality Category - Annotations | PDF action complete indicators  The PDF shall provide users the capability to indicate that actions called for by the technical data have been  completed. This is normally represented as a checkbox. {/sec2b2\_pdf} |
| {#sec2b2\_modeling} | Graphics Functionality | 3D modeling  The product and it's components shall be modeled using 3D, solid object graphical figures and are  displayed by the IETM. The use of 3D models can allow virtual assembly, disassembly, removal and  installation of parts of the product using animation, simulation and/or virtual reality concepts. {/sec2b2\_modeling} |
| {#sec2b2\_tooltips} | Linking | Hot reference (tool tips)  The IETM shall display tool tips to the user on relevant "mouse overs". At a minimum, all IETM menu  options shall have tool tips as well as all acronyms and footnotes displayed in the technical data. {/sec2b2\_tooltips} |
| {#sec2b2\_audit} | Navigation and Tracking | Audit trail  The IETM shall track and log all user interactions during a session. These interactions can then be retrieved  to recreate the session in case an audit is needed. {/sec2b2\_audit} |
| {#sec2b2\_dialog\_nav} | Navigation and Tracking | Dialog driven navigation  The IETM shall prompt the user for input and would then jump to the appropriate location based on the  response. This requires the use of one or more process data modules. {/sec2b2\_dialog\_nav} |
| {#sec2b2\_graphic\_nav} | Navigation and Tracking | Graphical navigation  The IETM shall provide users the capability to navigate the technical data via graphical representations of the product's system/subsystem breakdown. Heavy use of hotspotting is required on the graphics. For example, from a graphical overview of the aircraft, the user selects a wing. A graphical overview of the wing is presented. The user then selects the flaps. A graphical overview of the flaps is presented. The user selects the actuator. Information on the actuator is presented. {/sec2b2\_graphic\_nav} |
| {#sec2b2\_history\_nav} | Navigation and Tracking | History of traversed links  The IETM shall provide the capability to display to the user a history of all links traversed by the user. {/sec2b2\_history\_nav} |
| {#sec2b2\_bookmarks\_nav} | Navigation and Tracking | User creation of bookmarks  The IETM shall provide the capability to allow the user to create their own bookmarks or navigational links to specific locations in the data. This would require login functionality as the bookmarks are tied to the specific user login. {/sec2b2\_bookmarks\_nav} |
| {#sec2b2\_voice\_nav} | Navigation and Tracking | Voice activated commands  The IETM shall provide users the capability to navigate through the technical content via voice commands. {/sec2b2\_voice\_nav} |
| {#sec2b2\_animated\_spec} | Special Content | Animated graphics support  The IETM shall have the capability to display animated graphic contained within the technical content for the user. {/sec2b2\_animated\_spec} |
| {#sec2b2\_audio\_spec} | Special Content | Audio file support  The IETM shall have the capability to play audio files contained within the technical content for the user. {/sec2b2\_audio\_spec} |
| {#sec2b2\_training\_spec} | Special Content | Link to external training  The IETM shall include built-in links to external training sites for relevant maintainer/operator training courses/data. {/sec2b2\_training\_spec} |
| {#sec2b2\_video\_spec} | Special Content | Motion video file support  The IETM shall have the capability to play video files contained within the technical content for the user. {/sec2b2\_video\_spec} |
| {#sec2b2\_warning\_spec} | Special Content | Warning and caution acknowledgement  The IETM shall require acknowledgement from the user for each warning and caution encountered in the technical data. The user must acknowledge the warning or caution via a button or dialog prompt before being allowed to proceed. {/sec2b2\_warning\_spec} |

**PART III: S1000D Decision Point Tool**

The S1000D Decision Point Tool will be used to provide outputs of both the Project’s Functionality Requirements, the Project’s Business Rules, and tailored SIRs. Utilize the TMCR S1000D Decision Point Tool located at <https://techdata.wpafb.af.mil/tmss/index.html> for the MIL-STD-3048 SIR, Air Force Business Rules for the Implementation of S1000D, by selecting all applicable project functionality requirements, project business rules, and the desired tailoring options expressed in paragraphs 4. Attach the completed S1000D Decision Point Tool spreadsheet.

[**Attach the completed S1000D Decision Point Tool spreadsheet in this section**]

**Table 4 – S1000D TM Delivery Requirements**

**For {program\_mod\_system\_name}**

**NOTES:**

* For all other media types indicate (Y)es or (N)o
* TCTO requirements are specified in the contract vehicle approving the TCTO.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DELIVERY SCHEDULE | | | | | | |
| Enter physical mailing address, electronic delivery location or web access point  | {delivery\_address} | | | | | |
|
|
| Event Number of {typeof\_review\_days} days data required **prior** to event  | PDR (Preliminary Design Review) | CDR (Critical Design Review) | In Process Review(s) | Verification | Prepublication Review | Final Delivery |
| ( {pdr\_days} Days) | ( {cdr\_days} Days) | ( {process\_review\_days} Days) | ( {verification\_days} Days) | ( {prepub\_review\_days} Days) |  |
| Deliverable | | | | | | |
| Common Source Data Base (CSDB) | {#cdsb\_pdr}{/cdsb\_pdr}{^cdsb\_pdr}¨{/cdsb\_pdr} | {#cdsb\_cdr}{/cdsb\_cdr}{^cdsb\_cdr}¨{/cdsb\_cdr} | {#cdsb\_process\_review}{/cdsb\_process\_review}{^cdsb\_process\_review}¨{/cdsb\_process\_review} | {#cdsb\_verification}{/cdsb\_verification}{^cdsb\_verification}¨{/cdsb\_verification} | {#cdsb\_prepub\_review}{/cdsb\_prepub\_review}{^cdsb\_prepub\_review}¨{/cdsb\_prepub\_review} | {#cdsb\_final\_delivery}{/cdsb\_final\_delivery}{^cdsb\_final\_delivery}¨{/cdsb\_final\_delivery} |
| Business Rules Exchange (BREX) files | {#brex\_pdr}{/brex\_pdr}{^brex\_pdr}¨{/brex\_pdr} | {#brex\_cdr}{/brex\_cdr}{^brex\_cdr}¨{/brex\_cdr} | {#brex\_process\_review}{/brex\_process\_review}{^brex\_process\_review}¨{/brex\_process\_review} | {#brex\_verification}{/brex\_verification}{^brex\_verification}¨{/brex\_verification} | {#brex\_prepub\_review}{/brex\_prepub\_review}{^brex\_prepub\_review}¨{/brex\_prepub\_review} | {#brex\_final\_delivery}{/brex\_final\_delivery}{^brex\_final\_delivery}¨{/brex\_final\_delivery} |
| Data Management Requirements List (DMRL) | {#dmrl\_pdr}{/dmrl\_pdr}{^dmrl\_pdr}¨{/dmrl\_pdr} | {#dmrl\_cdr}{/dmrl\_cdr}{^dmrl\_cdr}¨{/dmrl\_cdr} | {#dmrl\_process\_review}{/dmrl\_process\_review}{^dmrl\_process\_review}¨{/dmrl\_process\_review} | {#dmrl\_verification}{/dmrl\_verification}{^dmrl\_verification}¨{/dmrl\_verification} | {#dmrl\_prepub\_review}{/dmrl\_prepub\_review}{^dmrl\_prepub\_review}¨{/dmrl\_prepub\_review} | {#dmrl\_final\_delivery}{/dmrl\_final\_delivery}{^dmrl\_final\_delivery}¨{/dmrl\_final\_delivery} |
| Stylesheets | {#stylesheets\_pdr}{/stylesheets\_pdr}{^stylesheets\_pdr}¨{/stylesheets\_pdr} | {#stylesheets\_cdr}{/stylesheets\_cdr}{^stylesheets\_cdr}¨{/stylesheets\_cdr} | {#stylesheets\_process\_review}{/stylesheets\_process\_review}{^stylesheets\_process\_review}¨{/stylesheets\_process\_review} | {#stylesheets\_verification}{/stylesheets\_verification}{^stylesheets\_verification}¨{/stylesheets\_verification} | {#stylesheets\_prepub\_review}{/stylesheets\_prepub\_review}{^stylesheets\_prepub\_review}¨{/stylesheets\_prepub\_review} | {#stylesheets\_final\_delivery}{/stylesheets\_final\_delivery}{^stylesheets\_final\_delivery}¨{/stylesheets\_final\_delivery} |
| Output Generation Tools/Files | {#generation\_pdr}{/generation\_pdr}{^generation\_pdr}¨{/generation\_pdr} | {#generation\_cdr}{/generation\_cdr}{^generation\_cdr}¨{/generation\_cdr} | {#generation\_process\_review}{/generation\_process\_review}{^generation\_process\_review}¨{/generation\_process\_review} | {#generation\_verification}{/generation\_verification}{^generation\_verification}¨{/generation\_verification} | {#generation\_prepub\_review}{/generation\_prepub\_review}{^generation\_prepub\_review}¨{/generation\_prepub\_review} | {#generation\_final\_delivery}{/generation\_final\_delivery}{^generation\_final\_delivery}¨{/generation\_final\_delivery} |
| Multimedia Files | {#multimedia\_pdr}{/multimedia\_pdr}{^multimedia\_pdr}¨{/multimedia\_pdr} | {#multimedia\_cdr}{/multimedia\_cdr}{^multimedia\_cdr}¨{/multimedia\_cdr} | {#multimedia\_process\_review}{/multimedia\_process\_review}{^multimedia\_process\_review}¨{/multimedia\_process\_review} | {#multimedia\_verification}{/multimedia\_verification}{^multimedia\_verification}¨{/multimedia\_verification} | {#multimedia\_prepub\_review}{/multimedia\_prepub\_review}{^multimedia\_prepub\_review}¨{/multimedia\_prepub\_review} | {#multimedia\_final\_delivery}{/multimedia\_final\_delivery}{^multimedia\_final\_delivery}¨{/multimedia\_final\_delivery} |
| Graphic Files | {#graphics\_pdr}{/graphics\_pdr}{^graphics\_pdr}¨{/graphics\_pdr} | {#graphics\_cdr}{/graphics\_cdr}{^graphics\_cdr}¨{/graphics\_cdr} | {#graphics\_process\_review}{/graphics\_process\_review}{^graphics\_process\_review}¨{/graphics\_process\_review} | {#graphics\_verification}{/graphics\_verification}{^graphics\_verification}¨{/graphics\_verification} | {#graphics\_prepub\_review}{/graphics\_prepub\_review}{^graphics\_prepub\_review}¨{/graphics\_prepub\_review} | {#graphics\_final\_delivery}{/graphics\_final\_delivery}{^graphics\_final\_delivery}¨{/graphics\_final\_delivery} |
| Authoring Guide(s) | {#auth\_guide\_pdr}{/auth\_guide\_pdr}{^auth\_guide\_pdr}¨{/auth\_guide\_pdr} | {#auth\_guide\_cdr}{/auth\_guide\_cdr}{^auth\_guide\_cdr}¨{/auth\_guide\_cdr} | {#auth\_guide\_process\_review}{/auth\_guide\_process\_review}{^auth\_guide\_process\_review}¨{/auth\_guide\_process\_review} | {#auth\_guide\_verification}{/auth\_guide\_verification}{^auth\_guide\_verification}¨{/auth\_guide\_verification} | {#auth\_guide\_prepub\_review}{/auth\_guide\_prepub\_review}{^auth\_guide\_prepub\_review}¨{/auth\_guide\_prepub\_review} | {#auth\_guide\_final\_delivery}{/auth\_guide\_final\_delivery}{^auth\_guide\_final\_delivery}¨{/auth\_guide\_final\_delivery} |
| Technical Manual Content and Product Plan | {#product\_plan\_pdr}{/product\_plan\_pdr}{^product\_plan\_pdr}¨{/product\_plan\_pdr} | {#product\_plan\_cdr}{/product\_plan\_cdr}{^product\_plan\_cdr}¨{/product\_plan\_cdr} | {#product\_plan\_process\_review}{/product\_plan\_process\_review}{^product\_plan\_process\_review}¨{/product\_plan\_process\_review} | {#product\_plan\_verification}{/product\_plan\_verification}{^product\_plan\_verification}¨{/product\_plan\_verification} | {#product\_plan\_prepub\_review}{/product\_plan\_prepub\_review}{^product\_plan\_prepub\_review}¨{/product\_plan\_prepub\_review} | {#product\_plan\_final\_delivery}{/product\_plan\_final\_delivery}{^product\_plan\_final\_delivery}¨{/product\_plan\_final\_delivery} |
| Configuration Control Management Plan | {#cm\_plan\_pdr}{/cm\_plan\_pdr}{^cm\_plan\_pdr}¨{/cm\_plan\_pdr} | {#cm\_plan\_cdr}{/cm\_plan\_cdr}{^cm\_plan\_cdr}¨{/cm\_plan\_cdr} | {#cm\_plan\_process\_review}{/cm\_plan\_process\_review}{^cm\_plan\_process\_review}¨{/cm\_plan\_process\_review} | {#cm\_plan\_verification}{/cm\_plan\_verification}{^cm\_plan\_verification}¨{/cm\_plan\_verification} | {#cm\_plan\_prepub\_review}{/cm\_plan\_prepub\_review}{^cm\_plan\_prepub\_review}¨{/cm\_plan\_prepub\_review} | {#cm\_plan\_final\_delivery}{/cm\_plan\_final\_delivery}{^cm\_plan\_final\_delivery}¨{/cm\_plan\_final\_delivery} |
| {#table4\_custom}{Text} | {#pdr}{/pdr}{^pdr}¨{/pdr} | {#cdr}{/cdr}{^cdr}¨{/cdr} | {#process\_review}{/process\_review}{^process\_review}¨{/process\_review} | {#verification}{/verification}{^verification}¨{/verification} | {#prepub\_review}{/prepub\_review}{^prepub\_review}¨{/prepub\_review} | {#final\_delivery}{/final\_delivery}{^final\_delivery}¨{/final\_delivery}{/table4\_custom} |

{/}{#tmcr\_type == “Linear” || tmcr\_type == “CDA”}

**Table 3 – {#tmcr\_type == “Linear”}SGML/XML{/}{#tmcr\_type==“CDA”}CDA{/} TM Delivery Requirements**

**For {program\_mod\_system\_name}**

**NOTES:**

* **For Paper and CD/DVD media delivery indicate required quantity**
* **For all other media types indicate (Y)es or (N)o**
* TCTO/SB requirements are specified in the contract vehicle approving the TCTO/SB.
* All SGML/XML file delivers MUST include ALL graphic files.
* All TO files must not be password protected.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DELIVERY SCHEDULE | | | | | |
| Event Number of {typeof\_review\_days} days data required **prior** to event  | In Process Review(s) ({in\_process\_review\_days} Days) | Verification  ({verification\_days} Days) | Prepublication Review ({prepublication\_review\_days} Days) | | Final TO Delivery |
| Enter physical mailing address, electronic delivery location or web access point  |  | | | | |
| {#false} |  |  |  | {/} | |
| {#table2linear}{address} | Paper/ {inprocess .paper}  SGML/ {#inprocess .sgml}Y{/}{^inprocess .sgml}N{/}  (I)PDF / {#inprocess .pdf}Y{/}{^inprocess .pdf}N{/}  XML / {#inprocess .xml}Y{/}{^inprocess .xml}N{/}  CD-DVD/ {inprocess .cddvd} | Paper/ {verification .paper}  SGML/ {#verification .sgml}Y{/}{^verification .sgml}N{/}  (I)PDF / {#verification .pdf}Y{/}{^verification .pdf}N{/}  XML / {#verification .xml}Y{/}{^verification .xml}N{/}  CD-DVD/ {verification .cddvd} | Paper/ {prepublication .paper}  SGML/ {#prepublication .sgml}Y{/}{^prepublication .sgml}N{/}  (I)PDF / {#prepublication .pdf}Y{/}{^prepublication .pdf}N{/}  XML / {#prepublication .xml}Y{/}{^prepublication .xml}N{/}  CD-DVD / {prepublication .cddvd} | Paper/ {final .paper}  SGML/ {#final .sgml}Y{/}{^final .sgml}N{/}  (I)PDF / {#final .pdf}Y{/}{^final .pdf}N{/}  XML / {#final .xml}Y{/}{^final .xml}N{/}  CD-DVD / {final .cddvd}{/} | |

{/}

**Section 3. Specification/Standard Interface Records (SIRs)**

**NOTES:**

1. **All** **TMSS applicable to this contract** must have an appropriately tailored SIR attached to this section.
2. SIRs included in the untailored TMCR format represent the minimum tailoring requirements that must be included in the final contract, **unless the entire SIR is not applicable**; e.g., if MIL-DTL-22202D is not required, the entire SIR can be deleted.{#tmcr\_type == “Linear”}
3. Utilize the TMSS Tailoring Tool located at <https://techdata.wpafb.af.mil/tmss/index.html> by selecting all applicable TMSS requirements, and the desired tailoring options expressed in paragraphs 6.2. Attach the TMSS Tailoring Tool spreadsheet output in the specified section listed below.{/}
4. Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from Acquisition Streamlining and Standardization Information System (ASSIST) web page, <https://assist.dla.mil/online/start/index.cfm>.
5. TMSS entries designated with A, F, M or N refer to Army, Air Force, Marine Corps or Navy requirements.
6. Comments (recommendations, additions, deletions) and any pertinent data which may be in use in improving Air Force TMSS documents should be submitted to AFLCMC/GBS 4170 Hebble Creek Road, Bldg. 280, Door 15, Area A, Wright-Patterson AFB, Oh 45433-5653 or by email to; [SGMLsupport@us.af.mil](mailto:SGMLsupport@us.af.mil). Do not include the street address, a building number or a zip+4.

[**Attach tailored SIRs {#tmcr\_type == “Linear”}and TMSS Tailoring Tool {/}in this section**]

**Attachment 1**

**Graphics Format Guidelines**

**GUIDELINES:**

{#graphics\_eps} **Encapsulated Post Script (EPS):**

* Raster based images will not be saved as EPS but will be saved as TIFF images.
* EPS files must not be a mix of vector and raster images. Vector based images must be saved as EPS.
* Vector based images saved as EPS will include illustrations containing both vector and raster images.
* Any source data (photos used for tracing etc.); used in aiding of creation of EPS (templates, etc.) will be deleted from illustration prior to saving/exporting.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.

{/graphics\_eps}{#graphics\_tiff} **Tagged Image File Format (TIFF):**

* Black and white raster images should only be saved as Bitmap and not Grayscale, RGB or CMYK.
* Grayscale or Color images (screenshots, etc.) will be saved as such (Grayscale, RGB or CMYK) and will not be bitmap converted using a halftone screen.
* To further aid in file size reduction for storage purposes, images should be compressed using Group 4 compression when saving/exporting.

{/graphics\_tiff}{#graphics\_cgm} **Computer Graphics Metafile (CGM):**

* Raster based images will not be saved as CGM.
* Any source data used in aiding of creation of CGM (templates, etc.) will be deleted from illustration prior to saving/exporting.
* CGM files must not be a mix of vector and raster images. Vector only.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.
* Unless Version 4 is specifically required for hotspots and/or hyper linking, CGMs should be exported as version 3 to increase cross platform compatibility.

{/graphics\_cgm}{#graphics\_dwg} **DWG File Format:**

* Raster based images will not be saved as DWG.
* DWG files must not be a mix of vector and raster images. Vector only.
* Any source data used in aiding of creation of DWG (templates, etc.) will be deleted from illustration prior to saving/exporting.
* If multiple layers are used, then image is to be flattened into 1 single layer before exporting to minimize file size and reduce possible printing issues.

{/graphics\_dwg}{#graphics\_jpg} **Joint Photographic Expert Group (JPEG):**

**(Caution: JPEG 2000 files are not to be used at all due to platform display issues.)**

* JPEG File format should be used as last resort. Color screenshots/photos should be saved as TIFFs due to possible system compatibility issues.
* B&W Bitmaps should not be saved as JPEGs.

{/graphics\_jpg}{#graphics\_png} **Portable Network Graphics (PNG):**

* Used for raster graphics
* Supports lossless data compression

{/graphics\_png}{#graphics\_bmp} **Bitmap (BMP):**

* Used for raster graphics

{/graphics\_bmp}{#graphics\_svg} **Scalable Vector Graphics (SVG):**

* Two-dimensional vector and mixed vector/raster graphics

{/graphics\_svg}{#graphics\_none} **No graphics required for this contract**{/graphics\_none}

{#new\_revision == “new”}

**Attachment 2**

**REQUEST FOR TECHNICAL ORDER NUMBER**

1. **\*PRIME SYSTEM APPLICATION** (If Applicable or N/A)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **\*CONTRACT NUMBER/PURCHASE REQUEST (PR) NUMBER:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **\*MISSION DESIGN SERIES/NOMENCLATURE** (Name Of Equipment) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **\*FEDERAL STOCK CLASS:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
5. **\*PART NUMBER**(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. **\*NSN/FSN:** (or temp NSN) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. **\*PUBLICATION TYPE** (Opn & Maint with IPB, Overhaul, WUC, IPB, LOAP, etc.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. **\*SUGGESTED TECHNICAL ORDER NUMBER**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. **\*RECOMMENDED TITLE OF MANUAL (Leave Blank if Classified)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **\*CLASSIFICATION OF MANUAL**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **\*CLASSIFICATION OF TITLE:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **\*KIND OF EQUIPMENT** (Airborne / Ground / Not Applicable):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. **\*TEST EQUIPMENT? Yes / No**
5. PROGRAM ELEMENT CODE (PEC): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. LEAD COMMAND: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. DOES MANUAL EXIST FOR SAME/SIMILAR EQUIPMENT? **Yes / No**
8. EXISTING MANUAL TO NUMBER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. COMMERCIAL OFF THE SHELF (COTS) ITEM: **Yes / No**
10. CONTRACTOR INFORMATION: (If Applicable)
11. NAME OF VENDOR: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. ADDRESS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. MANUFACTURER'S CODE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. POINT OF CONTACT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
15. FOREIGN MILITARY SALES (FMS) YES \_\_\_ NO \_\_\_\_ (If YES, complete item 21)
16. COUNTRY CODES (For CSTO/FMS manuals): (See TO 00-5-19) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
17. COMMENTS:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**\* = Mandatory Field{/}{/}{/}**