

NOT MEASUREMENT SENSITIVE

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PERFORMANCE SPECIFICATION

MANUALS, TECHNICAL: QUALITY ASSURANCE PROGRAM; REQUIREMENTS FOR

This specification is approved for use by the Naval Air Systems Command and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification establishes technical manual quality assurance (TMQA) requirements necessary to ensure the adequacy and accuracy of technical manual (TM) content through a coordinated contractor and Government program. Unless otherwise specified, the quality assurance (QA) requirements included in this specification apply to both printed/Portable Document Format (PDF) technical manuals and Interactive Electronic Technical Manuals (IETMs). Procedures are established for the development and implementation of a contractor program encompassing the conduct of TMQA program reviews, quality reviews, in-process reviews, adequacy reviews, validation, and verification requirements.

1.2 Applicability. This specification applies to all TM procurements when referenced in the contract or other contractual document.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all

Comments, suggestions, or questions on this document should be addressed to the Naval Air Systems Command (Commander, Naval Air Warfare Center Aircraft Division, Code 4L8000B120-3, Highway 547, Lakehurst, NJ 08733-5100) or emailed to michael.sikora@navy.mil . Since contact information can change, you may want to verify the currency of this address information using the ASSIST online database at https://assist.daps.dla.mil .
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specified requirements of documents cited in sections 3 or 4 of this specification, whether or not they are listed herein.

2.2 Government documents.

2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-81310 - Manuals, Technical: Airborne Weapons/Stores Loading/Weapons Assembly/Support Equipment Configuration

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-3001-1 - Preparation of Digital Technical Information for Multi-Output Presentation of Technical Manuals

(Copies of these documents are available online at <https://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AL-855TM-GYD-000 - Technical Manual Quality Assurance Program Guide

NAVAIR 00-25-604 - Naval Air Systems Command Fleet Support/Integrated Program Team Acquisition and Sustainment of NAVAIR Technical Manuals

NAVAIR 00-25-700 - Guide to the General Style and Format of Work Package Technical Manuals

NAVAIRINST 4120.11 - Policy for Preparation and Standardization of the NAVAIR Interactive Electronic Technical Manuals

NAVAIRINST 5600.9 - Policies and Responsibilities for Management and Coordination of the NAVAIR Technical Manual Quality Assurance Program

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S1000D - International Specification for Technical Publications Utilizing a Common Source Data Base

(Copies of AL-855TM-GYD-000, NAVAIR 00-25-604, NAVAIR 00-25-700, NAVAIRINST 4120.11 and NAVAIRINST 5600.9 are available from <https://mynatec.navair.navy.mil/>. Copies of S1000D are available from www.s1000d.org.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exception has been obtained.

3. REQUIREMENTS

3.1 Technical manual quality assurance program (TMQAP). A full or limited contractor quality assurance program shall be required depending on the QA requirements cited in the weapon system or equipment contract (see 6.2). When the weapon system or equipment contract cites the Quality Management and Quality Assurance Standards ISO 9000 series, all QA requirements provided in this specification shall be implemented. When the contract does not cite the ISO 9000 series, a limited contractor quality assurance program shall be invoked (see 3.1.1). The contractor shall establish a TMQA program in accordance with the requirements of this specification to ensure the development of technically accurate and complete TMs. A TMQA program developed as a result of material generated by these requirements shall be reviewed by the requiring activity for acceptance provided it satisfies the requirements of this specification. The contractor's TMQA program shall encompass the accountability for and development of quality control functions required for the management of the following TM program elements:

- a. Source data.
- b. Intermediate product (see 6.3.2.6).
- c. Graphics and illustrations.
- d. IETM format, technical content, and functionality.
- e. Printed and PDF TM format and technical content.
- f. Presentation adequacy.
- g. Multimedia justification, if applicable.
- h. Validation (see 6.3.2.15).
- i. Internal coordination.
- j. Records.

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k. Verification support.

l. Final product.

3.1.1 Limited contractor quality assurance program.

a. The following QA requirements are not applicable when the aircraft or equipment contract does not cite the Quality Management and Quality Assurance Standards ISO 9000 series:

(1) Contractor Technical Manual Quality Assurance Program.

(2) Quality Assurance Program Planning Conference.

(3) Quality Assurance Program Plan (QAPP).

(4) Quality Program Reviews (QPR). Contractor conducted, and/or Government conducted.

b. When specified in the Technical Manual Contract Requirement (TMCR) (see 6.2), the following QA requirements shall be provided by the contractor:

(1) Technical Manual Initial Guidance Conferences.

(2) Technical Manual Outline Reviews.

(3) In-Process Reviews (IPRs).

(4) Technical Manual Validation Plans.

(5) Technical Manual Verification Plans.

3.2 Quality assurance requirements. When specified in the contract (see 6.2), the contractor shall prepare a TMQA program plan, establish a QA program organization, and execute the QA program functions specified in 3.2.1, 3.2.2, and 3.2.3, and their subparagraphs.

3.2.1 TMQA program plan. When specified in the contract (see 6.2), the contractor shall prepare a plan in accordance with NAVAIR 00-25-604 or AL-855TM-GYD-000. The TMQA program plan shall describe the scope and approach of the TMQA program.

3.2.1.1 Guidance and quality planning conference. The Guidance and Quality Planning Conference is conducted to ensure contractor understanding of applicable specifications, technical manual contract requirements, formal instructions, established policies, and program requirements. Such conferences may be requested by either the contractor or Government.

3.2.1.1.1 Conference attendees and responsibilities. The Government will assign a QA specialist (QAS) to plan, coordinate, and chair the Guidance/Quality Planning Conference(s) at the TM preparing activity as specified in the TMCR or when the Government deems necessary.

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The Government chairman will identify other participants based on technical specialty, user identity, TM application, and specific objectives of the conference. Additional Government responsibilities and attendees are provided in NAVAIRINST 5600.9.

3.2.1.1.2 Contractor attendees and responsibilities. The contractor shall prepare for the conferences to ensure that the Government understands and concurs with the contractor TMQA program plan. Contractor representation at the conferences shall include the following members as appropriate:

- a. QA personnel.
- b. Technical publications personnel.
- c. Representatives from engineering, product support, and contract administration, as required.

3.2.1.2 Program plan acceptance. The Government will furnish written notice of the acceptability of the contractor's TMQA program plan.

3.2.1.3 Program plan implementation. The contractor is responsible for the implementation of the TMQA program plan (see 6.3.2.14).

3.2.2 QA program organization. The contractor's QA program organization shall have well-defined responsibility, authority, and the organizational freedom to identify and evaluate QA problems and to recommend and initiate solutions.

3.2.3 QA program functions. All TM elements and processes shall be evaluated by contractor and Government QA personnel at various stages of development, by any or all of the following QA program functions:

- a. Guidance and quality planning conferences (see 3.2.1.1).
- b. Adequacy reviews (see 6.3.2.1).
- c. In-process reviews (see 6.3.2.7).
- d. Quality program reviews (see 6.3.2.9).
- e. Quality reviews (see 6.3.2.10).
- f. Validation (see 6.3.2.15).
- g. Verification (see 6.3.2.16).

3.2.3.1 Quality reviews. During TM development and production, the contractor shall perform reviews of the TM and of all the constituent elements and processes. The reviews shall be used to assess compliance with the TMQA program plan and provide for corrective action.

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3.2.3.1.1 Corrective action. The contractor shall initiate a process of corrective action for detected deficiencies. The contractor shall implement preventive action programs to counter any apparent deficiency trends. The detection of deficiencies, which are recognized and are not cited in the classification of defects (CD), shall be added to the CD in the TMQA program plan.

3.2.3.1.2 Database control. The contractor shall ensure that the most current source data is available and utilized for TM development (see 6.3.2.3 and 6.3.2.4). The following are examples of the types of items and control documents that are considered appropriate source data:

a. Description of source data:

- (1) Procurement and test specification.
- (2) Proposal technical description.
- (3) Photos of mockups or equipment.
- (4) Support equipment description data.
- (5) Task analysis data.
- (6) Maintenance plan.
- (7) Special user personnel qualifications as defined in NAVPERS 18068.
- (8) Notes and materials from vendors.
- (9) Failure modes and effects analysis data.
- (10) Engineering reports.
- (11) Drawings/sketches.
- (12) Vendor brochures and commercial manuals.
- (13) Engineering change proposals (ECPs).
- (14) Logistics support analysis records (LSARs).
- (15) Maintenance engineering analysis records.
- (16) Hazard analysis.
- (17) Support equipment requirements sheets.
- (18) Provisioning data.
- (19) Classification (DD Form 254).

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- (20) Local engineering specifications.
- (21) Manual change releases (MCRs).
- (22) Technical manual source data records (TMSDRs).
- (23) Technical publication deficiency reports (TPDRs).
- (24) Technical manual evaluation reports (TMERs).
- (25) Validation/verification comments.
- (26) Design change notices (DCNs).
- (27) Supply item change records (SICRs).
- (28) Technical Manual Contract Requirement.
- (29) Technical Manual Content and Product Plan.

b. Database control documents:

- (1) Data recording and cataloging system developed.
- (2) Management forms developed.
- (3) Liaison with data release authority established.
- (4) Procedure for ECP routing for TM input.
- (5) Release schedule tracking documented.
- (6) Liaison with design and training groups established and documented.
- (7) Procedures for engineering review of draft material and sign-off developed.

3.2.3.1.3 Technical manual content and product plan or equivalent. The TM content and organization shall be consistent with a TMCPP or task identification matrix, prepared in accordance with the guidelines provided by NAVAIR 00-25-604 or NAVAIR 00-25-700. The TMCPP or task identification matrix shall ensure that all required levels of maintenance are sufficiently detailed and complete. The TMCPP is considered to be sufficiently detailed upon agreement between the Government and the contractor. The TMCPP or task identification matrix shall be in agreement with the logistic support analysis (LSA) task analysis data, approved maintenance plan, and approved source, maintenance, and recoverability (SM&R) codes.

3.2.3.1.4 Control of subcontractors and vendors. The contractor shall ensure the quality of TMs prepared by subcontractors and suppliers.

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3.2.3.1.5 Sampling plans. Sampling plans shall be as specified in the QA program plan.

3.2.3.2 Quality program reviews. The contractor shall support quality program reviews as requested by the Government (see 4.8) and provide access to QA records as specified in the TMQA program plan.

3.2.3.3 Validation. Validation is a contractor QA responsibility which shall be accomplished for all TMs, changes, and revisions thereto as specified in the TMCR and TMQA program plan (see 6.2). All data shall be validated prior to acceptance by the Government. The applicable QA checklists provided in this section may be used to guide the contractor in performing validation. A TM shall not be considered validated until the following conditions have been fulfilled:

- a. Contractor's engineering technical review (see 6.3.2.5) has been completed.
- b. Information given in the TM reflects configuration of the systems/equipment and includes all engineering changes.
- c. Procedural instructions are understandable and adequate to perform all operations and maintenance functions as evidenced by actual performance.
- d. Adequacy of data is checked to ensure that it supports the approved maintenance and support plan.
- e. Hardware of the proper configuration is available for the validation effort.
- f. For IETMs, operational data and maintenance tasks shall be accessible from the table of contents and search functions, IETM viewer functionality is in accordance with the approved functionality matrix, and all hotspots and navigational links are working properly.
- g. The contractor is responsible for the validation of technical manuals and technical manual data prepared by its subcontractors, vendors or other writing activities.

3.2.3.3.1 Validation plan. When specified in the contract (see 6.2), a validation plan shall be developed and shall be acceptable to the Government. It shall reflect compatibility with the overall maintenance and support plan, outline the contractor's recommended validation methods, procedures and controls, and indicate the scope of the validation effort. It shall reflect the resources that will be needed to accomplish validation. It shall also include a list of manuals for which requirements have yet to be defined, such as equipment component and support equipment manuals. The plan shall include recommendations for simultaneous validation/verification as appropriate.

3.2.3.3.2 Validation performance.

3.2.3.3.2.1 Technical manual data. Theory and principles of operation, system and component description, SM&R codes, schematic, and wiring data shall be validated against engineering source data. Operating and maintenance procedures including checkout, alignment, scheduled removal and replacement instructions, and associated checklists shall be validated against the system/equipment by actual demonstration. Malfunctions shall not be introduced into

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the system or equipment for the purpose of validation unless specifically required for certification of procedural tasks or system tests. Destructive malfunctions shall not be introduced into the system or equipment for any purpose.

3.2.3.3.2 Interactive electronic technical manuals. The IETM functionality requirements specified in the TMCR and the approved contractor's content and product plan shall be successfully demonstrated.

3.2.3.3.3 Support equipment. Government approved support equipment shall be utilized in the performance of validation. Simulation or substitution of support equipment shall be approved by the Government. It is the responsibility of the contractor to request Government furnished equipment in order to support the validation effort.

3.2.3.3.4 Disposition of validated data. Corrections and significant comments resulting from validation shall be incorporated prior to certification and acceptance of the TM. A TMER shall be used to record these corrections or comments. See figure 1 for an example of the TMER.

3.2.3.3.5 Validation certification. When specified in the contract (see 6.2), the contractor shall prepare a validation certificate attesting to the TM adequacy and accuracy.

3.2.3.3.6 Combined validation/verification. The Government may authorize a combined validation/verification. When this occurs, the Government assumes control of the validation/verification effort. When a combined validation and verification is to be conducted at an operational or Government site, a separate validation is conducted by the contractor and the validation comments incorporated into the data, followed by a separate verification. The Government retains jurisdiction over a combined validation/verification in coordination with the contractor.

3.2.3.4 Verification. Verification is the formal process through which the Government determines the accuracy, quality and usability of the contractor-validated technical manuals. When specified in the TMCR and TMQA program plan (see 6.2), verification shall be accomplished under the jurisdiction of the Government and may include contractor support.

3.2.3.4.1 Verification plan. When specified in the contract (see 6.2), a verification plan shall be developed by the contractor to be reviewed and accepted by the Government.

3.2.3.4.2 Verification sequence control chart. When specified by the contract (see 6.2), a verification sequence control chart shall be prepared by the contractor when:

- a. Several manuals or IETMs are to be verified under a concerted effort,
- b. Several parts of a single manual or an IETM are to be verified simultaneously, or
- c. A preferred sequence is required to maintain continuity in task performance.

3.2.3.4.3 Verification support requirements. Contractor support of verification (see 6.2) shall consist of the following:

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- a. Serves as verification recorder, if required.
- b. Provides assistance in performing verification tasks, if required.

3.2.3.4.3.1 Verification disposition records. The contractor shall disposition the comments and correct manual discrepancies recorded during verification. After disposition of the comments the Government will review the dispositions and provide concurrence if the dispositions are acceptable.

3.2.3.4.4 Technical manual verification incorporation certification. When specified in the contract (see 6.2) and upon completion of all verification actions, the contractor shall prepare a certificate attesting that all discrepancies and deficiencies recorded during verification have been corrected or resolved. Final acceptance of the TM shall be in accordance with terms of the contract.

3.2.3.5 Technical manual evaluation records. TMERs shall be maintained during in-process reviews, validation and verification efforts. TMERs shall document quality problems and disposition recommendations. TMERs shall identify the items in the manual(s) to which the comments and recommendations apply.

4. VERIFICATION

4.1 TMQA program reviews. During the TMQA program review, the contractor shall demonstrate to the Government the operation of the TMQA program. This shall include review of data generated during contractor quality reviews and quality related reports and records. TMQA program reviews chaired by a Government representative shall be conducted at the contractor's facility. All quality review results are documented by the Government.

4.2 Quality reviews. The contractor's QA organization shall conduct quality reviews to ascertain compliance to the requirements cited in 3.2. Quality reviews shall be conducted to evaluate the availability and adequacy of materials, processes, procedures, and intermediate products which constitute TM development. Sampling plans (see 3.2.3.1.5 and 4.7) shall be as specified in the TMQA program plan.

4.3 Corrective action. The contractor QA personnel shall approve all corrective and preventive actions taken in response to all recorded deficiencies. Evidence agreed to by the Government and the contractor of the effectiveness of the corrective action program for each deficiency shall be maintained.

4.4 Database control. The presence, adequacy, and completion of the technical publication data base will be evaluated by the Government for conformance to 3.2.3.1.2.

4.5 TMCPP or equivalent. The TM content shall be evaluated for consistency with the requirements of 3.2.3.1.3 and the TMCPP or task identification matrix and NAVAIR 00-25-604 or NAVAIR 00-25-700, as applicable.

4.6 Control of subcontractors and vendors. Successful implementation of the contractor's procedures designed specifically for control of subcontractors and vendors shall be the evidence

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of compliance with 3.2.3.1.4. As a minimum, the contractor shall establish procedures for the following:

- a. The selection of qualified suppliers.
- b. The transmission of quality requirements for subcontractors and vendors.
- c. The inspection of subcontractor and vendor records and corrective action procedures.
- d. The evaluation of subcontractor and vendor material, processes and products.

4.7 Sampling plans. The contractor's QA organization shall, when appropriate, utilize sampling techniques (see 3.2.3.1.5) for evaluation of the product. All TM products, regardless of percentage of completion shall be sampled and evaluated in accordance with the TMQA program to determine the acceptability of the product.

4.7.1 Classification of defects. The CD table associated with the contractor sampling plans shall be made available during the Guidance and Quality Planning Conference (see 3.2.1.1). The CD shall be patterned after the QA checks provided on the applicable QA checklists in this section. The contractor and the Government may jointly classify additional defects applicable to the specific products being procured.

- a. Major defects typically include incorrect, incomplete or missing maintenance procedures, hotspot and linking, safety requirements, etc.
- b. Minor defects typically include typographical errors, incorrect format, pagination and grammar and incorrect reference or linking to technical data from the table of contents.

4.8 Government inspection. The Government reserves the right to conduct a Guidance and Quality Planning Conference and quality program reviews (see 6.2) throughout the term of the contract to ensure compliance with the QA program plan, applicable TM specifications, the contract, and the production of a quality product.

4.9 In-process reviews. IPRs will be authorized and convened as deemed necessary by the Government. When specified in the TMCR and TMQA program plan (see 6.2), the contractor is responsible for supporting IPRs and providing access to technical manual materials and the intermediate and final products. At a minimum, IPRs include evaluation of source data, TMCPP, presentation methods on the display device, IETM technical content and functionality, TMCR compliance, and readability. In addition, it may be necessary to conduct an IPR on TMs that are to be prepared in a printed/PDF format. Detailed IPR requirements are provided in 4.9.1 through 4.9.4.1.

4.9.1 IPRs for S1000D technical publications. One or more IPRs for technical manuals prepared in accordance with S1000D shall be scheduled based on the percentage of data modules/publication modules completed as dictated by the Government or the approved TMCR.

NOTE: S1000D refers to an IETM as an Interactive Electronic Technical Publication (IETP). The Government and the contractor shall agree on the scope and depth of each of the

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required IPRs. As a minimum, the following requirements shall be demonstrated at the initial IPR:

- a. Compliance with the TMCR requirements.
- b. Ensure that the TMCPP is being followed, including adherence to all business rules specified in the TMCR.
- c. Review and approve the final Data Module Requirements List (DMRL).
 - (1) Check that all assigned publication module codes (PMCs) are in accordance with S1000D or applicable business rules.
 - (2) Check that all assigned data module codes (DMCs) are in accordance with the S1000D Standard Numbering System (SNS).
 - (3) Check that all information codes (ICs) are in accordance with the approved Joint Service IC codes.
- d. Extensible Markup Language (XML) check:
 - (1) Check that the DMC file name matches the DMC in the XML file (e.g., if the DMC in the XML file includes issue number and/or language, the file name must also include the information).
 - (2) Check that the PMC file name matches the PMC in the XML file.
 - (3) Check that the version of the schema matches the version of the specification used to develop the IETP.
 - (4) Check that the correct schema is used for each information set (e.g., descriptive, procedural, etc.).
 - (5) Check that the graphic entity declarations point to the location of each graphic file.
 - (6) Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG).
- e. Viewer functions in accordance with the approved S1000D functionality matrix.
- f. A review shall be conducted to monitor the placement of the IETP technical information within the display device to be used. A demonstration should be conducted showing the following in accordance with NAVAIRINST 4120.11 or the business rules specified in the TMCR:
 - (1) Standard navigation buttons and their location and use.
 - (2) Placement and use of the table of contents.

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(3) Placement of the technical content such as narrative text, procedural data and parts information.

(4) Display and placement of graphics.

(5) Hotspot and linking capability.

g. For conversion programs, all data has been completely incorporated into data modules (DMs) and all DMs have been assigned the correct DMC in accordance with the approved DMRL.

h. At a minimum, perform the following for all completed publication modules (PMs) and DMs:

(1) DMCs are correct.

(2) PMCs are correct.

(3) Ensure that the information in the viewer title and subtitle bars are in accordance with the business rules specified in the TMCR.

(4) DM technical information is displayed in accordance with the look and feel requirements provided in NAVAIRINST 4120.11 or business rules specified in the TMCR.

(5) Required personnel; references to documents and DMs; support equipment; consumables, materials, and expendables; and technical directives are included and displayed properly.

(6) All DM cross-reference links are active and working correctly.

(7) All referenced tables and illustrations are accessible.

(8) Technical data is accurate and adequate.

(9) Formatting is correct and editorial check is performed.

i. Check that all business rules specified in the TMCR for DM development are being followed.

j. Check that all applicable Interim Rapid Action Changes (IRACs), TMERs and Technical Directives (TDs) have been or will be incorporated.

k. Check that placeholders have been provided for all DMs (listed in the approved DMRL) that have yet to be developed.

l. For PDF/printed technical publications, the following reviews shall be accomplished at the IPR:

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- (1) Check for compliance with TMCR requirements.
- (2) Review and approve final TMCPP and ensure that the TMCPP is being followed.
- (3) Review and approve the final DMRL.
 - (a) Check that all assigned PMCs are in accordance with the S1000D specification or applicable business rules.
 - (b) Check that all assigned DMCs are in accordance with the S1000D SNS.
 - (c) Check that all ICs are in accordance with the approved Joint Service IC codes.
- (4) Check that all business rules specified in the TMCR including those for PDF/printed technical publications are being followed.
- (5) XML check:
 - (a) Check that the DMC file name matches the DMC in the XML file (e.g., if the DMC in the XML file includes issue number and/or language, the file name must also include the information).
 - (b) Check that the PMC file name matches the PMC in the XML file.
 - (c) Check that the version of the schema matches the version of the specification used to develop the IETP.
 - (d) Check that the correct schema is used for each information set (e.g., descriptive, procedural, etc.).
 - (e) Check that the graphic entity declarations point to the location of each graphic file.
 - (f) Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG).
- (6) At a minimum, perform the following for all completed DMs and publication modules (PMs):
 - (a) DM technical information is in accordance with applicable S1000D style and format requirements for printed/PDF NAVAIR TMs.
 - (b) Required personnel; references to documents and DMs; support equipment; consumables, materials, and expendables; and technical directives are included and displayed properly.
 - (c) All DM cross-reference links are active and working correctly.

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- (d) All referenced tables and illustrations are inserted correctly.
 - (e) Technical content is accurate and adequate.
 - (f) Formatting and editorial check.
- (7) For PDF, check for adequate and accurate bookmarks and that links are working.
- (8) Check that placeholders have been provided for all DMs (listed in the approved DMRL) that have yet to be developed.
- (9) For conversion programs, all data has been completely incorporated into DMs, and all DMs have been assigned the correct DMC in accordance with the approved DMRL.
- (10) Check that all applicable IRACs, TMERs and TDs have been or will be incorporated.

4.9.1.1 Second and subsequent IPRs. As a minimum, the following requirements shall be demonstrated during the second and subsequent IPRs:

- a. Ensure that all deficiencies found during the prior IPRs have been corrected.
- b. For all publications and DMs not previously reviewed, repeat all IPR checks performed during the prior IPRs.
- c. Viewer continues to function in accordance with the approved S1000D functionality matrix, and check additional functionality not demonstrated during previous IPRs.

4.9.1.2 Additional quality assurance guidance. Additional guidance for the IPR requirements described above is provided in the QA requirements work package (WP) in NAVAIR 00-25-604. Examples of IPR checks for technical publications prepared in accordance with S1000D are provided on figures 2 and 3. QA checklists may be tailored to satisfy the requirements of a specific TM program and TMCR. These QA checklists shall be retained as a program and/or task record checklist.

4.9.2 IPRs for MIL-STD-3001-1 technical manuals. One or more IPRs for TMs prepared in accordance with MIL-STD-3001-1 shall be scheduled based on the percentage of TM WPs completed as dictated by the Government or the approved TMCR. The Government and the contractor shall agree on the scope and depth of each of the required IPRs. As a minimum, the following requirements shall be demonstrated at the initial IPR:

- a. Ensure compliance with the TMCR requirements.
- b. Review and approve final TMCPP and ensure that the TMCPP is being followed.
- c. XML check:

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(1) Check that the version of the document type definition (DTD) matches the version of the specification used to develop the IETM.

(2) Check that the correct DTD is used for each information module (e.g., descriptive, maintenance, etc.).

(3) Check that the graphic entity declarations point to the location of each graphic file.

(4) Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG).

d. The viewer functions in accordance with the approved MIL-STD-3001-1 functionality matrix.

e. A review shall be conducted to monitor the placement of the IETM technical information within the display device to be used. A demonstration should be provided showing the following in accordance with NAVAIRINST 4120.11:

(1) Standard navigation buttons and their location and use.

(2) Placement and use of the table of contents.

(3) Placement of the technical content such as narrative text, procedural data and parts information.

(4) Display and placement of graphics.

(5) Hotspot and linking capability.

f. At a minimum, perform the following for all completed WPs:

(1) Information in the viewer subtitle bar is correct (technical manual number, security classification markings, distribution statement, nomenclature and model or part number, other identification and status information, and WP title).

(2) WP technical information is displayed in accordance with the look and feel requirements provided NAVAIRINST 4120.11.

(3) Reference material and WPs, support equipment required, materials required (including consumable materials and/or expendable items), and record of applicable technical directives are included and displayed properly.

(4) All WP cross-reference links are active and working correctly.

(5) All referenced tables and illustrations are accessible.

g. Technical data is accurate and adequate.

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- h. Formatting is correct and editorial check is performed.
- i. Check that all applicable IRACs, TMERs, and TDs have been or will be incorporated.
- j. Check that placeholders have been provided for all publications and WPs that have yet to be developed.
- k. For PDF/printed TMs, the following reviews shall be accomplished at the IPR:
 - (1) Ensure compliance with the TMCR requirements.
 - (2) Review and approve final TMCPP and ensure that the TMCPP is being followed.
 - (3) XML check:
 - (a) Check that the version of the DTD matches the version of the specification used to develop the IETM.
 - (b) Check that the correct DTD is used for each information module (e.g., descriptive, maintenance, etc.).
 - (c) Check that the graphic entity declarations point to the location of each graphic file.
 - (d) Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG).
 - (4) At a minimum, perform the following for all completed WPs:
 - (a) WP technical information is in accordance with MIL-STD-3001-1 style and format requirements for printed TMs.
 - (b) Reference material and WPs, support equipment required, materials required (including consumable materials and/or expendable items), and record of applicable technical directives are included and displayed properly.
 - (c) All WP cross-reference links are active and working correctly.
 - (d) All referenced tables and illustrations are inserted correctly.
 - (e) Technical content is accurate and adequate.
 - (f) Formatting is correct and editorial check is performed.
 - (5) For PDF, check for adequate and accurate bookmarks and that links are working.
 - (6) Check that placeholders have been provided for all WPs that have yet to be developed.

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(7) All applicable IRACs, TMERs and TDs have been or will be incorporated.

4.9.2.1 Second and Subsequent IPRs. As a minimum, the following requirements shall be demonstrated during the second and subsequent IPRs:

- a. Ensure that all deficiencies found during the prior IPRs have been corrected.
- b. For all publications and WPs not previously reviewed, repeat all IPR checks performed during the prior IPRs.
- c. The viewer continues to function in accordance with the approved MIL-STD-3001-1 functionality matrix, and check additional functionality not demonstrated during previous IPRs.

4.9.2.2 Additional quality assurance guidance. Additional guidance for the IPR requirements described above is provided in the QA requirements WP in NAVAIR 00-25-604. An example of IPR checks for TMs prepared in accordance with MIL-STD-3001-1 are provided on figures 4 and 5. QA checklists may be tailored to satisfy the requirements of a specific TM program and TMCR. These QA checklists shall be retained as a program and/or task record checklist.

4.9.3 IPRs for MIL-DTL-81310 technical manuals. One or more IPRs for TMs prepared in accordance with MIL-DTL-81310 shall be scheduled based on the percentage of TM sections or pages completed as dictated by the Government or the approved TMCR. The Government and the contractor shall agree on the scope and depth of each of the required IPRs. As a minimum, the following requirements shall be demonstrated at the initial IPR:

- a. Ensure compliance with the TMCR requirements.
- b. Review and approve final TMCPP and ensure that the TMCPP is being followed.
- c. XML check:
 - (1) Check that the version of the DTD matches the version of the specification used to develop the IETM
 - (2) Check that the correct DTD is used for each information module (e.g., common procedures, configuration data, etc.)
 - (3) Check that the graphic entity declarations point to the location of each graphic file
 - (4) Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG)
- d. At a minimum, perform the following for all completed section technical data:
 - (1) Technical information is in accordance with MIL-DTL-81310 style and format requirements.

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- (2) All paragraph, figure and table cross-reference links are active and working correctly.
 - (3) All referenced tables and illustrations are inserted correctly.
 - (4) Technical content is accurate and adequate.
 - (5) Formatting is correct and editorial check is performed.
- e. For PDF, check for adequate and accurate bookmarks and that links are working.
 - f. Check that placeholders have been provided for all section paragraphs that have yet to be developed.
 - g. All applicable IRACs, TMERs and TDs have been or will be incorporated.

4.9.3.1 Second and Subsequent IPRs. As a minimum, the following requirements shall be demonstrated during the second and subsequent IPRs:

- a. Ensure that all deficiencies found during the prior IPRs have been corrected.
- b. For all publications and sections not previously reviewed, repeat all IPR checks performed during the prior IPRs.

4.9.3.2 Additional quality assurance guidance. Additional guidance for the IPR requirements described above is provided in the QA requirements WP in NAVAIR 00-25-604. An example of IPR checks for TMs prepared in accordance with MIL-DTL-81310 is provided on figure 6. QA checklists may be tailored to satisfy the requirements of a specific TM program and TMCR. The QA checklist shall be retained as a program and/or task record checklist.

4.9.4 IPRs for legacy specification technical manuals. One or more IPRs for TMs prepared in accordance with legacy technical manual preparation specifications (e.g., MIL-PRF-38784, MIL-PRF-81927, MIL-PRF-81928, etc.) shall be scheduled based on the percentage of TM WPs, sections, or pages completed as dictated by the Government or the approved TMCR. The Government and the contractor shall agree on the scope and depth of each of the required IPRs.

4.9.4.1 Additional quality assurance guidance. Additional guidance for the IPR requirements described above is provided in AL-855TM-GYD-000.

4.10 Adequacy reviews. When specified in the TMCR and the TMQA program plan (see 6.2), adequacy reviews will be authorized and convened by the Government. Adequacy reviews are conducted prior to and/or during IPRs and verifications. Adequacy reviews are formal desk top reviews conducted to determine if the depth and scope of coverage in the TMs and supporting illustrated parts breakdowns (IPBs) are sufficient to support the weapon system/equipment, repairables, replaceables and items to be assembled or manufactured at the approved maintenance level(s). These reviews are conducted simultaneously using the approved TMCPP, approved viewer, if applicable, and logistics support data, including the maintenance plan and provisioning documentation:

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- a. For adequacy in depth and scope of coverage for the following data
 - (1) Description and Principles of Operation
 - (2) Testing and Troubleshooting
 - (3) Maintenance Instructions
 - (4) IPB including the assignment of the correct SM&R codes and
 - (5) Scheduled maintenance
- b. To monitor the preparation of IPBs and
- c. To determine the adequacy of the data prior to and/or during
 - (1) IPRs and
 - (2) Verification

4.10.1 Adequacy review authorization. Adequacy reviews are authorized and convened by the acquiring activity. Adequacy reviews shall also be conducted during the preliminary development stages of TM development to ensure adequacy and accuracy of IETM functionality, usability, and presentation (see 4.10.2 through 4.10.7).

4.10.2 Evaluation of the IETM and the display device. The adequacy review shall also monitor the compatibility of the IETM with the operating and presentation software of the display device before any actual use, testing, or evaluation of operational suitability can take place (for example, using the Government specified or contractor recommended end-user IETM display device). In this sense the IETM cannot be approved without demonstrating its operability with the proposed display device.

4.10.3 Evaluation of IETM navigation functions. An adequacy review to determine if a comprehensive set of commands to navigate and sequence through the technical information has been provided and that these navigation functions are user friendly and are explained adequately within the IETM.

4.10.4 Evaluation of the IETM functionality. IETM functionality shall be in accordance with the functionality requirements specified by the approved functionality matrix and the requiring activity.

4.10.5 Evaluation of IETM presentation techniques. An adequacy review shall be conducted to monitor the placement of the IETM technical information within the inner shell of the display device to be used. A demonstration should be provided showing the following in accordance with NAVAIRINST 4120.11:

- a. Standard navigation buttons and their location and use.

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- b. Placement and use of the table of contents.
- c. Placement of the technical content such as narrative text, procedural data and parts information.
- d. Display and placement of graphics.
- e. Hotspot and linking capability.

4.10.6 World wide web applicability. The contractor is required to demonstrate that the IETM can be accessed and displayed over the World Wide Web when required by the Government (see 6.2).

4.10.7 Evaluation of the extensible markup language source file. When specified by the requiring activity (see.6.2) that the IETM source file be delivered to the Government, the contractor is required to validate that the XML source file be tagged to the level and depth required by the applicable DTD or schema and the content requirements contained in the applicable TM development specification.

4.10.8 Adequacy review checklists. Adequacy review QA checklists are provided herein and differ depending on the TM preparation specification used. These QA checklists may be used as guidance for determining the adequacy, accuracy and usability of the Naval Air Systems Command (NAVAIR) printed/PDF TMs or IETMs. QA checklists may be tailored to satisfy the requirements of a specific TM program and TMCR. These QA checklists shall be retained as a program and/or task record checklist.

4.10.8.1 S1000D checklists. An example checklist for new IETPs is provided on figure 7. An example checklist for printed/PDF technical publications is provided on figure 8.

4.10.8.2 MIL-STD-3001-1. Example checklists for new/converted IETMs and updates (changes) to IETMs are provided on figures 9 and 10. Example checklists for printed/PDF TMs and changes to printed/PDF TMs are provided on figures 11 and 12.

4.10.8.3 MIL-DTL-81310 checklists. An example checklist for printed/PDF TMs is provided on figure 13.

4.10.8.4 Legacy manual checklists. Additional guidance for the adequacy reviews is provided in AL-855TM-GYD-000.

4.11 IPR/adequacy review location. IPRs and adequacy reviews shall be held at the contractor's facility but can be held at a designated Government facility. IPR/adequacy reviews intended for locations other than the contractor's facility must be approved by the Government (see 6.2). The contractor may request IPR/adequacy reviews at any time during the term of the contract when assistance or clarification is desired. The Government will request additional IPR/adequacy reviews when it appears the program is not proceeding according to schedule.

4.12 IPR/adequacy review records. All discrepancies/changes identified in technical data products during the QA process that require corrective action prior to acceptance shall be

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recorded. A TMER shall be used for this purpose (see figure 1). The Government will act as recorder and record the decisions, results, and findings during the IPR/adequacy review evaluation utilizing the TMER.

4.13 Disposition of IPR/adequacy review findings. IPR/adequacy review findings that involve problem areas or findings that require further evaluation shall be resolved before final disposition. Discrepancy or deficiency found as the result of the IPR/adequacy review shall be corrected prior to certification and acceptance of the TMs.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This specification is intended for use in establishing a QA program applicable to the development of the TMs required in support of Navy operation and maintenance functions. The QA programs established in accordance with this specification and the manuals produced using this program are military unique and have no commercial applications.

6.2. Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Whether a full or limited contractor quality assurance program is required (see 3.1).
- c. Whether specified QA items are required for a limited contractor quality assurance program (see 3.1.1).
- d. Whether a TMQA program plan is required (see 3.2.1).
- e. Validation requirements (see 3.2.3.3).
- f. Whether a validation plan is required (see 3.2.3.3.1).
- g. Whether a validation certificate is required (see 3.2.3.3.5).

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- h. Whether verification is required (see 3.2.3.4).
- i. Whether a verification plan is required (see 3.2.3.4.1).
- j. Whether a verification sequence control chart is required (see 3.2.3.4.2).
- k. Whether contractor verification support is required at verification (see 3.2.3.4.3).
- l. Whether a verification certification is required (see 3.2.3.4.4).
- m. Government options to conduct Guidance and Quality Planning Conference and quality program reviews (see 4.8).
- n. Whether in-process reviews are required (see 4.9).
- o. Whether adequacy reviews are required (see 4.10).
- p. Whether Government requires the IETM to be available over the World Wide Web (see 4.10.6).
- q. Whether an IETM source file is required (see 4.10.7).
- r. IPR/adequacy review locations (see 4.11).
- s. Packaging requirements (see 5.1).

6.3 Acronyms and definitions.

6.3.1 Acronyms used in this specification are defined as follows:

ASSIST - Acquisition Streamlining and Standardization Information System
CD - Classification of Defects or Compact Disc
CD-ROM - Compact Disc – Read Only Memory
DCN - Design Change Notice
DM - Data Module
DMC - Data Module Code
DMRL - Data Module Requirements List
DTD - Document Type Definition
ECP - Engineering Change Proposal
GAPL - Group Assembly Parts List
HMWS - Hazardous Materials Warning Summary
IC - Information Code
IETM - Interactive Electronic Technical Manual
IETP - Interactive Electronic Technical Publication
IPB - Illustrated Parts Breakdown
IPD - Illustrated Parts Data
IPR - In-Process Review
IRAC - Interim Rapid Action Change

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LSA - Logistics Support Analysis
LSAR - Logistics Support Analysis Record
MCR - Manual Change Request
NAVAIR - Naval Air Systems Command
PDF - Portable Document Format
PM - Publication Module
PMC - Publication Module Code
QA - Quality Assurance
QAPP - Quality Assurance Program Plan
QAS - Quality Assurance Specialist
QPR - Quality Program Review
SICR - Supply Item Change Record
SM&R - Source, Maintenance, and Recoverability
SNS - Standard Numbering System
TD - Technical Directive
TM - Technical Manual
TMCPP - Technical Manual Content and Product Plan
TMCR - Technical Manual Contract Requirement
TMER - Technical Manual Evaluation Report
TMQA - Technical Manual Quality Assurance
TMQAP - Technical Manual Quality Assurance Program
TMSDR - Technical Manual Source Data Record
TOC - Table of Contents
TPDR - Technical Publication Deficiency Report
WP - Work Package
XML - Extensible Markup Language

6.3.2 Definitions of selected terms.

6.3.2.1 Adequacy reviews. Formal desk top reviews conducted to determine if the depth and scope of coverage in the TMs and supporting illustrated parts breakdowns (IPBs) are sufficient to support the weapon system/equipment, repairables, replaceables and items to be assembled or manufactured at the approved maintenance level(s).

6.3.2.2 Acquisition Streamlining and Standardization Information System (ASSIST). The official database containing information about standardization documents used in the Department of Defense. The ASSIST also provides electronic access to Government documents included in the database over the Internet. ASSIST can be accessed at <https://assist.daps.dla.mil/quicksearch/>.

6.3.2.3 Database. Data used in the preparation of technical information. These data consist of such things as Government specifications, standards, instructions, engineering design data, LSAR, DCN, etc.

6.3.2.4 Database control. The systematic management and recording of the presence, accuracy, currency and completeness of the source data.

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6.3.2.5 Engineering technical review. The action performed by engineering personnel to ensure the technical accuracy and adequacy of the source data being utilized in the development of the TM.

6.3.2.6 Intermediate product. Work in progress and supporting source data.

6.3.2.7 In-process review. A review of contractual requirements, technical documentation, and TM increments which may be carried out at any time during the manual development to:

- a. Evaluate the product;
- b. Ensure that the technical requirement, documentation, and manual are being written according to the applicable specifications; and
- c. Correctly reflect the approved configurations of the appropriate hardware.

6.3.2.8 Operation or maintenance task. The written directions for accomplishing tasks of a type, and in the detail appropriate to the task and the people performing the task (e.g., writers and illustrators guide, procedural instructions, etc.).

6.3.2.9 Quality program review. A Government evaluation of quality-related data generated by the contractor as part of the QA program. The Government evaluation determines contractor compliance with the approved TMQA program plan. Quality program reviews evaluate the contractor QA program and should not be confused with technical reviews of TMs (e.g., IPRs).

6.3.2.10 Quality review. A selective comparison of development processes and products with a given set of standards or objectives.

6.3.2.11 Technical manual content and product plan. The TMCPP (formally called an outline) provides specific technical manual style and format, technical content coverage and IETM functionality, if applicable, in accordance with the applicable TM specification and the requirements provided in the TMCR.

6.3.2.12 Technical manual functionality matrix. The TM functionality matrix provides a standard format for documenting the functional needs of the TMs for the project. The functionality matrix is intended to allow TM programs to define their requirements in terminology that is accepted and understood by industry. The selected functionalities will help to ensure that contractor responses closely match the project needs with minimal misunderstanding. For information regarding the definition of the functions provided in the functionality matrix, refer to NAVAIRINST 4120.11.

6.3.2.13 Technical manual quality assurance program. The TMQAP is a systemic, coordinated effort to establish a high level of confidence that the TM product offered conforms to established, contractually defined technical requirements. A QA program includes efforts by the procuring activity and preparing activity including IPRs, validation, and verification.

6.3.2.14 Technical manual quality assurance program plan implementation. Implementation of the TMQA program plan should be evidenced by development of the following:

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- a. Operation or maintenance task instructions and their use (see 6.3.2.8);
- b. Review procedures and records;
- c. Corrective and preventive action procedures;
- d. Support for QA functions;
- e. Product validation procedures including IETM functionality, if applicable; and
- f. Compliance with the approved milestone dates.

6.3.2.15 Validation. Validation is the final QA iteration required of the contractor or preparing activity during which the TM is tested for technical adequacy and accuracy and compliance with the provisions of the specifications and other technical contractual requirements. Validation is accomplished by actual performance of TM procedures checked against the system or equipment for which the manual was written. Validation is normally conducted at the preparing activity's or vendor's facility. In extenuating circumstances, validation may be conducted at an operational site.

6.3.2.16 Verification. Verification is the final QA iteration by the Government for acceptance of the TM during which the TM is tested to determine its adequacy and operational suitability for the operation and maintenance of equipment. Verification may be tailored based on the Government's confidence level in the preparing activity's QA program, compliance with provisions of the specifications and other technical contract requirements, and effective integration of logistic support requirements for the tasks to be performed. Verification is conducted with production equipment and with qualified fleet personnel of the prescribed skill level from the operating command or facility assigned to operate and maintain the equipment.

6.4 Subject term (key word) listing.

Adequacy
In-process review
Quality review
Validation
Verification

6.5 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensive number of changes.

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Page of _____

TECHNICAL MANUAL EVALUATION RECORD						QUALITY ASSURANCE DIVISION CODE QASR NO _____	
IN-PROCESS REVIEW	CONTRACTOR	DATE	ACTIVITY SITE	TECHNICAL MANUAL NUMBER	TOTAL PAGES REVIEWED	MAINTENANCE LEVEL	
ADEQUACY	PAR/FIG TAB NO.	COMMENT/DESCRIPTION					CONTRACTOR DISPOSITION CONCUR/NON-CONCUR - EXPLAIN
OTHER	PAGE NO.						CONTRACTOR DISPOSITION CONCUR/NON-CONCUR - EXPLAIN
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							

NOTE: Global comments (GC) effect entire technical manual (TM).
In accordance with master mark-up (IAWMM).

NATEC QA Det Norfolk

Signature _____ Date _____ Contractor's Signature _____ Date _____

FIGURE 1. Example of a technical manual evaluation record (TMER).

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QA CHECKLIST	
IN-PROCESS REVIEW FOR NEW IETPs	
(S1000D)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Interactive Electronic Technical Publication (IETP) Viewer	<input type="checkbox"/>
2. Data Module Requirements List (DMRL) to ensure that all data modules (DMs) are included	<input type="checkbox"/>
3. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; and generated IETP	<input type="checkbox"/>
4. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
5. NAVAIRINST 4120.11, Policy for Preparation and Standardization of Naval Air Systems Command IETMs.....	<input type="checkbox"/>
6. Technical Manual (TM) Content and Product Plan (TM Outline)	<input type="checkbox"/>
7. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
8. Original source data	<input type="checkbox"/>
9. All Business Rules specified in the TMCR.....	<input type="checkbox"/>
10. Applicable issue of S1000D.....	<input type="checkbox"/>
11. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. INITIAL IN-PROCESS REVIEW	
As a minimum the following requirements shall be demonstrated:	
1. Check for compliance with the TMCR	<input type="checkbox"/>
2. Ensure that the Technical Manual Content and Product Plan is being followed, including adherence to all business rules specified in the TMCR.....	<input type="checkbox"/>
3. Review and approve the final DMRL:	
a. Check that all assigned publication modules codes (PMCs) are in accordance with S1000D or applicable business rules	<input type="checkbox"/>
b. Check that all assigned data module codes (DMCs) are in accordance with the S1000D Standard Numbering System (SNS)	<input type="checkbox"/>
c. Check that all information codes (ICs) are in accordance with the approved Joint Service IC codes	<input type="checkbox"/>
4. XML check:	
a. Check that the DMC file name matches the DMC in the XML file (e.g., if the DMC in the XML file includes issue number and/or language, the file name must also include the information).....	<input type="checkbox"/>
1	

FIGURE 2. Example of an in-process review checklist for new IETPs (S1000D).

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QA In-process Review Checklist for New IETPs (S1000D)	
b.	Check that the PMC file name matches the PMC in the XML file <input type="checkbox"/>
c.	Check that the version of the schema matches the version of the specification used to develop the IETP .. <input type="checkbox"/>
d.	Check that the correct schema is used for each information set (e.g., descriptive, procedural, etc.) <input type="checkbox"/>
e.	Check that the graphic entity declarations point to the location of each graphic file <input type="checkbox"/>
f.	Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG) <input type="checkbox"/>
5.	Check that viewer functions are in accordance with the approved S1000D functionality matrix <input type="checkbox"/>
6.	Conduct a review to monitor the placement of the IETP technical information within display device to be used. A demonstration should be conducted showing the following in accordance with NAVAIRINST 4120.11 or the business rules specified in the TMCR:
a.	Standard navigation buttons and their location and use <input type="checkbox"/>
b.	Placement and use of the table of contents <input type="checkbox"/>
c.	Placement of the technical content such as narrative text, procedural data and parts information <input type="checkbox"/>
d.	Display and placement of graphics <input type="checkbox"/>
e.	Hotspot and linking capability <input type="checkbox"/>
7.	For conversion programs, all data has been completely incorporated into DMs and all DMs have been assigned the correct DMC in accordance with the approved DMRL <input type="checkbox"/>
8.	At a minimum perform the following for all completed PMs and DMs:
a.	DMCs are correct <input type="checkbox"/>
b.	PMCs are correct <input type="checkbox"/>
c.	Ensure that the information in the viewer title and subtitle bars is in accordance with the business rules specified in the TMCR <input type="checkbox"/>
d.	DM technical information is displayed in accordance with the look and feel requirements provided in NAVAIRINST 4120.11 or the business rules specified in the TMCR <input type="checkbox"/>
e.	Required personnel; references to documents and DMs; support equipment; consumables, materials, and expendables; and technical directives are included and displayed properly <input type="checkbox"/>
f.	All DM cross-reference links are active and working correctly <input type="checkbox"/>
g.	All referenced tables and illustrations are accessible <input type="checkbox"/>
h.	Technical data is accurate and adequate <input type="checkbox"/>
i.	Formatting and editorial check <input type="checkbox"/>
9.	Check that all business rules specified in the TMCR for DM development are being followed <input type="checkbox"/>
10.	Check that all applicable Interim Rapid Action Changes (IRACs), Technical Manual Evaluation Records (TMERs) and Technical Directives (TDs) have been or will be incorporated <input type="checkbox"/>
11.	Check that placeholders have been provided for all DMs (listed in the approved DMRL) that have yet to be developed <input type="checkbox"/>

FIGURE 2. Example of an in-process review checklist for new IETPs (S1000D) – Continued.

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QA In-process Review Checklist for New IETPs (S1000D)

C. SECOND AND SUBSEQUENT IN-PROCESS REVIEWS

As a minimum the following requirements shall be demonstrated:

1. Ensure that all deficiencies found during the prior in-process reviews (IPRs) have been corrected
2. For all publications and data modules not previously reviewed, repeat all IPR checks performed during the prior IPRs
3. Viewer continues to function in accordance with the approved S1000D functionality matrix and check additional functionality not demonstrated during previous IPRs

FIGURE 2. Example of an in-process review checklist for new IETPs (S1000D) – Continued.

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**QA CHECKLIST
IN-PROCESS REVIEW FOR PRINTED/PDF
TECHNICAL PUBLICATIONS
(S1000D)**

Publication Number: _____

Publication Title: _____

Issue Date: _____

Name of Reviewer/Date: _____

A. ITEMS THAT MAY BE NEEDED

1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF or printed technical manual (TM)
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix
4. TM Content and Product Plan (TM Outline)
5. Quality Assurance (QA) Program Plan
6. Original source data
7. Applicable issue of S1000D.....
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)
9. Applicable S1000D style and format requirements for printed/ PDF NAVAIR Technical Manuals
10. Data Module Requirements Lists (DMRL) to ensure that all data modules (DMs) are included
11. All Business Rules specified in the TMCR.....

B. INITIAL IN-PROCESS REVIEW

As a minimum, the following requirements shall be demonstrated:

1. Check for compliance with TMCR requirements.....
2. Review and approve final Technical Manual Content and Product Plan and ensure that the Technical Manual Content and Product Plan is being followed
3. Review and approve final DMRL:
 - a. Check that all assigned publication modules codes (PMCs) are in accordance with the S1000D or applicable business rules
 - b. Check that all assigned data module codes (DMCs) are in accordance with the S1000D Standard Numbering System (SNS).....
 - c. Check that all information codes (ICs) are in accordance with the approved Joint Service IC codes

FIGURE 3. Example of an in-process review checklist for printed/PDF technical publications (S1000D).

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QA In-process Review Checklist for Printed/PDF Technical Publications (S1000D)

4. Check that all business rules specified in the TMCR including those for PDF/printed TMs are being followed.
5. XML checks:
 - a. Check that the DMC file name matches the DMC in the XML file (e.g., if the DMC in the XML file includes issue number and/or language, the file name must also include the information).....
 - b. Check that the PMC file name matches the PMC in the XML file
 - c. Check that the version of the schema matches the version of the specification used to develop the Interactive Electronic Technical Publication (IETP).....
 - d. Check that the correct schema is used for each information set (e.g., descriptive, procedural, etc.)
 - e. Check that the graphic entity declarations point to the location of each graphic file
 - f. Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG)
6. At a minimum, perform the following for all completed DMs and PMs:
 - a. DM technical information is in accordance with applicable S1000D style and format requirements for printed/PDF NAVAIR Technical Manuals
 - b. Required personnel; references to documents and DMs; support equipment; consumables, materials, and expendables; and technical directives are included and displayed properly.....
 - c. All DM cross-reference links are active and working correctly
 - d. All referenced tables and illustrations are inserted correctly.....
 - e. Technical content is accurate and adequate.....
 - f. Formatting and editorial check.....
7. For PDF, check for adequate and accurate bookmarks and that links are working
8. Check that placeholders have been provided for all DMs (listed in the approved DMRL) that have yet to be developed
9. For conversion programs, all data has been completely incorporated into DMs and all DMs have been assigned the correct DMC in accordance with the approved DMRL
10. Check that all applicable Interim Rapid Action Changes (IRACs), Technical Manual Evaluation Records (TMERs) and Technical Directives (TDs) have been or will be incorporated

C. SECOND AND SUBSEQUENT IN-PROCESS REVIEWS

As a minimum, the following requirements shall be demonstrated during the second and subsequent in-process reviews (IPRs):

1. Ensure that all deficiencies found during the prior IPRs have been corrected
2. For all publications and data modules not previously reviewed, repeat all IPR checks performed during the prior IPRs.....

FIGURE 3. Example of an in-process review checklist for printed/PDF technical publications (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
IN-PROCESS REVIEW FOR NEW/CONVERTED IETMs	
(MIL-STD-3001-1)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Interactive Electronic Technical Manual (IETM) Viewer.....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; generated IETM	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. NAVAIRINST 4120.11, Policy for Preparation and Standardization of Naval Air Systems Command IETMs.....	<input type="checkbox"/>
5. Technical Manual (TM) Content and Product Plan (TM Outline)	<input type="checkbox"/>
6. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
7. Original source data	<input type="checkbox"/>
8. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
9. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. INITIAL IN-PROCESS REVIEW	
As a minimum, the following requirements shall be demonstrated:	
1. Check for compliance with TMCR requirements.....	<input type="checkbox"/>
2. Review and approve final Technical Manual Content and Product Plan and ensure that the Technical Manual Content and Product Plan is being followed	<input type="checkbox"/>
3. XML check:	
a. Check that the version of the data type definition (DTD) matches the version of the specification used to develop the IETM	<input type="checkbox"/>
b. Check that the correct DTD is used for each information module (e.g., descriptive, maintenance, etc.)	<input type="checkbox"/>
c. Check that the graphic entity declarations point to the location of each graphic file	<input type="checkbox"/>
d. Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG)	<input type="checkbox"/>
4. Check viewer functions in accordance with the approved MIL-STD-3001-1 functionality matrix	<input type="checkbox"/>
5. A review shall be conducted to monitor the placement of the IETM technical information within display device to be used. A demonstration should be provided showing the following in accordance with NAVAIRINST 4120.11:	
a. Standard navigation buttons and their location and use	<input type="checkbox"/>
b. Placement and use of the table of contents.....	<input type="checkbox"/>
1	

FIGURE 4. Example of an in-process review checklist for new/converted IETMs. (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA In-process Review Checklist for New/Converted IETMs (MIL-STD-3001-1)

- c. Placement of the technical content such as narrative text, procedural data and parts information
- d. Display and placement of graphics
- e. Hotspot and linking capability
- 6. At a minimum, perform the following for all completed work packages (WPs):
 - a. Information in the viewer subtitle bar is correct (TM number, security classification markings, distribution statement, nomenclature and model or part number, other identification and status information, and WP title).....
 - b. WP technical information is displayed in accordance with the look and feel requirements provided in NAVAIRINST 4120.11
 - c. Reference material and WPs, support equipment required, materials required (including consumable materials and/or expandable items), and record of applicable technical directives are included and displayed properly
 - d. All WP cross-reference links are active and working correctly
 - e. All referenced tables and illustrations are accessible
- 7. Technical data is accurate and adequate.....
- 8. Formatting and editorial check.....
- 9. Check that all applicable Interim Rapid Action Changes (IRACs), Technical Manual Evaluation Records (TMERs), and Technical Directives (TDs) have been or will be incorporated.
- 10. Check that placeholders have been provided for all publications and WPs that have yet to be developed

C. SECOND AND SUBSEQUENT IN-PROCESS REVIEWS

As a minimum, the following requirements shall be demonstrated:

- 1. Ensure that all deficiencies found during the prior in-process reviews (IPRs) have been corrected
- 2. For all publications and WPs not previously reviewed, repeat all IPR checks performed during the prior IPRs.
- 3. Viewer continues to function in accordance with the approved MIL-STD-3001-1 functionality matrix and check additional functionality not demonstrated during previous IPRs

FIGURE 4. Example of an in-process review checklist for new/converted IETMs (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST IN-PROCESS REVIEW FOR PRINTED/PDF TECHNICAL MANUALS (MIL-STD-3001-1)	
Publication Number:	
Publication Title:	
Issue Date:	
Name of Reviewer/Date:	
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF or printed technical manual (TM)	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. TM Content and Product Plan (TM Outline)	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. INITIAL IN-PROCESS REVIEW	
As a minimum, the following requirements shall be demonstrated:	
1. Check for compliance with TMCR requirements.....	<input type="checkbox"/>
2. Review and approve final Technical Manual Content and Product Plan and ensure that the Technical Manual Content and Product Plan is being followed	<input type="checkbox"/>
3. XML check:	
a. Check that the version of the data type definition (DTD) matches the version of the specification used to develop the IETM.....	<input type="checkbox"/>
b. Check that the correct DTD is used for each information module (e.g., descriptive, maintenance, etc.)	<input type="checkbox"/>
c. Check that the graphic entity declarations point to the location of each graphic file	<input type="checkbox"/>
d. Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG)	<input type="checkbox"/>
4. At a minimum, perform the following for all completed work packages (WPs):	
a. WP technical information is in accordance with MIL-STD-3001-1 style and format requirements for printed TMs.....	<input type="checkbox"/>
1	

FIGURE 5. Example of an in-process review checklist for printed/PDF technical manuals (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA In-process Review Checklist for Printed/PDF Technical Manuals (MIL-STD-3001-1)

- b. Reference material and WPs, support equipment required, materials required (including consumable materials and/or expendable items), and record of applicable technical directives are included and displayed properly
- c. All WP cross-reference links are active and working correctly
- d. All referenced tables and illustrations are inserted correctly
- e. Technical content is accurate and adequate
- f. Formatting and editorial check
- 5. For PDF, check for adequate and accurate bookmarks and that links are working
- 6. Check that placeholders have been provided for all WPs that have yet to be developed
- 7. Check that all applicable Interim Rapid Action Changes (IRACs), Technical Manual Evaluation Records (TMERs), and Technical Directives (TDs) have been or will be incorporated

C. SECOND AND SUBSEQUENT IN-PROCESS REVIEWS

As a minimum the following requirements shall be demonstrated:

- 1. Ensure that all deficiencies found during the prior in-process reviews (IPRs) have been corrected.
- 2. For all publications and work packages not previously reviewed, repeat all IPR checks performed during prior IPRs

FIGURE 5. Example of an in-process review checklist for printed/PDF technical manuals (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST IN-PROCESS REVIEW FOR PRINTED/PDF TECHNICAL MANUALS (MIL-DTL-81310)	
Publication Number:	
Publication Title:	
Issue Date:	
Name of Reviewer/Date:	
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF/printed technical manual (TM)	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. TM Content and Product Plan (TM outline)	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. MIL-DTL-81310 Specification	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. INITIAL IN-PROCESS REVIEW	
As a minimum, the following requirements shall be demonstrated:	
1. Compliance with the TMCR requirements.....	<input type="checkbox"/>
2. Review and approve final Technical Manual Content and Product Plan and ensure that the Technical Manual Content and Product Plan is being followed	<input type="checkbox"/>
3. XML check:	
a. Check that the version of the data type definition (DTD) matches the version of the specification used to develop the IETM.....	<input type="checkbox"/>
b. Check that the correct DTD is used for each information module (e.g., common procedures, configuration data, etc.).....	<input type="checkbox"/>
c. Check that the graphic entity declarations point to the location of each graphic file	<input type="checkbox"/>
d. Check that in-line graphics (e.g., hazardous materials warning icons) are in one of the web-based supported graphic formats (GIF, JPEG or JPG, and PNG)	<input type="checkbox"/>
4. At a minimum, perform the following for all completed section technical data	
a. Technical information is in accordance with MIL-DTL-81310 style and format requirements	<input type="checkbox"/>
1	

FIGURE 6. Example of an in-process review checklist for printed/PDF technical manuals (MIL-DTL-81310).

MIL-PRF-85337B(AS)

QA In-process Review Checklist for Printed/PDF Technical Manuals (MIL-DTL-81310)

- b. All paragraph, figure and table cross-reference links are active and working correctly
- c. All referenced tables and illustrations are inserted correctly
- d. Technical content is accurate and adequate
- e. Formatting is correct and editorial check is performed
- 5. For PDF, check for adequate and accurate bookmarks and that links are working
- 6. Check that placeholders have been provided for all section paragraphs that have yet to be developed
- 7. Check that all applicable Interim Rapid Action Changes (IRACs), Technical Manual Evaluation Records (TMERs) and Technical Directives (TDs) have been or will be incorporated

C. SECOND AND SUBSEQUENT IN-PROCESS REVIEWS

As a minimum, the following requirements shall be demonstrated:

- 1. Ensure that all deficiencies found during the prior in-process reviews (IPRs) have been corrected
- 2. For all publications and sections not previously reviewed, repeat all IPR checks performed during the prior IPRs

FIGURE 6. Example of an in-process review checklist for printed/PDF technical manuals (MIL-DTL-81310) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST
ADEQUACY REVIEW FOR NEW IETPs
(S1000D)

Publication Number: _____

Publication Title: _____

Issue Date: _____

Name of Reviewer/Date: _____

A. ITEMS THAT MAY BE NEEDED

1. Interactive Electronic Technical Publication (IETP) Viewer
2. Data Module Requirements List (DMRL) to ensure that all data modules (DMs) are included
3. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; and generated IETM.....
4. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix
5. NAVAIRINST 4120.11, Policy for Preparation and Standardization of Naval Air Systems Command Interactive Electronic Technical Manuals (IETMs).....
6. Technical Manual (TM) Content and Product Plan (TM Outline)
7. Quality Assurance (QA) Program Plan
8. Original source data
9. All Business Rules specified in the TMCR.....
10. Applicable Specifications/Standards and Handbooks
11. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)

B. IETP/VIEWER

1. Open the IETP in the Viewer and check the following:
 - a. The Viewer functions as specified in the Project Functionality Matrix and NAVAIRINST 4120.11
 - b. The Title page content is correct (as applicable):
 - 1) Publication/volume title
 - 2) Publication module code (PMC).....
 - 3) Issue number of the publication.....
 - 4) Distribution statement, destruction notice, and appropriate warning notices
 - 5) Other title data as specified in the specification.....
2. Check that the links in the Reset area are working.....
3. Select a DM from the Table of Contents (TOC) panel and check the following:
 - a. Subject matter displays in the main content area.....
 - b. Ensure that the information in the viewer title and subtitle bars is in accordance with the business rules specified in the TMCR

FIGURE 7. Example of an adequacy review checklist for new IETPs (S1000D).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New IETPs (S1000D)

- c. Required personnel; references to documents and data modules (DMs); support equipment; consumables, materials, and expendables; and technical directives are displayed (as applicable)
- d. Text is properly displayed in the main content area
- e. Illustrations are displayed in the graphics pane
- f. All cross-references are active and working:
 - 1) Paragraph links
 - 2) Step links
 - 3) Table links
 - 4) Figure links
 - 5) Hotspot links on graphics
 - 6) Hotspot links in multimedia
 - 7) External links
- g. If multi-sheet illustrations are included, all sheets are accessible via links

NOTE: Randomly check as many DMs as specified in the Sampling Plan in the QA Program Plan to verify adequacy and accuracy of subject matter.

C. TECHNICAL CONTENT

1. Using the DMRL, check that all systems and subsystems are listed in TOC panel
2. Ensure that warnings/cautions (alerts) are properly displayed:
 - a. Placed before the applicable step
 - b. Acknowledgement is included (if applicable)
3. Persistent warnings/cautions icons are displayed (if applicable)
4. Text is properly supported with illustrations, charts, and tables
5. Check that the TM is arranged in accordance with the specification and approved TM outline
6. Ensure that the appropriate security classification is assigned, and classified material is properly identified (if applicable)
7. Ensure that the committed source data (i.e., Technical Publication Deficiency Reports (TPDRs), Interim Rapid Action Changes (IRACs), etc.) is properly incorporated
8. Check that proper warnings and cautions are provided for hazardous materials
9. Ensure that the referenced illustration or table is correct
10. Ensure that unusual or nonstandard technical terms are defined
11. Ensure that use of official nomenclature is correct and consistently used
12. Ensure that names of controls are exactly as they appear on the equipment and are consistently used
13. Check that metric equivalents are noted where required
14. Check that technical content review comments are incorporated
15. Ensure compliance with all technical content business rules specified in the TMCR

FIGURE 7. Example of an adequacy review checklist for new IETPs (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New IETPs (S1000D)

16. Check that depth and scope of coverage in technical publication(s) and illustrated parts data is adequate to support authorized maintenance levels.....

D. FORMAT AND EDITORIAL

1. If a common name is used in lieu of official nomenclature, check that the common name is consistently used.....
2. Ensure that abbreviations and symbols are correct per applicable specification/NAVAIR business rules.....
3. Ensure that the format of paragraph headings are correct as required in the specification.....
4. Check that all text has been developed using simplified technical English.....
5. Check that grammar, spelling and punctuation are correct
6. Check that capitalization is correct (placard data, acronyms, etc.).....
7. Check that all details in exploded-view illustrations are identified by nomenclature or index number
8. Check that engineering drawings are not used as illustrations unless specified by the requiring activity
9. Ensure compliance with all format and editorial business rules.....

E. CONVERSIONS

NOTE: The following are in addition to IETP/Viewer, Technical Content, and Format and Editorial checks.

1. Check that all text has been converted
2. Check that the breakdown of the Illustrated Parts Data (IPD) is correct.....
3. Check that all illustrations are included
4. Check that effectivity symbols within the text are displayed correctly

F. MULTIMEDIA**F.1 Audio**

1. Ensure that audible warnings and cautions contained within the media are identified (if applicable)
2. Ensure that there are no extraneous noises and background sounds
3. Ensure that the audio is clear with no distortion

F.2 Video

1. Ensure that video presentation adequately conveys the textual information of all associated procedures
2. Ensure that the textual warnings and cautions in procedures are adequately reflected in the video clip.....
3. Ensure that the video clip does not detract from the intent of the textual information or cause confusion.....
4. Ensure that locations and parts are adequately depicted in the video clip.....
5. Ensure that the view and scale of an item in a video image is adequate for the maintainer to perform the procedure.....
6. Ensure that artistic fades, blends, and graphical effects are not used
7. Ensure that the use of freeze frames or mixing live actions with animated objects is limited and used only to add visual clarity (if applicable).....

FIGURE 7. Example of an adequacy review checklist for new IETPs (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New IETPs (S1000D)	
8.	Ensure that captured images are stable and free from rapid movements <input type="checkbox"/>
9.	Ensure that individual video objects, steps or scenes do not exceed two minutes (if applicable) <input type="checkbox"/>
F.3 Animation	
1.	Ensure that the animation adequately conveys the textual information of all associated procedures..... <input type="checkbox"/>
2.	Ensure that the textual warnings and cautions in procedures are adequately reflected in the animation..... <input type="checkbox"/>
3.	Ensure that images appear with adequate brightness and contrast <input type="checkbox"/>
4.	Ensure that animations start with a locator viewer..... <input type="checkbox"/>
5.	Ensure that callouts remain static or appear in the last frame for animated sequences <input type="checkbox"/>
6.	Ensure that the color red is used for only critical alerts, emergency information and warnings <input type="checkbox"/>
F.4 3D Modeling	
1.	Ensure the maintainer's viewpoint of the scene is accurate and true to life (if applicable)..... <input type="checkbox"/>
G. VALIDATION/VERIFICATION	
1.	Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)... <input type="checkbox"/>
2.	Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable)..... <input type="checkbox"/>
4	

FIGURE 7. Example of an adequacy review checklist for new IETPs (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR PRINTED/PDF	
TECHNICAL PUBLICATIONS	
(S1000D)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF or printed technical publications (TP).....	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. Technical Manual (TM) Content and Product Plan (TM Outline)	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. Applicable issue of S1000D.....	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
9. Applicable S1000D style and format requirements for printed/PDF NAVAIR Technical Manuals	<input type="checkbox"/>
10. Data Module Requirements Lists (DMRL).....	<input type="checkbox"/>
11. All Business Rules specified in the TMCR.....	<input type="checkbox"/>
12. NAVAIR 00-25-604, Naval Air Systems Command Fleet Support/Integrated Program Team Acquisition and Sustainment of NAVAIR Technical Manuals	<input type="checkbox"/>
B. TECHNICAL CONTENT	
1. Ensure that the warning/caution is placed before the applicable step	<input type="checkbox"/>
2. Verify that all preliminary requirements (e.g., required personnel; references to documents and DMs; support equipment; consumables, materials, and expendables; and technical directives) are included and displayed properly within the data modules (DMs), if applicable, and are listed at the beginning of the DM	<input type="checkbox"/>
3. Ensure that the appropriate security classification is assigned, and classified material is properly identified (if applicable).....	<input type="checkbox"/>
4. Ensure that the committed source data (e.g., Technical Publication Deficiency Reports (TPDRs), Interim Rapid Action Changes (IRACs), etc.) is incorporated	<input type="checkbox"/>
5. Check that proper warnings and cautions are provided for hazardous materials.....	<input type="checkbox"/>
6. Check that all material is authored to the level defined by the Logistics Support Analysis (LSA) or approved maintenance plan and complies with applicable specification(s).....	<input type="checkbox"/>
7. Ensure that unusual or nonstandard technical terms are defined.....	<input type="checkbox"/>
1	

FIGURE 8. Example of an adequacy review checklist for a printed/PDF technical publications (S1000D).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Publications (S1000D)

8. Ensure that the use of official nomenclature is correct and consistently used.....
9. Ensure that names of controls are exactly as they appear on the equipment and are consistently used.....
10. Check that metric equivalents are noted where required by the specification.....
11. Check that the technical content review comments are incorporated.....
12. Check that specific DMs required by the Content and Product Plan or DMRL are included.....
13. Check that the Data Module Codes (DMCs) assigned to the DMs are in accordance with the S1000D Standard Numbering System (SNS), Joint Services Information Codes (ICs) and the DMRL.....
14. Check that all applicable TPDRs are included in the Highlights DM.....
15. Check that depth and scope of coverage in technical publication(s) and illustrated parts data is adequate to support authorized maintenance levels.....

C. FORMAT AND EDITORIAL

1. Check that the Title page content is correct (as applicable):
 - a. Publication number and/or publication module code.....
 - b. Issue number/issue date.....
 - c. Official nomenclature, level of maintenance, type of manual, and model number/part number.....
 - d. Distribution statement, destruction notice and appropriate warning notices.....
 - e. Other title page information as required by applicable S1000D style and format requirements for printed/PDF NAVAIR Technical Manuals.....
2. Check that specific front matter and DMs required by the Content and Product Plan and DMRL are included, as applicable, and that the content and format is in accordance with applicable S1000D style and format requirements for printed/PDF NAVAIR Technical Manuals.....
 - a. Highlights Page.....
 - b. List of Effective DMs.....
 - c. Hazardous Materials Warning Summary (HMWS).....
 - d. Table of Contents (TOC).....
 - e. Numerical Index of Part Numbers.....
 - f. Numerical Index of Reference Designators.....
 - g. Introduction.....
 - h. Consolidated lists in separate DMs for:
 - 1) Technical directives.....
 - 2) Support equipment.....
 - 3) Consumables, materials and expendables.....
 - 4) References.....
3. Verify that warnings/cautions/notes are not split between pages.....

FIGURE 8. Example of an adequacy review checklist for a printed/PDF technical publications (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Publications (S1000D)

4. In the Table of Contents, ensure that the DM titles, DM sequence numbers and DMCs are identical to those provided in the actual DMs.....
5. Verify that all cross-references are correct. For PDF, verify that links are working
6. Verify that the format of the Illustrated Parts Data (IPD) table is in accordance with the applicable business rules specified in the TMCR.....
7. If multi-sheet illustrations are used, verify that all sheets are included.....
8. Check that references to paragraphs, illustrations and tables are correct
9. Ensure that the referenced illustration or table is correct and properly displayed on the page.....
10. Check that engineering drawings are not used as illustrations unless specified by the requiring activity
11. Check that the publication is arranged in accordance with the applicable DMRL and approved TM Outline.....
12. If a common name is used in lieu of official nomenclature, check that the common name is consistently used
13. Ensure that abbreviations and symbols are correct per applicable specification/NAVAIR business rules.....
14. Ensure that the format of paragraph headings and numbering is correct.....
15. Check that all text has been developed using simplified technical English.....
16. Check that grammar, spelling and punctuation are correct
17. Check that capitalization is correct (placard data, acronyms, etc.).....
18. Check that all details in exploded-view illustrations are identified by nomenclature or index number, and index number is correctly referenced within the text.....
19. Ensure that there are no widows and orphans in run-over text.....
20. Check that foldout illustrations are numbered as specified in the specification and located at the end of the DM.....
21. Check that the physical page layout is correct
22. Ensure that the DMCs and data module sequence numbers are included within the page image area
23. Check that all internal references to other DMs are by DM sequence number
24. Check that pages backed up with a blank page are correctly numbered (e.g., Page 17/Page 18 Blank)
25. Ensure compliance with all format and editorial business rules.....
26. Check that the PDF deliverable is correct (if applicable).....

D. PDF DELIVERABLE

1. Ensure that the PDF meets all the requirements as stated in the Distribution requirements for web posting (TOC, hyperlinks, blank pages) in NAVAIR 00-25-604

E. ADDITIONAL QA REVIEW FOR LEGACY CONVERSIONS**E.1 General**

1. Ensure that all technical content from the legacy TM has been converted and incorporated into DMs, and the correct DMCs are assigned

FIGURE 8. Example of an adequacy review checklist for a printed/PDF technical publications (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Publications (S1000D)

E.1.1 Text

1. Check that all words are spelled correctly in order to support text searchability
2. Ensure that the introductions provided in the legacy WP-formatted TMs or Chapter and Section-formatted TMs are modified to reflect DM requirements
3. Ensure that all mention of WPs and WP numbers have been removed (if applicable).....
4. Ensure that all references to chapters and sections have been removed (if applicable).....
5. If DMs flow continuously from one page to the next, ensure that the following types of data are not split and are placed on the next page:
 - a. Warnings, cautions, and notes
 - b. DM titles
 - c. DMCs and sequence numbers
 - d. "End of Data Module" statement
 - e. Paragraph titles.....
6. Ensure that the following types of DMs always start on a right-hand page and are not combined in a continuously flowing arrangement:
 - a. TPDR DM.....
 - b. HMWS DM.....
 - c. Numerical index of part numbers DM.....
 - d. Numerical index of reference designators DM.....
 - e. Introduction DM
 - f. DM of consolidated lists for:
 - 1) Technical directives
 - 2) Support equipment
 - 3) Consumables, materials, and expendables
 - 4) References.....

E.1.2 Illustrations

1. Ensure that all illustrations, drawings, diagrams are 100 percent visually accurate
2. Check that all details in exploded-view illustrations are identified by nomenclature or index number, and the index number is correctly referenced within the text.....
3. Check that all illustrations are placed at the end of the applicable DM following the last text entry
4. Check that the size of foldouts is no larger than 17x11 inch pages. Illustrations on multiple page foldouts properly align when printed at the page size identified on the file
5. Splitting foldouts into 17x11:
 - a. Ensure that figures are split at a logical break with minimum disruption of signal flow.....
 - b. Ensure that each 17x11 page contains the required marginal copy, figure title, figure number, and sheet number (if applicable)

FIGURE 8. Example of an adequacy review checklist for a printed/PDF technical publications (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Publications (S1000D)

- c. Ensure that all wires that do not terminate within 17x11 inch area continue onto consecutive sheets using a flag with a letter designation. Wires that enter the left side of the figure and exit the right side without termination retain the same flag/letter designation. Wire numbers are repeated on each sheet along with flag/letter designation
- d. Ensure that wires that continue onto consecutive sheets within a figure are properly labeled (such as CONT ON SHT XX and CONT FROM SHT XX).....
- e. Text within the illustration frame is treated as part of the illustration

E.2 VISUAL PRESENTATION**E.2.1 Bookmarks**

1. Check that all DMs provided in the DMRL are included, and that the following front matter DMs appear in the following order prior to the DMs for the technical content:
 - a. Title Page
 - b. Highlights Page.....
 - c. List of Effective DMs.....
 - d. HMWS
 - e. Numerical index of part numbers.....
 - f. Numerical index of reference designators
 - g. Introduction.....
 - h. Consolidated list of technical directives.....
 - i. Consolidated list of support equipment.....
 - j. Consolidated list of consumables, materials, and expendables
 - k. Consolidated list of references
2. Ensure that DMs are listed by DM subject title, DM sequence number and DMC
3. In the Table of Contents, ensure that the DM titles, DM sequence numbers and DMCs are identical to those provided in the actual DMs.....
4. Check that all bookmark entries are sequenced according to the arrangement of the DMs in the publication module (PM)

FIGURE 8. Example of an adequacy review checklist for a printed/PDF technical publications (S1000D) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR NEW/CONVERTED IETMs	
(MIL-STD-3001-1)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Interactive Electronic Technical Manual (IETM) Viewer.....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; generated IETM	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. NAVAIRINST 4120.11, Policy for Preparation and Standardization of Naval Air Systems Command IETMs.....	<input type="checkbox"/>
5. Technical Manual (TM) Content and Product Plan (TM Outline)	<input type="checkbox"/>
6. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
7. Original source data	<input type="checkbox"/>
8. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
9. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. IETM/VIEWER	
1. Open the IETM in the Viewer and check the following:	
a. The Viewer functions as specified in the Project Functionality Matrix and NAVAIRINST 4120.11	<input type="checkbox"/>
b. The Title page content is correct (as applicable):	
1) TM number/Publication date.....	<input type="checkbox"/>
2) TM title (level of maintenance, manual type, end item nomenclature, and model number/part number).....	<input type="checkbox"/>
3) Supersedure notice	<input type="checkbox"/>
4) Distribution statement, destruction notice and appropriate warning notices	<input type="checkbox"/>
5) Authorization notice.....	<input type="checkbox"/>
6) National stock number	<input type="checkbox"/>
7) Other data as required in MIL-STD-3001-1, Appendix C.....	<input type="checkbox"/>
1	

FIGURE 9. Example of an adequacy review checklist for new/converted IETMs (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New/Converted IETMs (MIL-STD-3001-1)

2. Check that the links in the Guidepost area are working
3. Select a system/subsystem from Table of Contents (TOC) panel and check the following:
 - a. Subject matter displays in the main content area.....
 - b. Information in the viewer subtitle bar is correct (TM number, security classification markings, distribution, nomenclature and model or part number, other identification and status information, and work package (WP) title).....
 - c. Reference material, support equipment required, materials required, technical directives are displayed (as applicable).....
 - d. Text is properly displayed in the main content area.....
 - e. Illustrations are displayed in the graphics pane.....
 - f. All cross-references are active and working:
 - 1) Paragraph links.....
 - 2) Step links.....
 - 3) Table links.....
 - 4) Figure links
 - 5) Hotspot links on graphics.....
 - 6) Hotspot links in multimedia.....
 - 7) External links
 - g. If multi-sheet illustrations are included, all sheets are accessible via links.....

NOTE: Randomly check as many systems as specified in the Sampling Plan in the QA Program Plan to verify adequacy and accuracy of subject matter.

C. TECHNICAL CONTENT

1. Using the TM outline and source data, check that all systems and subsystems are listed in TOC panel.....
2. Ensure that warnings/cautions (alerts) are properly displayed:
 - a. Placed before the applicable step
 - b. Acknowledgement included (if applicable).....
3. Persistent warnings/cautions icons are displayed (if applicable).....
4. Text is properly supported with illustrations, charts, and tables
5. Check that the TM is arranged in accordance with the applicable specification(s) and approved TM outline.....
6. Ensure that the appropriate security classification is assigned, and classified material is properly identified (if applicable).....
7. Ensure that the committed source data (e.g., Technical Publication Deficiency Reports (TPDRs), Interim Rapid Action Changes (IRACs), etc.) is properly incorporated
8. Check that proper warnings and cautions are provided for hazardous materials.....
9. Ensure that the referenced illustration or table is correct
10. Ensure that unusual or nonstandard technical terms are defined.....

FIGURE 9. Example of an adequacy review checklist for new/converted IETMs (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New/Converted IETMs (MIL-STD-3001-1)

11. Ensure that the use of official nomenclature is correct and consistently used.....
12. Ensure that the names of controls are exactly as they appear on the equipment, and are consistently used
13. Check that metric equivalents are noted where required.....
14. Check that technical content review comments are incorporated.....
15. Check that depth and scope of coverage in technical manual(s) and illustrated parts breakdown is adequate to support authorized maintenance levels

D. FORMAT AND EDITORIAL

1. If a common name is used in lieu of official nomenclature, check that the common name is consistently used
2. Ensure that abbreviations and symbols are correct per applicable specification
3. Ensure that the format of paragraph headings are correct as required in the specification.....
4. Check that grammar, spelling and punctuation are correct
5. Check that capitalization is correct (placard data, acronyms, etc.).....
6. Check that all details in exploded-view illustrations are identified by nomenclature or index number
7. Check that format and editorial comments are incorporated.....

E. CONVERSIONS

NOTE: The following are in addition to IETM/Viewer, Technical Content, and Format and Editorial checks.

1. Check that all text has been converted
2. Check that the breakdown of the group assembly parts list (GAPL) in the Illustrated Parts Breakdown (IPB) is correct.....
3. Check that all illustrations are included
4. Check that effectivity symbols within the text are displayed correctly

F. MULTIMEDIA**F.1 Audio**

1. Ensure that audible warnings and cautions contained within the media are identified (if applicable)
2. Ensure that there are no extraneous noises and background sounds
3. Ensure that the audio is clear with no distortion

F.2 Video

1. Ensure that video presentation adequately conveys the textual information of all associated procedures
2. Ensure that the textual warnings and cautions in procedures are adequately reflected in the video clip.....
3. Ensure that the video clip does not detract from the intent of the textual information or cause confusion

FIGURE 9. Example of an adequacy review checklist for new/converted IETMs (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for New/Converted IETMs (MIL-STD-3001-1)

4. Ensure that locations and parts are adequately depicted in the video clip
5. Ensure that the view and scale of an item in a video image is adequate for the maintainer to perform the procedure
6. Ensure that artistic fades, blends, and graphical effects are not used.
7. Ensure that the use of freeze frames or mixing live actions with animated objects is limited and used only to add visual clarity (if applicable)
8. Ensure that captured images are stable and free from rapid movements
9. Ensure that individual video objects, steps or scenes do not exceed two minutes (if applicable)

F.3 Animation

1. Ensure that the animation adequately conveys the textual information of all associated procedures
2. Ensure that the textual warnings and cautions in procedures are adequately reflected in the animation
3. Ensure that images appear correct with adequate brightness and contrast
4. Ensure that animations start with a locator viewer
5. Ensure that callouts remain static or appear in the last frame for animated sequences
6. Ensure that the color red is used and applies only to critical alerts, emergency information and warnings

G. VALIDATION/VERIFICATION

1. Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)...
2. Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable).....

FIGURE 9. Example of an adequacy review checklist for new/converted IETMs (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR UPDATES (CHANGES) TO IETMs	
(MIL-STD-3001-1)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Interactive Electronic Technical Manual (IETM) Viewer.....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; generated IETM	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. NAVAIRINST 4120.11, Policy for Preparation and Standardization of Naval Air Systems Command IETMs.....	<input type="checkbox"/>
5. Technical Manual (TM) Content and Product Plan (TM Outline)	<input type="checkbox"/>
6. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
7. Original source data	<input type="checkbox"/>
8. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
9. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
B. TECHNICAL CONTENT	
1. Source data is incorporated as indicated in redline mark-up (if applicable).....	<input type="checkbox"/>
2. All technical content review comments are incorporated.....	<input type="checkbox"/>
3. Classification markings are provided as required.....	<input type="checkbox"/>
4. Illustrations correctly support the text.....	<input type="checkbox"/>
5. Check that depth and scope of new /changed information in technical manual(s) and illustrated parts breakdown is adequate to support authorized maintenance levels	<input type="checkbox"/>
C. FORMAT AND EDITORIAL	
1. Check that the following Title page content is correct (as applicable):	
a. Change number/change date	<input type="checkbox"/>
b. TM title (level of maintenance, manual type, end item nomenclature, and model number/part number).....	<input type="checkbox"/>
c. Distribution statement, destruction notice and appropriate warning notices	<input type="checkbox"/>
d. Supersedure notice or change notice	<input type="checkbox"/>
2. Check that the Technical Publication Deficiency Report (TPDR) incorporation page is complete and correct...	<input type="checkbox"/>
3. Check that changed/new data is identified by change symbols, as required	<input type="checkbox"/>
1	

FIGURE 10. Example of an adequacy review checklist for updates (changes) to IETMs (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Updates (Changes) to IETMs (MIL-STD-3001-1)	
4.	Check that previously applied change symbols are removed from current change pages <input type="checkbox"/>
5.	Check that changed/new data is properly merged with other data in the publication..... <input type="checkbox"/>
6.	Check that added or deleted illustrations are correctly identified..... <input type="checkbox"/>
7.	Check that paragraphs, figures and tables are referenced correctly..... <input type="checkbox"/>
8.	Check that illustrations are clear <input type="checkbox"/>
9.	Check that text references to figure index numbers are changed if the figure was changed <input type="checkbox"/>
D. VALIDATION/VERIFICATION	
1.	Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)... <input type="checkbox"/>
2.	Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable)..... <input type="checkbox"/>
2	

FIGURE 10. Example of an adequacy review checklist for updates (changes) to IETMs (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR PRINTED/PDF	
TECHNICAL MANUALS	
(MIL-STD-3001-1)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF or printed technical manual (TM)	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. Technical Manual Content and Product Plan (TM Outline).....	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
9. NAVAIR 00-25-604, Naval Air Systems Command Fleet Support/Integrated Program Team Acquisition and Sustainment of NAVAIR Technical Manuals	<input type="checkbox"/>
B. TECHNICAL CONTENT	
1. Ensure that warning or caution is placed before the applicable step	<input type="checkbox"/>
2. Verify that all reference material, support equipment, materials required (including consumable materials and/or expendable items), and Record of Technical Directives within a work package (WP) are listed at the beginning of the WP (if applicable).....	<input type="checkbox"/>
3. Ensure that the appropriate security classification is assigned, and classified material is properly identified (if applicable).....	<input type="checkbox"/>
4. Ensure that the committed source data (e.g., Technical Publication Deficiency Reports (TPDRs), Interim Rapid Action Changes (IRACs), etc.) is properly incorporated	<input type="checkbox"/>
5. Check that proper warnings and cautions are provided for hazardous materials.....	<input type="checkbox"/>
6. Check that all material is authored to the level defined by the Logistics Support Analysis (LSA) or approved maintenance plan, and complies with applicable specification(s).....	<input type="checkbox"/>
7. Ensure that unusual or nonstandard technical terms are defined.....	<input type="checkbox"/>
8. Ensure that use of official nomenclature is correct and consistently used.....	<input type="checkbox"/>
9. Ensure that names of controls are exactly as they appear on the equipment, and are consistently used.....	<input type="checkbox"/>
1	

FIGURE 11. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Manuals (MIL-STD-3001-1)

10. Check that metric equivalents are noted where required by the specification.....
11. Check that technical content review comments are incorporated.....
12. Check that depth and scope of coverage in technical manual(s) and illustrated parts breakdown is adequate to support authorized maintenance levels

C. FORMAT AND EDITORIAL

1. Check that the Title page content is correct (as applicable):
- a. TM number/Publication date.....
- b. Change number/change date (if applicable).....
- c. TM title (level of maintenance, manual type, end item nomenclature, and model number/part number).....
- d. Supersedure notice
- e. Distribution statement, destruction notice and appropriate warning notices
- f. Authorization notice.....
- g. National stock number
- h. Other title page information as required in MIL-STD-3001-1, Appendix B.....
2. Check that front matter and specific WPs required by the specification, content selection matrix or approved TM outline are included:
- a. Numerical Index of Effective WPs/Pages
- b. TPDR Page (revisions only).....
- c. Hazardous Materials Warnings Summary (HMWS).....
- d. Alphabetical Index (WP 001 00).....
- e. Numerical Index of Part Numbers (WP 001 01)
- f. Numerical Index of Reference Designators (WP 001 02)
- g. Introduction (WP 002 00)
- 1) Consolidated lists for technical directives, support equipment, materials, and references (WP 002 01).....
- 2) Maintenance allocation (engines only) (WP 002 02)
- h. Technical content begins with WP 003 00
3. Check that the WP numbering system for sub-WPs is correct.....
4. Check that the WP page count is not excessive (30-50 pages or less)
5. Verify that warnings/cautions/notes are not split between pages
6. Verify that warnings/cautions/notes do not contain procedural information.....
7. Verify that all cross-references are correct. For PDF, verify that links are correct (if applicable).....
8. Verify that the format of the group assembly parts list (GAPL) is in accordance with the specification.....
9. If multi-sheet illustrations are used, verify that all sheets are included.....

FIGURE 11. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Manuals (MIL-STD-3001-1)

10. Check that references to paragraphs, illustrations and tables are correct
11. Ensure that the referenced illustration or table is correct and properly displayed on the page
12. Check that engineering drawings are not used as illustrations unless specified by the requiring activity
13. Check that the TM is arranged in accordance with the applicable specification(s) and approved TM outline.....
14. If a common name is used in lieu of official nomenclature, check that the common name is consistently used
15. Ensure that abbreviations and symbols are correct per applicable specification
16. Ensure that the format of paragraph headings and numbering are correct
17. Check that grammar, spelling and punctuation are correct
18. Check that capitalization is correct (placard data, acronyms, etc.).....
19. Check that all details in exploded-view illustrations are identified by nomenclature or index number, and index number is correctly referenced within the text.....
20. Ensure that there are no widows and orphans in runover text
21. Check that foldout illustrations are numbered as specified in the specification and located after figures at the end of the WP
22. Check that pages backed up with a blank page are correctly numbered (e.g., Page 17/Page 18 Blank)
23. Check that the physical page layout is correct
24. Check that use and choice of color is as specified by the requiring activity (if applicable)
25. Check that format and editorial comments are incorporated.....
26. Check that the PDF deliverable is correct (if applicable).....

D. PDF DELIVERABLE

1. Ensure that the PDF meets all the requirements as stated in the Distribution requirements for web posting (table of contents (TOC), hyperlinks, blank pages) in NAVAIR 00-25-604.....

E. VALIDATION/VERIFICATION

1. Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)...
2. Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable).....

FIGURE 11. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR CHANGES TO	
PRINTED/PDF TECHNICAL MANUALS	
(MIL-STD-3001-1)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader for displaying Portable Document Format (PDF) files	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF or printed technical manual (TM)	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. Technical Manual Content and Product Plan (TM Outline).....	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. Applicable Specifications/Standards and Handbooks	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
9. NAVAIR 00-25-604, Naval Air Systems Command Fleet Support/Integrated Program Team Acquisition and Sustainment of NAVAIR Technical Manuals	<input type="checkbox"/>
B. TECHNICAL CONTENT	
1. Source data is incorporated as indicated in redline mark-up (if applicable).....	<input type="checkbox"/>
2. Existing pages marked up for this change are the latest issue for the manual	<input type="checkbox"/>
3. Classification markings are provided as required.....	<input type="checkbox"/>
4. If backup pages are affected in a change to a classified manual, classification markings on these pages are correct	<input type="checkbox"/>
5. Illustrations correctly support the text.....	<input type="checkbox"/>
6. All technical content review comments are incorporated.....	<input type="checkbox"/>
7. Check that depth and scope of changed/new information in technical manual(s) and illustrated parts breakdown is adequate to support authorized maintenance levels	<input type="checkbox"/>
C. FORMAT AND EDITORIAL	
1. Check that the Title page content is correct (as applicable):	
a. Change number/change date	<input type="checkbox"/>
b. TM title (level of maintenance, manual type, end item nomenclature, and model number/part number).....	<input type="checkbox"/>
1	

FIGURE 12. Example of an adequacy review checklist for changes to printed/PDF technical manuals (MIL-STD-3001-1).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Changes to Printed/PDF Technical Manuals (MIL-STD-3001-1)

- c. Distribution statement, destruction notice and appropriate warning notices
- d. Supersedure notice or change notice
- 2. Check that Numerical Index of Effective Work Packages (WPs)/Pages is correct
- 3. Check that Technical Publication Deficiency Report (TPDR) incorporation page is complete and correct.....
- 4. Check that warnings/cautions are not split between pages.....
- 5. Check that there are no widows or orphans in runover text
- 6. Check that changed/new data is identified by change symbols (as required).....
- 7. Check that previously applied change symbols are removed from current change pages
- 8. Check that changed/new data is properly merged with other data in the publication.....
- 9. Check that affected pages are marked with change numbers/dates
- 10. Check that added or deleted illustrations are correctly identified.....
- 11. Check that illustrations are clear
- 12. Check that added work packages are correctly numbered in WP sequence
- 13. Check that paragraphs, tables and figures are correctly referenced.....
- 14. Check that text references to figure index numbers are changed if the figure was changed
- 15. Check that the alphabetical index is updated to reflect impact of changes in the manual content or spillover of data

D. PDF DELIVERABLE

- 1. Ensure that the PDF meets all the requirements as stated in the Distribution requirements for web posting (TOC, hyperlinks, blank pages) in NAVAIR 00-25-604

E. VALIDATION/VERIFICATION

- 2. Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)...
- 3. Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable).....

FIGURE 12. Example of an adequacy review checklist for changes to printed/PDF technical manuals (MIL-STD-3001-1) – Continued.

MIL-PRF-85337B(AS)

QA CHECKLIST	
ADEQUACY REVIEW FOR PRINTED/PDF	
TECHNICAL MANUALS	
(MIL-DTL-81310)	
Publication Number:	_____
Publication Title:	_____
Issue Date:	_____
Name of Reviewer/Date:	_____
A. ITEMS THAT MAY BE NEEDED	
1. Adobe Acrobat Reader (for Portable Document Format (PDF)).....	<input type="checkbox"/>
2. Extensible markup language (XML) files for verifying proper tagging and resolving discrepancies; graphic files; PDF/printed technical manual (TM)	<input type="checkbox"/>
3. Technical Manual Contract Requirements (TMCR) including Project Functionality Matrix	<input type="checkbox"/>
4. Technical Manual Content and Product Plan (TM outline).....	<input type="checkbox"/>
5. Quality Assurance (QA) Program Plan	<input type="checkbox"/>
6. Original source data	<input type="checkbox"/>
7. MIL-DTL-81310 Specification	<input type="checkbox"/>
8. Text editor for viewing XML (e.g., Epic Editor, Notepad, WordPad, etc.)	<input type="checkbox"/>
9. NAVAIR 00-25-604, Naval Air Systems Command Fleet Support/Integrated Program Team Acquisition and Sustainment of NAVAIR Technical Manuals	<input type="checkbox"/>
B. TECHNICAL CONTENT	
1. Verify that all tools and equipment, consumable materials, and special tools and equipment referenced within the sections are complete.....	<input type="checkbox"/>
2. If a classified supplement is procured, ensure that the appropriate security classification is assigned and classified material is properly identified.....	<input type="checkbox"/>
3. Ensure that the committed source data (e.g., Technical Publication Deficiency Reports (TPDRs), Interim Rapid Action Changes (IRACs), etc.) is incorporated	<input type="checkbox"/>
4. Check that proper warnings and cautions are provided for hazardous materials.....	<input type="checkbox"/>
5. Ensure that unusual or nonstandard technical terms are defined.....	<input type="checkbox"/>
6. Ensure that use of official nomenclature is correct and consistently used.....	<input type="checkbox"/>
7. Ensure that names of controls are exactly as they appear on the equipment and are consistently used.....	<input type="checkbox"/>
8. Check that metric equivalents are noted where required by the specification.....	<input type="checkbox"/>
9. Check that technical content review comments are incorporated.....	<input type="checkbox"/>
10. Check that depth and scope of coverage in technical manual(s) and illustrated parts breakdown is adequate to support authorized maintenance levels	<input type="checkbox"/>
1	

FIGURE 13. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-DTL-81310).

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Manuals (MIL-DTL-81310)

C. FORMAT AND EDITORIAL

1. Check that the Title page content is correct (as applicable):
 - a. TM number/Publication date.....
 - b. Change number/change date
 - c. TM title (level of maintenance, manual type/weapon type, end item nomenclature, and model number/
part number).....
 - d. Supersedure notice
 - e. Distribution statement, destruction notice and appropriate warning notices
 - f. Authorization notice.....
 - g. National stock number
2. Check that specific items required by the specification are included and are correct:
 - a. List of Effective Pages
 - b. Letter of Promulgation Page
 - c. TPDR Incorporated
 - d. Table of Contents
 - e. List of Illustrations
 - f. List of Tables
 - g. Safety Summary
 - h. Warnings Applicable to Hazardous Materials (for WAM only)
 - i. Other peculiar information as covered by the specification
3. Check that the Introduction contains the information as specified in the specification (as applicable).....
4. Ensure that only the Hazardous Materials icons appearing in the manual are explained
5. Ensure that Hazardous Materials Warnings are listed in order of first appearance in the manual.....
6. Ensure that warnings/cautions are placed before the applicable step
7. Verify that warnings/cautions/notes are not split between pages
8. Verify that warnings/cautions/notes do not contain procedural information.....
9. Verify that all cross-references are correct. For PDF, verify that links are working
10. Verify that the format of the group assembly parts list (GAPL) is in accordance with the specification
11. If multi-sheet illustrations are used, verify that all sheets are included
12. Check that references to paragraphs, illustrations and tables are correct
13. Ensure that the referenced illustration or table is correct and properly displayed on the page
14. Check that engineering drawings are not used as illustrations unless specified by the requiring activity
15. Check that the TM is arranged in accordance with the specification and approved TM outline
16. Check that all material is authored to the level defined by the Logistics Support Analysis (LSA) or approved
maintenance plan, and complies with the specification.....

FIGURE 13. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-DTL-81310) – Continued.

MIL-PRF-85337B(AS)

QA Adequacy Review Checklist for Printed/PDF Technical Manuals (MIL-DTL-81310)

- 17. If a common name is used in lieu of official nomenclature, check that the common name is consistently used
- 18. Ensure that abbreviations and symbols are correct per the specification
- 19. Ensure that the format of paragraph headings is correct as required in the specification
- 20. Check that grammar, spelling and punctuation are correct
- 21. Check that capitalization is correct (placard data, acronyms, etc.).....
- 22. Check that all details in exploded view illustrations are identified by nomenclature or index number, and index number is correctly referenced within the text.....
- 23. Ensure that there are no widows and orphans in runover text
- 24. Ensure that the placement of an illustration with respect to its figure reference in the text is correct.....
- 25. Check that figures are numbered and figures and tables appear in the correct order after the reference.....
- 26. Check that line drawings are used in lieu of half-tone or continuous tone art.....
- 27. Check that the physical page layout is correct
- 28. Check that use and choice of color is as specified by the requiring activity (if applicable)
- 29. Ensure that external references are made only to NAVAIR manuals by publication number, or manuals formally assigned a NAVAIR publication number
- 30. Ensure that internal references to paragraphs, figures, and tables are referenced by number

D. PDF DELIVERABLE

- 1. Ensure that the PDF meets all the requirements as stated in the Distribution requirements for web posting (TOC, hyperlinks, blank pages) in NAVAIR 00-25-604

E. VALIDATION/VERIFICATION

- 1. Ensure that validation comments are incorporated, and the validation certification is prepared (if applicable)...
- 2. Ensure that verification comments are incorporated, and the verification certification is prepared (if applicable).....

3

FIGURE 13. Example of an adequacy review checklist for printed/PDF technical manuals (MIL-DTL-81310) – Continued.

MIL-PRF-85337B(AS)

CONCLUDING MATERIAL

Custodian:
Navy – AS

Preparing activity:
Navy – AS
(Project TMSS-2012-005)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST online database at <https://assist.daps.dla.mil>