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DEPARTMENT OF DEFENSE HANDBOOK

GUIDANCE FOR ACQUISITION OF TRAINING DATA PRODUCTS AND SERVICES

(PART 1 OF 5 PARTS)

This Handbook is for guidance only. Do not cite this document as a requirement.

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FOREWORD

1. This handbook is approved for use by all Departments and Agencies of the Department of Defense (DoD). This handbook is intended to provide guidance to DoD personnel on preparing solicitations and evaluating solicitation responses.

2. This handbook is intended for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

3. MIL-HDBK-29612-1 is Part 1 of 5 Parts. Part 1 provides guidance that can be used by all Services for the preparation of solicitations and evaluation of solicitation responses for training. Emphasis has been placed on reducing costs, promoting commercial products and practices, and promoting the use of the latest technologies. Every effort has been made to ensure this document fosters these goals and does not act as a barrier.

4. MIL-HDBK-29612-2 is Part 2 of 5 Parts. Part 2 provides guidance that may be used by all Services for the analysis, design, development, implementation, and evaluation of instruction and instructional materials. Part 3, MIL-HDBK-29612-3, DoD Handbook, Development of Interactive Multimedia Instruction (IMI), contains guidance on the application of the multimedia training courseware development process. Part 4, MIL-HDBK-29612-4, DoD Handbook, Glossary for Training, contains a listing of training terms and definitions. Part 5, MIL-HDBK-29612-5, DoD Handbook, Advanced Distributed Learning (ADL) Products and Systems.

5. This handbook provides guidance for the acquisition of page-based data products and standard digital data format training data products specified in MIL-PRF-29612, Performance Specification, Training Data Products. This handbook supersedes MIL-HDBK-29612-1, Guidance for Acquisition of Training Data Products and Services.

6. There are numerous ways to procure training and training data products. The acquisition guidance in this handbook may not be applicable to your organization. This handbook reflects guidance related to the Statement of Objectives (SOO) approach. Other sources for alternate methods to procure training data products are AFMAN 36-2234 and AFHDBK 36-2235.

7. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Air Warfare Center Aircraft Division, Code 414100B120-3, Highway 547, Lakehurst, NJ 08733-5100 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Scope. This part of the handbook provides guidance to Department of Defense (DoD) personnel on the procurement of training data products and services. This handbook is intended for guidance only. This handbook cannot be cited as a requirement. If it is, the contractor does not have to comply.

1.1.1 Acquisition guidance. This part of the handbook provides guidance to DoD personnel on preparing a Request For Proposals (RFP) and evaluating RFP responses. The handbook provides tools for the RFP writer to collect essential information about a contractor's management and development processes for training. It also includes tailoring guidance for the Performance Specification, Training Data Products (MIL-PRF-29612), and related Data Item Descriptions (DID), DI-SESS-81517B through 81527B.

1.1.2 Introduction to the Statement Of Objectives (SOO). This handbook includes a concept called the SOO. Following DoD direction to lower Government costs by encouraging innovative contract options and flexible design solutions, the SOO captures the top level objectives of an RFP and allows the offerors complete freedom in the structure and definition of Statement of Work (SOW) tasks as they apply to the proposed approach. The SOO concept is explained in detail in Section 4 (See 4.2.1).

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed below are not necessarily all of the documents referenced herein, but are the ones that are needed, in order to fully understand the information provided by this handbook.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the latest issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto.

SPECIFICATIONS

MILITARY

MIL-PRF-29612 Performance Specification, Training Data Products

STANDARDS

MIL-STD-974	Military Standard, Contractor Integrated Technical Information Service (CITIS)
MIL-STD-1840	Interface Standard, Automated Interchange of Technical Information

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from: 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 document to the extent specified herein.

DEPARTMENT OF DEFENSE

DoDISS	Department of Defense Index of Specifications and Standards
MIL-HDBK-29612-2	Department of Defense Handbook, Instructional Systems Development/Systems Approach to Training and Education (Part 2 of 5 Parts)
MIL-HDBK-29612-3	Department of Defense Handbook, Development of Interactive Multimedia Instruction (IMI) (Part 3 of 5 Parts)
MIL-HDBK-29612-4	Department of Defense Handbook, Glossary for Training (Part 4 of 5 Parts)
MIL-HDBK-29612-5	Department of Defense Handbook, Advanced Distributed Learning (ADL) Products and Systems (Part 5 of 5 Parts)

(Copies of the DoDISS are available on a yearly subscription basis from either the US Government Printing Office, Washington, DC 20402-0001, or from DoDSSP, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094)

2.3 Order of precedence. 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 exemption has been obtained.

3. DEFINITIONS

3.1 General. Definitions, abbreviations, and acronyms are provided in MIL-HDBK-29612-4, Department Of Defense Handbook, Glossary for Training.

4. GENERAL RFP PREPARATION GUIDANCE

4.1 General guidance. This section provides general guidance applicable to RFPs for training data products and related services. The RFP defines the Government's requirements and constitutes the cornerstone of the program, as it ultimately shapes the resultant contract. Consult with your contracting officer whenever specific procurement information is needed.

4.2 Options for preparing the Statement of Work. The following paragraphs discuss preparing a RFP with a SOO or SOW. The SOO is how the government requires the offeror to submit a SOW and DD Form 1423, Contract Data Requirements List (CDRL) as part of the proposal. When a SOO is not used the Government will submit a SOW and CDRL(s) as part of the RFP.

4.2.1 SOO concept. The SOO is a Government prepared document incorporated into the RFP that states the overall RFP objectives. It is provided in the RFP instead of a Government written SOW. The SOO can be used to provide the maximum flexibility to each offeror to propose an innovative development approach to satisfy the objectives. Offerors use the RFP, product performance requirements, and SOO as a basis for preparing their proposals which will include a SOW and CDRL(s). NOTE: The SOO is not retained as a contract compliance item.

4.2.1.1 SOO purpose. The SOO should provide the basic, top-level objectives of the acquisition. This approach provides potential offerors the flexibility to develop cost effective solutions and the opportunity to propose innovative alternatives meeting the stated objectives. It also presents the Government with an opportunity to assess the offerors understanding of all aspects of the effort to be performed. Figure 1 provides a sample SOO format.

STATEMENT OF OBJECTIVES (SOO) FOR THE _____TRAINING PROGRAM

1.0 **PROGRAM OBJECTIVES**.

1.1 Training program: To establish a cost effective organic Government training capability that supports operation and maintenance of the _____ Weapons System. The operator training scope includes _____weapons system normal and emergency operating conditions, and mission operations in a hostile environment. The maintenance training scope includes _____ organizational level preventive and corrective maintenance on the _____weapons system, and intermediate level maintenance on repairable components of the _____ weapons system. Establish this organic training capability not later than 3 months before delivery to the Government of the first _____ weapons system production model. The following objectives of the organic training program:

a. Provide military personnel who have basic _____ knowledge and skills with the capability to operate the _____weapons system in normal and emergency operations with little to no supervision. The applicable basic knowledge and skills are listed in Attachment ____.
b. Provide military personnel who have basic _____ knowledge and skills (apprentice level) with the capability to maintain the _____weapons system and related equipment with little to no supervision (journeymen level). The applicable basic knowledge and skills are listed in Attachment ____.

1.2 Training capability: Provide military personnel who have the basic skills and knowledge to instruct personnel with the capability to teach the ____weapons system using applicable training media.

2.0 **CONTRACT OBJECTIVES**.

2.1 Training Services.

a. The offerors training development approach will result in training data that is compatible with the organic training activity's capability for use and life cycle maintenance of the data.
b. The offerors approach to the conduct of instructor training will result in instructor trainee graduates who have the ability to teach the _____ weapons system operation and maintenance.

2.2 Training data product requirements. Provide training data products in accordance with MIL-PRF-29612 that will support the organic conduct and life cycle configuration of ____weapons system operator and maintainer training. The following are considered by the Government to be the minimum required. The offeror is encouraged to propose additional data requirements as deemed necessary to support this objective.

a. Lesson plan.
b. Trainee guide.
c. Course conduct information package.

NOTE: This sample is not meant to be representative of an actual Government requirement. It is incomplete and is provided only as an example of a SOO format.

FIGURE 1. **Sample SOO format**.

4.2.1.2 SOO content. SOOs contain brief statements, and average 2-4 pages in length. Contract Schedules, Sections L and M should follow with instructions to the offerors requesting proposal information supporting the Government's objectives, and evaluation criteria that clearly identifies how the offerors responses will be evaluated. Each part of the RFP must support every

other part. The key is to keep the SOO clear and concise and to provide potential offerors with enough information to structure a sound program, designed to be executable and satisfy Government objectives. The SOO is used, along with other information and instructions in the RFP, by offerors to develop the SOW and other documents supporting and defining the offerors proposed effort. The SOO may be listed in Section J, attached at the end of the RFP, or referenced in Section L and/or Section M and attached as an annex. Alternatively, the SOO may be placed in Section L of the RFP. The placement of the SOO within the RFP is a decision to be made by the procuring activity. At contract award, the SOO is replaced in the contract by the SOW.

4.2.1.3 SOO development approach. A systematic process is essential for SOO development. The following steps are an integral part of that process:

a. Conduct market research to determine whether commercial items or non-developmental items are available to meet program requirements.
b. Review the requirement documents that establish the need for training.
c. Review the various DoD/Services/Joint Services requirements documents for program management, acquisition, and control impact.
d. Prepare a bibliography citing the specific portions of all applicable governing instructions, directives, specifications, and standards with which the program must comply. Keep these requirements to the absolute minimum.
e. Establish top-level program objectives for the procurement.
f. Identify the Government's minimum data requirements for training data products.
g. State the evaluation criteria that will be used to evaluate the proposals.
h. Provide instructions to the offeror to include requiring the offeror to use the SOO to construct and submit a SOW and CDRL. Stress the importance of the evaluation of the SOW and CDRL(s) as they are critical elements in assessing the offerors understanding of both required goods/services, and work effort required to accomplish them.

4.2.1.4 RFP/SOO guidance.

a. Section L of the RFP must include instructions to the offeror that require using the SOO to construct and submit a SOW and CDRL(s). An example of such wording for Section L follows:

"The Statement Of Objectives (SOO), included as (cite location of SOO in the RFP), provides the Government's overall objectives for this RFP. Offerors shall use the SOO, together with other applicable portions of this RFP, as the basis for preparing their proposal, including the Contract Work Breakdown Structure (CWBS), SOW, and CDRL(s). The offeror shall ensure all aspects of the SOO are addressed. The SOW should specify in clear, understandable terms the work to be done in developing or producing the goods to be delivered or services to be

performed by the contractor. Preparation of an effective SOW requires both an understanding of the goods or services that are needed to satisfy the training requirement and an ability to define what is required in specific, performance based, quantitative terms. The offerors understanding of both required goods/services, and work effort required to accomplish should be fully demonstrated in the offer's proposed CWBS, SOW, and CDRL(s).

The offeror shall use their proposed SOW as the basis in preparing a CDRL(s) that includes appropriately tailored DID references. The requirements listed below are known minimum Government data requirements. The offeror may include additional data requirements. All data requirements shall be traceable to specific tasks defined in the SOW. Each training data requirement shall be specified using the CDRL form. The Government's minimum data requirements are as follows:

(1) [Lesson Plan.]
(2) [Trainee Guide.]
(3) [Course Conduct Information Package.] " (End of Section L example wording.)

b. Section M of the RFP must include evaluation factors for award and should include sufficient criteria to:

(1) Evaluate the offerors ability to successfully achieve the SOO objectives.
(2) Ensure a sound approach is proposed in the offerors SOW.
(3) Verify that all requirements can be met.
(4) Place emphasis on the Government's intention to evaluate the SOW in both Section L and Section M. Evaluate the offerors proposed CWBS, SOW, and CDRL(s) in assessing the offerors understanding of both required goods/services, and work effort required to accomplish them.

4.2.2 Statement of Work. The SOW may be prepared by either the Government or the offeror. The SOW should only be used in a RFP in those cases where exact design or work effort is needed. An offeror submits a proposal based on their perception of the Government's needs as defined in the RFP, product performance requirements, SOW, and CDRL(s). MIL-HDBK-245 provides detailed guidance in the preparation of SOWs.

4.2.2.1 Purpose of the SOW. The SOW serves as the standard for determining if the contractor meets the stated performance requirements. The SOW should specify in clear, understandable terms the work to be performed in developing or producing the goods to be delivered or services to be performed by a contractor. Precisely stated requirements will assist the offeror and the Government in negotiating a fair price for the deliverables and/or services to be provided. Ensure the SOW does not include requirements already stated in a specification or that belong in a DID. Preparation of an effective SOW requires both an understanding of the

goods or services that are needed to satisfy a particular requirement and an ability to define what is required in specific performance-based quantitative terms. The SOW also aids the Government in source selection and contract administration after award.

4.2.2.2 Relationship between SOW and MIL-PRF-29612. The SOW defines, either directly or by reference to other documents, all work tasks required of the contractor. MIL-PRF-29612 contains specific measurable performance requirements and evaluation criteria for training data products. The SOW may reference MIL-PRF-29612 when defining performance requirements for training data products.

4.2.2.3 Relationship between the SOW and contract. A SOW serves as the basis for successful performance by the contractor and is used by the Government to determine if the contractor completes the work tasks stated in the contract. It is also used for effective administration of the contract by the Government.

4.2.2.4 Relationship between the SOW and contractor performance. After contractor selection and contract award, the contract SOW becomes a standard for measuring contractor performance. Consequently, the SOW writer must consider the contractual and legal implications of the SOW during its preparation. As the contracted effort progresses, the Government and the contractor will refer to the SOW to determine their respective rights and obligations. In this respect, the SOW defines the contract and is subject to the interpretations of contract law. The SOW must clearly define the work to be performed, since the language detailing the contractor's effort may be pertinent to legal questions concerning the scope of work. In a dispute concerning performance, rights, or obligations, clearly defined requirements will enhance the legal enforceability of a SOW.

4.2.2.5 Relationship of the SOW to the CDRL and DID. The SOW establishes a specific work requirement. The associated CDRL orders a training data product and identifies due date(s), frequency for submission, distribution, tailoring requirements, etc. The DID provides the format and content requirements for a particular training data product, with non-essential data requirements tailored out of the DID as noted in the CDRL.

4.3 Training data products. MIL-PRF-29612 contains performance requirements for training data products and is the source document for 11 training related DIDs. These DIDs (see 1.1.1) contain content and format requirements for training data products. There are basically six types of format for training data products. They are as follows:

4.3.1 Page-based (composed) data products. Human-readable or viewable documents in digital or hard copy format. These products display pages, illustrations, or other objects. Page-based training documents normally provide textual (prose) information and/or graphics that, as

delivered, are suitable for use in an instructional environment (e.g., a hard-copy lesson plan, transparency, wall chart, graphic, etc.).

4.3.2 Standard digital data. Standard digital data is information presented in a format that conforms to the data standards specified in the DoD Data Architecture (DDA) and Defense Data Dictionary System (DDDS). Use of DDA and DDDS specifications for data facilitates interoperability of training data, not only in training systems, but also in any DoD system which might have need of it. By using standard digital data, instructional materials source data can be electronically interchanged and re-used among the Services. In order to accomplish this objective, the application of standard digital data requirements should be considered when contracting for training development. Appendix B provides samples of standard digital data formatted in accordance with DDDS requirements. Standard digital data can be managed with a computer-based Relational Data Base Management System (RDBMS). Other characteristics of standard digital data are as follows:

a. Standard digital data can be delivered as paper copy but will normally be delivered as digital data tables in database form. That is, there will be a field name (data element) and the data contained in the field (assigned value) for each data element. The assigned value could be a code, textual information, date, time, etc.
b. For standard digital data to be usable, it is normally necessary to have an RDBMS that is capable of electronically manipulating the data into information suitable for use in an instructional environment.

4.3.2.1 Why standard digital data? Currently, many training data products are produced as page formatted documents. These documents are usually developed using a word processing program. As such, data delivered as part of a page formatted document lacks a breakdown of data to the depth of detail required for true re-use and interoperability. Standard digital data is information that is decomposed into unique, single-concept data elements which allow for full data re-use and interoperability. Proper use of standard digital data will provide for the following:

a. Consistency of data and data use across systems.
b. Minimal redundant data collection and entry.
c. Maximum utilization of current and emerging technology.
d. Improved audit trail accessibility. Through the use of a RDBMS, the traceability of specific training requirements through all elements (e.g., mission, task statement, Learning Objective (LO), sensory stimulus requirement, instructional method, media, lesson topic, etc.) and decision points is maintained. Also, rapid retrieval of this audit trail enables:

    (1) Better informed management decisions concerning training course changes.

(2) Increased quality in training system configuration management and control.
(3) Support for measures of training effectiveness analyses.

e. Quality ISD processes. Through the use of a RDBMS coupled with a state-of-the-art electronic performance support system as part of the ISD process, the quality of instructional materials is continuously improved.
f. Improved life-cycle maintenance of training programs. The use of standard digital data can reduce lead-time and effort for the training course development and change process. Using standard digital data in a RDBMS greatly reduces time and effort involved in source data retrieval and enables easier re-use of training data that had been previously developed for other systems/purposes.

4.3.3 Interactive Multimedia Instruction (IMI) products. IMI products (see MIL-HDBK-29612-3) should be developed using industry format standards that have been accepted by the Government. IMI products can be used to support a variety of instructional methods (see MIL-HDBK-29612-3).

4.3.4 Still and motion audiovisual products. Still and motion audiovisual products should be developed using the standards as set forth in the Society for Motion Picture and Television Engineers (SMPTE) standard for Television Analog Recording - ½ inch, Type L - Electrical Parameters, Control Code and Tracking Control. These still and motion audiovisual products are generally used as a component of a multimedia production.

4.3.5 Sharable Content Objects (SCO). SCOs are self-contained chunks of instructional material in digital files that can be individually retrieved from a content repository, manipulated, and reused for a different purpose. Using SCOs as building blocks, information can be assembled to develop classroom instruction, Interactive Courseware (ICW), and Web-Based Training (WBT) courses that include images, shapes, text, or groups of images, shapes, and text structured into instructional sequences, events, activities, lessons, modules, phases, or entire courses. When SCOs are created, metadata tags are attached. These tags provide the means to search in a repository for appropriate instructional material and achieve cost savings through reuse of existing SCOs. For additional information about metadata tagging and the creation of SCOs refer to MIL-HDBK-29612-5.

4.3.6 Digital audiovisual products. Digital audiovisual products must comply with the Joint Technical Architecture (JTA) (see MIL-HDBK-29612-4). The JTA is an evolving set of interfaces and standards developed as a base foundation for interoperability among the services.

4.3.7 Examples of page-based and standard digital data training data products. Examples of format differences between page-based and standard digital data for the requirement "data sources" are as follows:

a. Standard format. When specifying a page-based format for a training data product, you can expect to receive the following type of product if you order, "data sources" from DI-SESS-81517B:

"The data source used in this analysis was MIL-HDBK-29612-2, Department of Defense Handbook, Instructional Systems Development/Systems Approach to Training and Education. The MIL-HDBK-29612-2 Preparing Activity is the Naval Air Systems Command (PMA-205). The PMA-205 point of contact is Mr. John Doe, PMA205-4C."

b. Standard digital data format. When specifying "data sources" from DI-SESS-81517B in a standard digital data format, you may receive information similar to that represented in Table 1. (This information may be delivered in many different styles, this table is provided as an example only.) Table 1 identifies the SDEs and examples of corresponding values.

TABLE 1. **Standard digital data associated with the data requirement "data sources" from DI-SESS-81517B.**

SDE NAME	DATA CONTENT (VALUE)
Document Identifier	MIL-HDBK-29612-2
Document Name Text	Department of Defense Handbook, Instructional Systems Development/Systems Approach to Training and Education
Information-Asset Identifier	N/A
Organization Identifier	00019*
Organization-Name Text	Naval Air Systems Command (PMA-205)
Person Identifier	PMA205-4C
Person-Name Category Code	T, F, S**
Person-Name Text	Mr. John Doe
Notes: * 00019= NAVAIRSYSCOMHQ, ** T=Courtesy title, F=Forename, S=Surname	

4.3.8 Specifying the type of training data format. The DIDs for training data products contain various requirements for data formats. Review each DID to identify applicable data formats. The CDRL (DD Form 1423) Block 16 is used to specify which format(s) is required for a specific application. Details on DID tailoring and the use of the CDRL are provided (see 5.1.1.3, 5.1.2.3 etc. through 5.1.11.3) in this handbook. Also provided in this handbook is additional guidance on procurement of standard digital data (see 5.5). The various data formats that apply to DIDs DI-SESS-81517B through DI-SESS-81527B are:

a. Page-based products for which contractor format is acceptable.
b. Standard digital data in compliance with the content and format requirements specified in the DoD Data Architecture (DDA) and the Defense Data Dictionary System (DDDS).
c. Interactive Multimedia Instruction (IMI) products for which government accepted industry format standards are acceptable.
d. Still and motion audiovisual products shall conform to the product standards set forth in the Society for Motion Picture and Television Engineers (SMPTE) standard for Television Analog Recording - ½ inch Type L - Electrical Parameters, Control Code and Tracking Control.
e. Sharable Content Objects (SCO) as specified by the contract.
f. Digital audiovisual products shall comply with the JTA.

4.3.8.1 When to specify page-based format for training data products. As a general rule, page-based format should be specified when:

a. Less than 50 percent of the content of existing page-based training products are being updated/modified.
b. No software exists for, or will be available to produce instructional materials from the standard digital data.
c. Re-use and/or life-cycle maintenance of training materials is not desired.

4.3.8.2 When to specify standard digital data format for training data products. If the Government user activity has implemented more advanced computer systems and RDBMS software, processable standard digital data files with tables that are developed in accordance with the DDDS should suffice. As a general rule, standard digital data should be specified when:

a. The potential for re-use of training data exists.
b. A need exists for interoperability of standardized data between/among Services, academia, industry organizations, platforms, and/or programs.
c. Training management system (e.g., courseware management, configuration management) that conforms to the DDDS requirements exists or is planned.

4.3.8.3 When to specify both page-based and standard digital data formats for training data products. Requirements for training data product deliverables may include both composed documents in digital form and processable data files. However, until more advanced Government systems are available, it may be necessary to accept a hard copy (paper) training data product for approval, reproduction, and distribution, and a digital form of the document for archiving or update and maintenance. It is recommended that both page-based and standard digital data formats should be specified when:

a. A system for using standard digital data is planned but will not be available in time to support formal training.
b. Training is required prior to completion of standard digital data (e.g., test or cadre training).
c. When the training activity requires delivery of both page-based format and standard digital data.
d. When organic resources are not available to develop page-based training data products (using standard digital data) in a timely manner.
e. When an automated training management system (e.g., courseware management, configuration management) is in place or is planned, but not all management functions are automated.

4.3.8.4 When to specify IMI data format for training data products. IMI format requirements should be applied when the media selection process (see MIL-HDBK-29612-2) determines IMI to be the most appropriate media to support the training requirement.

4.3.8.5 When to specify SMPTE data format for training data products. SMPTE format requirements should be applied when procuring still or audiovisual footage that is to be produced and delivered on ½ inch tape.

4.3.8.6 When to specify SCO data format for training data products. SCO format should be applied in instances where:

a. Training products will be used in an ADL environment.
b. Re-use of instructional content is desired/required.
c. Interoperability of instructional content on various platforms and systems is desired/required.

4.3.8.7 When to specify JTA data format for training data products. JTA format requirements should be applied to products intended for use in a Command, Control, Communications, Computers, and Intelligent system (C4I) environment.

4.4 Acquisition process overview. The following paragraphs provide guidance concerning acquisition streamlining, planning, and data management that should be considered prior to developing a RFP.

4.4.1 Acquisition streamlining. The purpose of acquisition streamlining is to encourage innovation and creativity, and to promote innovative and cost effective determination of requirements. The development of acquisition strategies will result in the most efficient utilization of resources to produce quality weapon systems and products. Refer to MIL-HDBK-248, Acquisition Streamlining, for further details.

4.4.2 Protected information. Manufacturer's proprietary information provided in vendor proposals, and information dealing with the Government's source selection process and decisions, should be protected. Protected information includes listings of offerors and prices, list of bidders prior to opening sealed bids, source selection plans, technical evaluation plans, technical evaluations of competing proposals, competitive range determinations, vendor proposal rankings in negotiated contracts, source selection board reports and evaluations, and source selection advisory board recommendations. Source selection and proprietary information should be protected and appropriately marked once a procurement begins. A procurement is considered to have begun when one or more of the following actions have taken place:

a. Convening of a formal acquisition strategy meeting;
b. Development of an acquisition plan;
c. Development of a statement of work;
d. Development of specifications specifically for instant procurement; or,
e. Publication of the agency's intent to develop or acquire systems, subsystems, supplies or services.

4.4.3 Training needs and requirements analyses. To begin the training acquisition or development process there must be a training need. This training need is defined by conducting a training needs analysis. A training needs analysis is conducted to verify that training is able to provide a partial solution to a performance deficiency or requirement. The requirements are defined by conducting a training requirements analysis. Part 2 of this handbook provides detailed guidance on conducting training analyses.

4.4.4 Training program acquisition plan. The acquisition plan responds to a requirement and documents the acquisition strategy decisions. The plan also sets up milestones for completion of major steps in the procurement process. Formal acquisition plans in accordance with DoD Instruction 5000.2 are applied only to more complex and costly acquisitions. Sufficient planning should occur to ensure an efficient, timely acquisition process. Acquisition planning is documented in either a formal acquisition plan or a program management plan, depending on the acquisition value, complexity, and agency requirements. Agency directives define program management plans. Whether a formal acquisition plan or a program management plan is used, their purpose is the same. The plan outlines a brief history of the training requirement and acquisition strategies, and defines a plan of action for completing the acquisition process.

4.4.4.1 Acquisition plan considerations. A successful training program acquisition integrates the efforts of everyone involved in the acquisition. This integration occurs through development and implementation of an acquisition plan. Effective planning coordinates and directs personnel efforts toward a procurement strategy that results in a successful acquisition.

Through planning, the acquisition meets the needs of the organization for a reasonable cost, and is completed on time.

4.4.4.2 Acquisition plan requirements. The acquisition plan addresses all technical, business, management, and other significant considerations needed to control the acquisition and attain acquisition goals. Specific plan contents vary depending on the type of acquisition.

4.4.4.2.1 Background information and objectives. Have the necessary background information and facts available to develop a plan. Clearly define the acquisition purpose or objective. Clear objectives and good background information are critical to development of a successful acquisition plan. The following background information supports acquisition planning:

a. Summarize the technical and contractual history of the acquisition that describes acquisition alternatives and related in-house efforts.
b. Describe significant conditions including requirements for compatibility with existing training or other training programs/systems/materials.
c. Describe the acquisition cost goals and provide rationale for those goals. Address life cycle cost considerations.
d. Address the training capabilities and performance requirements. Explain how the stated training requirements relate to the stated training need.
e. Describe the basis for the delivery and performance schedule. If an urgent requirement prevents full and open competition, describe the reasons.
f. Describe the results of trade-offs between capabilities and performance requirements, cost factors, and schedule goals. Identify the best balance between these factors and describe how you arrived at this balance.
g. Discuss technical, cost and schedule risks associated with the acquisition. Describe actions planned or taken to reduce these risks for the Government and the contractor.
h. Describe plans and procedures for stimulating and encouraging industry participation in recommending appropriate application and tailoring of contract requirements. DoD Directive 5000.2R and MIL-HDBK-248 give additional information and procedures for acquisition streamlining.

4.4.4.2.2 Plan of action. This section of the acquisition plan is essentially a business strategy. It describes how to proceed through the acquisition process to achieve acquisition objectives. The plan of action should include the following:

a. A description of potential acquisition sources, including possible small business, small disadvantaged business, and labor surplus area concerns. When appropriate, describe the results of market research.
b. Other areas as necessary based on specific program requirements to include:

(1) Describe how full and open competition will be supported.
(2) Describe the type of contract vehicle used and why it was selected.
(3) Describe budget and funding provisions.
(4) Describe contract management methods and procedures.
(5) Describe final test and evaluation procedures.
(6) Describe initial and life cycle support requirements.
(7) Describe applicable Government Furnished Information (GFI) and Government Furnished Property (GFP).
(8) Describe security issues and procedures.
(9) Describe standardization issues and concepts.
(10) Describe foreign sales considerations.
(11) Describe acquisition cycle milestones.
(12) Describe the composition of the acquisition planning team.

4.4.5 RFP characteristics. Performance requirements, information requirements, language, and other characteristics are important considerations when preparing a RFP. The following paragraphs provide details concerning RFP characteristics.

4.4.5.1 Performance requirements in the RFP. It is necessary to include performance requirements in RFPs. RFPs will state, in performance terms, what is required of each training data product. The RFP will also state the intended use, data life-cycle maintenance requirements, necessary interfaces, and training environment for each training data product. RFPs may also impose training data product performance requirements as contained in MIL-PRF-29612. The offerors are free to propose any method of meeting the performance requirements. Offerors may propose alternatives, such as commercial off-the-shelf or an entirely new product, as long as the proposed product meets the performance criteria stated in the RFP. The crucial issue is that both offerors and acquisition managers must be able to determine whether the training data product and services meet the performance criteria.

4.4.5.2 RFP information requirements. Performance and data requirements, verification methods, and Government oversight must reflect the Government's minimum essential needs. A well-written training RFP has the following attributes:

a. Specifies requirements clearly to permit the Government and offerors to estimate the probable cost, and the offeror to determine the levels of expertise, personnel, and other resources needed to accomplish the requirements.
b. States the specific performance requirements for the training data product in such a way that the offeror knows what is required.

c. Cites only the minimal applicable performance requirements of MIL-PRF-29612, in whole or in part, and is tailored to limit cost drivers. Selectively invokes other documents only to the extent required to satisfy the existing requirements.
d. Cites verification requirements that the Government will impose on the offeror.
e. Includes proposal evaluation criteria.

4.4.5.3 RFP language. RFP requirements should be written in a language style, clearly understandable to all potential offerors. The writing style should be brief and concise, and sentences should be short. Requirements must be stated explicitly, and should be logical, in chronological order, and avoid using words that allow for multiple interpretations.

4.4.5.4 Considerations for the RFP preparer(s). The acquisition manager should form an Integrated Product Team (IPT) and:

a. Select an IPT leader who is experienced in acquisition and RFP development. The IPT leader should include as part of the team individuals experienced in areas such as acquisition, training and contracts. Depending upon the scope of the RFP objectives, specific personnel such as Subject Matter Experts (SMEs), engineers, cost analysts, etc. may be assigned to the team.
b. Specify that the offeror's format will be acceptable for a training data product when format is not critical to product performance.
c. State requirements in terms of training data product performance requirements instead of specifying a process.
d. Invoke specifications and standards only when necessary. If invoked, explicitly define the part, section, or paragraph applicable to the procurement.
e. Handbooks, service regulations, and technical orders are not written in language suitable for contract application. The RFP should state that these references are provided for guidance only, and not contract compliance.
f. Clearly state in the RFP what criteria will be used in evaluating proposals. The writer of the RFP must create specific measurable proposal evaluation criteria to fit the training acquisition. The criteria should be stated in “Section M -- Evaluation Factors For Award“ of the RFP. Some examples of proposal evaluation criteria are as follows:

    (1) The offeror’s proposed approach demonstrates an understanding of the scope of the specified requirement.
    (2) The offeror's past performance demonstrates the capability for successful performance of the specific requirement.
    (3) The offeror’s proposed technical approach demonstrates a plan for the re-use of existing data.
    (4) The offeror’s proposed technical approach demonstrates an emphasis on reducing costs and promoting commercial training data products and practices.

4.4.6 Data management. Proper tailoring and scheduling of training data product submission requires particular attention by the SOW preparers. Data costs can be minimized by selectively eliminating unnecessary reports and requiring appropriately phased submissions. A review of anticipated data requirements should therefore include definition of a time line for data submission. The contractor's format may be acceptable for submission of data products. The SOW preparer should make every effort to ensure that the CDRL(s) and DIDs reflect the minimum data required by the Government.

4.4.6.1 Data Item Description (DID). The DID is a completed DD Form 1664 that defines the data required of a contractor. The form specifically defines the content, preparation instructions, format, and intended use of the data. Data is information inherently developed during completion of work tasks in the SOW and required for retention. DIDs do not prescribe work tasks or performance methods. After the need for delivery of data resulting from a work task has been determined, appropriate DIDs should be selected by the preparer of the SOW. The DoD Acquisition Management Systems and Data Requirements Control List (AMSDL), DoD 5010.12-L, lists all published DIDs.

4.4.6.2 Data requirements tailoring. Acquisition managers should tailor requirements specified in MIL-PRF-29612 and associated DIDs to ensure that unnecessary data is not procured. This tailoring process should result in a clear understanding by the Government and the contractor of what is required, and the specific measurable criteria by which the data product is to be examined and evaluated. When applying deletion tailoring to DID requirements the acquisition manager should delete corresponding MIL-PRF-29612 verification requirements from the RFP.

4.4.6.3 Performance specification tailoring. MIL-PRF-29612, Section 3 contains performance requirements for training data products. Section 4 contains data product verification criteria. Both the performance requirements and verification criteria may be cited in a RFP or contract. It is not mandatory for the specification to be cited in either an RFP or a contract. If it is not cited then data product performance and verification requirements should be developed and provided in its place. Specific tailoring guidance for MIL-PRF-29612 is provided herein (See Section 5). The following is provided as general performance specification tailoring guidance:

a. In cases where MIL-PRF-29612 is cited, it should be tailored to match the requirements of the tailored DID. Once all DIDs have been tailored to the specific requirement, the corresponding parts of MIL-PRF-29612, Sections 3 and 4, should be tailored accordingly.
b. MIL-PRF-29612 may be tailored by deletion and the addition of verification criteria.
c. Specific program unique requirements and verification criteria that are not listed in MIL-PRF-29612 may be needed in some instances. In those instances, the requirements and

verification criteria may be cited in the appropriate section of the RFP or contract by inserting additional statements.

4.4.6.4 DID tailoring. When procuring data products, it is necessary to determine which DIDs provide the data product requirements. When the appropriate DIDs have been determined, each should be carefully reviewed to identify the minimum data required. Once the required data has been identified, the DIDs should be tailored so that only the required data is procured. DIDs are tailored by deletion only. Deletion tailoring is performed by annotating in Block 16 of the CDRL the DID paragraph(s) which are not required. (See MIL-HDBK-245D, Section 5.) Suggestions for tailoring DIDs are provided herein (See Section 5).

4.4.6.5 Use of CDRL data. Any data generated and delivered to the Government through contract performance must be identified in the CDRL. The CDRL refers to the SOW task that generates the data, and cites the DID needed for data content and format. The CDRL states necessary DID tailoring actions, sets the number of deliverable copies and who receives them, and prescribes the delivery media. The CDRL also states the data delivery schedule.

4.5 RFP/contract package preparation guidance. The content and format of the RFP package is flexible and should only include essential Government requirements. The following guidance applies to preparation of the package:

a. The acquisition/program manager(s) should take part in developing all Sections of the Uniform Contract Format (UCF).
b. The organization of any RFP package should conform to the UCF or the alternate forms described in the Federal Acquisition Regulations (FAR)/Defense Federal Acquisition Regulation Supplements (DFARS).
c. The Standard Form (SF) 33 is used as the RFP cover page and includes provisions for contract award.
d. The RFP/contract package will reflect the adequacy and accuracy of the requirements. Considerable risk may be placed on the Government and contractor when the contract package lacks adequate definition of requirements. Packages lacking an integrated Government and contractor Quality Assurance (QA) effort, through the IPT process, also present significant risk. Joint quality reviews, as part of the IPT process, are important. A well-written RFP/contract package defines these QA procedures. This, in turn, should reduce technical, schedule, and cost risks for both the contractor and the Government.

4.5.1 Contract Part I - The Schedule. Figure 2 is provided for general guidance to show the organization of the sections of the RFP/contract.

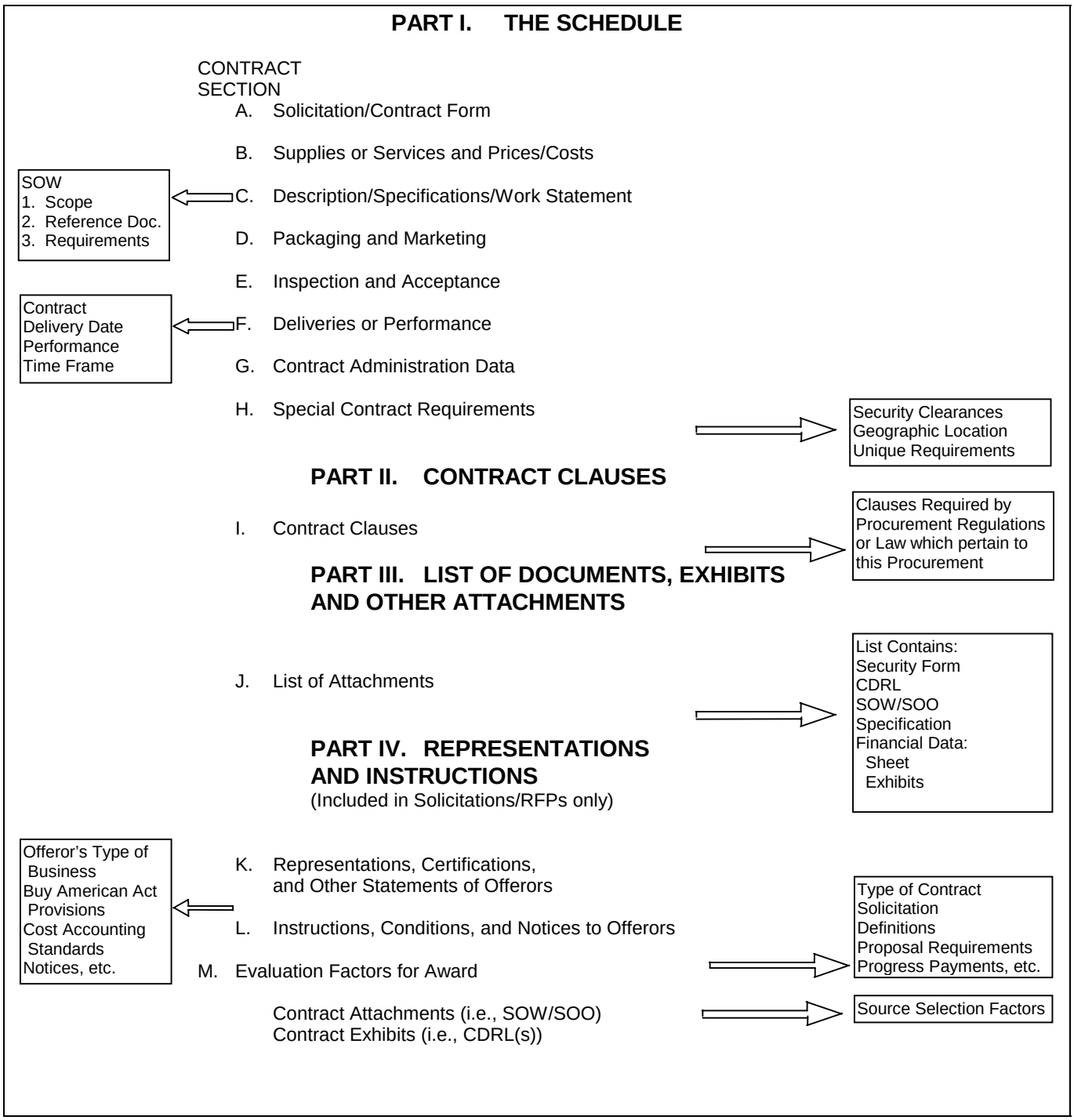

FIGURE 2. **Overview of Government solicitation/contract sections (Uniform Contract Format (UCF)).**

4.5.1.1 Section A: RFP/contract form(s). Section A of the UCF package includes the front side of the SF 33, Solicitation, Offer and Award, and the DD Form 1707, Information to Offerors

or Quoters. These forms provide solicitation identification data, and identify key contracting agencies and officials. The DD Form 1707 provides a summary of the solicitation purpose and scope.

a. The SF 33 (front side) is the first page of the solicitation and includes Sections used to identify the offeror and to award the contract. The contracting officer completes the SF 33.
b. The DD Form 1707 provides general information about the solicitation to potential offerors. This form also informs offerors about special contract provisions required by law or the FAR/DFARS. An executive summary defines the acquisition scope, briefly describes proposal submission requirements, and states the basis for award. This form or its continuation sheet also announces scheduled pre-proposal conferences and meetings. The contracting officer prepares the DD Form 1707 and continuation sheets. The contracting officer may require technical assistance in preparing the executive summary.

4.5.1.2 Section B: Supplies or services and prices/costs. This Section briefly describes the required supplies and services which are fully described in Section C. The Section B supplies and services description includes the item number, noun, and quantity required. When the solicitation purchases the conduct of training, the training services and course materials items are listed as separate Contract Line Item Numbers (CLIN). Each CLIN is cross-referenced to the Section C paragraph that specifies the performance requirement. Section B begins on the back side of the SF 33. The contracting officer prepares Section B and, if necessary, continues it on Optional Form 336, Continuation Sheet.

4.5.1.3 Section C: Descriptions/specifications/work statements. Section C is often referred to simply as the SOW. It can, however, consist of far more information than just a SOW. Section C contains those purchase descriptions, specifications, standards, and work statements which reflect the minimum needs of the Government. The following guidance applies to the development of Section C:

a. Use specifications that apply to the acquisition. This requirement applies to any specification, standard, commercial item description, or voluntary industry standards adopted by the DoD. Use the General Services Administration Index of Federal Specifications, Standards and Commercial Item Descriptions, or the DODISS to determine document applicability.
b. Selectively apply specifications and standards tailored to state minimum Government requirements. Training program acquisitions require unique work statements for training program analysis, design, development, implementation and evaluation.

4.5.1.4 Section D: Packaging and marking. Section D defines packaging and marking requirements to prevent deterioration and damage to supplies during shipping, handling, and

storage. Accepted industry standards should meet training program packaging requirements for supplies. Identify any unique packaging and marking requirements in Section D. The contracting officer prepares this Section with assistance from the technical activity team members.

4.5.1.5 Section E: Inspection and acceptance. This Section provides for Government In-Process Review (IPR)/inspection, and final review and acceptance of training data products and services. The procuring activity is responsible for defining inspection and acceptance criteria for Section E.

4.5.1.6 Section F: Deliveries or performance. Section F specifies delivery instructions and procedures, delivery schedules, and delivery or performance locations and destinations. This Section also provides other information pertinent to delivery or performance of contracted supplies and services such as; provisions for stop work orders, suspension of work, and Government delay of work. The following guidance applies to preparation of Section F:

a. Delivery and performance requirements in Section F can have an effect on overall contract costs. Overly restrictive delivery and performance schedules are costly. Avoid them except when mission essential to the requiring agency.
b. If the delivery or performance schedule is a source selection factor, ensure Section F clearly describes the basis for this evaluation. Source selection information and evaluation criteria in Sections L and M should also reflect this requirement.
c. When allowed by the contract, Section F includes provisions for delayed or partial delivery of supplies or services. Also include procedures for accepting and processing delivery orders in Section F.

4.5.1.7 Section G: Contract administration data. Section G provides required information and data concerning accounting and appropriation, and general contract administration procedures. The following guidance applies to preparation of Section G:

a. There are many regulatory requirements associated with cost accounting and appropriation procedures which are beyond the scope of this document. The contracting officer and appropriate financial advisor should develop this Section. Review applicable agency regulations before completing Section G.
b. Identify the procuring contracting officer, contract manager, and the contractor's contract administrator. This Section provides addresses for delivery orders, and each Service and agency point of contact authorized to issue delivery orders.
c. Provide information about the preparation and submission of required contract administration reports which are not in the CDRL(s).

4.5.1.8 Section H: Special contract requirements. Section H includes special contractual

requirements not included in Section I, Contract Clauses, or another Section of the contract. The complete contract development team should develop this Section because it may contain contract provisions affecting functional areas such as contracting, finance, transportation, technical requirements, and data requirements. The following guidance applies to preparation of Section H:

a. Define Government rights to technical data and training software when contract clauses in Section I are not adequate. Take special care to protect the Government's rights to unique training support software developed during contract performance. Require full Government rights to change, copy, and distribute support software.
b. Include provisions for control of Government owned or furnished authoring languages or systems. Define specific procedures to control making and distributing copies of this software. This is especially true of commercial software programs licensed to the Government and provided as GFP to the contractor.

4.5.2 Contract Part II and Section I: Contract clauses. Section I contains all contract clauses required by law, the FAR, and agency FAR Supplements that apply to any contract resulting from the RFP. Section I includes contract clauses not required in other contract Sections. Each part of the FAR includes a subpart titled Contract Clauses. This FAR subpart provides instructions on clauses required by the particular part or subpart of the FAR. This subpart also describes contracting situations that warrant alternate clause formats. The following guidance applies to preparation of Section I:

a. The contracting officer prepares Section I, however, other members of the contract development team should assist in this effort.
b. The FAR includes contract clauses covering a wide range of Government requirements. These clauses also have alternative formats for tailoring the particular clause to specific RFP/contract requirements. The entire contract development team should help the contracting officer determine which clause format best represents the needs of the Government. The organization responsible for technical requirements should determine which warranty clause and format is correct for the particular training acquisition.

4.5.3 Contract Part III and Section J: List of documents, exhibits, and other attachments. Part III, Section J of the contract serves as an index of documents, exhibits, and other attachments to the contract package. List each document, exhibit, and attachment by title, date, and number of pages. Attachments identified in Section J are an integral part of the package. List and attach specifications and standards not listed in the DODISS. Also list and provide plans, drawings, and other documents not included in appropriate indexes, and DIDs not included in the AMSDL. Identify and provide any document cited in the SOW that is not available from an established distribution source. Include documents listed in Section J as contract attachments following Section M. The contracting officer prepares Section J, however, other team members

should provide assistance.

4.5.4 Contract Part IV: Representations and instructions. Sections K, L, and M apply only to RFPs. They are contained at the end so that when the contract is awarded, they can be removed.

4.5.4.1 Section K: Representations, certifications, and other statements of offerors (incorporated by reference). Section K identifies requirements for contractor representations, certifications, and binding statements. Usually, these requirements are identified by contractual clauses in Section I. The contracting officer prepares Section K after preparing other Sections. Contract clauses in other Sections may specify a contractor representation, certification, or binding statement.

4.5.4.2 Section L: Instructions, conditions, and notices to offerors. Use this Section to provide information, instructions and RFP provisions not included in other Sections. Provide information to guide contractors in preparing proposals or quotations. Section L may also include contract clauses by reference as in Section I and other Sections. The following guidance applies to preparation of Section L:

a. Instruct prospective offerors to submit proposals in several parts to meet agency requirements. Technical, and costing or pricing data should be in separate parts of the proposal. This eliminates the need for the contracting officer to separate the costing information from the package before giving it to the technical evaluation team. Additional instructions on proposal format may also include parts on management and administrative data. Also identify requirements to include technical literature with the proposal.
b. A good proposal structure helps to conduct an efficient source selection evaluation. Clearly describe the required proposal structure in this Section. Provide detailed instruction on the organization, content, and format of the offeror's proposal. Ensure that Section L proposal requirements match those in Section C. Also match Section L information with evaluation factors and criteria in Section M. A concurrent development of Sections C, L, and M will protect against inconsistencies between Sections. As the Sections are being written, determine how to evaluate the requirement and how the contractor's proposal should address each requirement.
c. Include any provisions for excluding an offeror's proposal as being frivolous or unresponsive in this Section. Give the offeror enough information about what is considered frivolous or unresponsive to prevent any misunderstandings.
d. Provide instructions on how to obtain copies of documents cited that are not provided with the package.

e. If questionnaires are used in the RFP, explain how they will be used and their impact on source selection. Offeror's responses to questionnaires can provide valuable information about the capabilities of the offeror to perform contract requirements.
f. Section L may also prescribe qualification demonstrations by offerors in the competitive range. A demonstration of qualifications may include:

    (1) Under these provisions, the contracting officer may require that the offeror has already demonstrated the ability to perform training development contract work. The contracting officer includes these contractors on a Qualified Bidders List.
    (2) Another approach allowed by the FAR is to require the offeror to show their qualifications through presentation of a live demonstration. The contractor would demonstrate a training program product they developed which has a comparable level of work effort and task complexity.
    (3) Contractors may be required to develop and submit appropriate training program work samples based upon information provided in the RFP.
    (4) If Section L includes a qualification requirement, you must also include appropriate FAR, DFARS, and agency FAR supplement provisions. Describe specific requirements for the qualification demonstration and how the results will affect source selection.

4.5.4.3 Section M: Evaluation factors for award. Section M provides information about how the Government will evaluate proposals during the source selection process. Section M identifies all source selection factors, including cost or price, and any significant subfactors affecting contract award. This Section must also state the relative importance the Government places on those evaluation factors and subfactors. The Government is not required to identify specific weighting or point values assigned to each factor or subfactor. The following guidance applies to preparation of Section M:

a. An identification of significant evaluation factors and subfactors should have been made during development of the source selection plan, and development of Sections C and L. Complete Section M by adding information about the relative importance of evaluation factors and significant subfactors.
b. All source selections include an evaluation of price or total cost to the Government. However, lowest price or cost is not always the deciding source selection factor. The Government may select the source whose proposal offers the greatest or best value to the Government.
c. Source selection criteria must also include quality factors. Express quality as technical excellence, management capability, personnel qualifications, experience, past performance, and schedule compliance. Include other factors, like cost realism.
d. Section M must address how samples will be used in source selection when offerors are required to develop and submit work samples based upon a scenario and materials

provided in the RFP package. Section M must also describe the relative importance placed on the work sample.

e. The FAR gives specific source selection requirements and procedures. Review each of these references, and appropriate agency FAR supplements and regulations during source selection plan development. Perform this review before preparing Section M.

4.6 Source selection plan. Develop a comprehensive source selection plan. A comprehensive plan will thoroughly evaluate and quantify each evaluation factor and sub-factor. Broad discretion is allowed in defining the applicable evaluation factors and the relative importance of those factors. The source selection plan is prepared prior to the issuance of the RFP and may contain the following:

a. Technical evaluation plan.
b. Requirements for an evaluation team.
c. Evaluation procedures.
d. Proposal formats and grading schemes.
e. Requirements for cost evaluation.
f. Requirements for evaluation reports.

4.7 Solicitation process. The solicitation for contractor proposals begins after development and approval of all necessary acquisition documents. The solicitation process involves publicizing the Government's requirements for information, quotes or proposals. This publicity covers a specific package of information, specifications, or work requirements. The Government uses contractor packages to refine requirements, or to negotiate a contract.

4.7.1 Types of solicitation packages. The basic structure of each type of solicitation package is the same. However, each type serves a specific purpose in the acquisition system.

4.7.1.1 Requests For Information (RFI). The RFI is a procedure in which information is solicited from industry to aid in defining Government requirements. Determine whether or not a RFI will be required during acquisition planning.

a. During the RFI process a package is submitted to industry for their comments and recommendations. The RFI process is used only when necessary information is not available using more economical or less formal methods.
b. The RFI is an alternate information source when other sources are inadequate. The RFI is used to gather additional technical information about the requirement. It is also used to obtain industry comments and recommendations for acquisition streamlining, and to involve industry in the acquisition.

c. Certain approval processes must be followed before a RFI is issued. Responses cannot be used to award a contract. Responses to the RFI may be used by the Government to better define the requirements in a RFP.

4.7.1.2 Request For Proposal (RFP). The RFP is used to obtain contractor proposals that can be the basis for contract award. The RFP consists of a complete solicitation package containing all of the Government's requirements.

4.7.2 Publicity requirements. Certain publicity requirements must be satisfied before the RFP package is distributed to prospective offerors. The contracting officer ensures publicity requirements are met. A synopsis of the acquisition requirement is advertised in the Commerce Business Daily under the Section titled "Training Services" before the RFP package is distributed. This advertisement informs contractors how to request a copy of the RFP package from the contracting officer.

a. The contracting officer mails the RFP package to all prospective offerors who requested one. The acquisition manager may provide a list of potential contractors and their addresses to the contracting officer. The contracting officer mails the contractors a copy of the package.
b. The contracting officer notifies contractors of the minimum amount of time, from the RFP distribution date, to review the package and submit a proposal.
c. The FAR allows and encourages open communication with industry before completing the RFP package. This communication promotes an understanding of Government requirements, and fosters full and open competition. There is a point where this communication must cease; the contracting officer will ensure that all acquisition team members know when that time has arrived. After that time, all communication between contractors and the Government is performed via the contracting officer.

4.7.3 Pre-RFP conference. A pre-RFP conference is appropriate in circumstances where Government requirements are complex. Complex requirements may warrant better information flow to industry before issuing the RFP. Extremely complex training program acquisitions may justify having a pre-RFP conference. However, discuss this possibility with the contracting officer during development of the acquisition plan; the need and justification for a pre-RFP conference will be identified at that time.

a. A RFI package is mailed to prospective offerors. This package should include questions about perceived weaknesses in the package. Develop questions about those requirement areas that may require discussion in the pre-RFP conference. Otherwise, prepare these questions for discussion at the conference.
b. The purpose of the pre-RFP conference is to:

(1) Develop or identify interested sources.
(2) Request preliminary information based upon a general description of the Government's requirements.
(3) Explain complex specifications and requirements not easily communicated through a written document.
(4) Aid prospective offerors in later submitting responsive proposals without undue use of effort, time and money.

c. The acquisition/program manager should assist the contracting officer with the conduct of the pre-RFP conference. The manager explains and clarifies Government requirements. The manager should understand the purpose of these conferences and recognize when a pre-RFP conference would benefit the acquisition process.

4.7.4 Pre-proposal conference. When a pre-proposal conference is required, the contracting officer notifies all prospective offerors. The purpose of the pre-proposal conference is to discuss requirements with contractors after they study the package. The use of pre-proposal conferences is normally a good strategy. The conference allows you to discuss actual requirements with the contractors and explain specific proposal package content and format requirements. It also provides an opportunity to ensure the prospective offerors are aware of specific contract clauses. The acquisition/program manager should:

a. Be prepared to discuss all requirements identified in Section C of the RFP package, including; delivery schedules, proposal formats, evaluation factors and criteria, and other areas. Also be prepared to discuss any RFP Section which is not the specific responsibility of the contracting officer. It may, therefore, be wise to have a representative from the technical activity also attend the conference.
b. Discuss source selection information included in Section M of the RFP only in general terms. Carefully avoid discussing specific values assigned to evaluation factors and significant subfactors.

4.7.5 Amending the RFP. When the Government changes, relaxes, increases, clarifies or otherwise modifies its requirements, the contracting officer issues a written amendment to the RFP. The contracting officer issues amendments using a SF 30, Amendment to Solicitation/Modification of Contract. The contracting officer can issue RFP amendments both before and after receipt of proposals.

4.8 Proposal evaluation. Evaluate contractor proposals following the procedures in the source selection plan.

4.8.1 Technical evaluation. Technical proposals are evaluated according to the technical evaluation plan which should be developed as part of the source selection plan.

4.8.2 Cost evaluation. The contracting officer ensures cost evaluation is performed. The cost evaluation is usually performed by a trained cost analyst. The cost evaluation will address life cycle costs, cost realism and, when appropriate, "should cost" analysis. The technical evaluation team should not have access to cost data prior to conducting the technical evaluation. This information could influence a team member's objectivity.

4.8.3 Correction of minor proposal errors. Proposals which are basically sound but have some minor technical or cost errors do not need to be eliminated. Provide contractors the opportunity to correct minor proposal errors when the proposal is otherwise competitive.

4.8.4 Evaluation reports. Evaluation reports are generated as a result of the technical and cost evaluations. The evaluation reports are key documents in the final source selection and contract award. It is critical, therefore that they be clear, concise, and objective.

4.9 Source selection and contract award. The contracting officer reviews the evaluation reports, and starts the final source selection and contract award process. The contracting officer determines which offerors are in the competitive range based upon the results of the technical and cost evaluations. Based upon evaluation of the remaining competitive offerors, the source selection authority selects the successful contractor.

4.10 Types of contracts. The acquisition/program manager should know the different types of contracts available to use in training acquisitions and basic differences between them. The program manager should work closely with the contracting officer to determine the type of contract most appropriate for a particular acquisition.

5. DETAILED RFP GUIDANCE FOR TRAINING DATA PRODUCT REQUIREMENTS

5.1 Detailed guidance. This section provides information and suggested guidance for training data products to be used in the preparation of RFPs. The guidance contained in this section includes the application, tailoring, and interfaces among MIL-PRF-29612 and related DIDs, and an RFP. See Appendix A for a cross-reference listing that provides the relationships among the DIDs, specification and handbook paragraphs. Information and guidance contained in this section covers all training data products, page-based as well as standard digital data. (See, 5.2 through 5.2.4) for additional guidance specifically concerning tailoring of standard digital data training data product requirements. Depending on the scope of the procurement and data product requirements, the guidance contained in this section should be selectively applied. Tailoring guidance for specific training data products is as follows:

5.1.1 Training situation document. The purpose of the training situation document is to provide information concerning the efficiency and effectiveness of a training system to meet

existing training needs, and information concerning training programs and technologies for applicability to new training needs.

5.1.1.1 Overview of the training situation analysis. A training situation analysis is performed at appropriate decision points in the training program. It may be appropriate when preparing for a modification to a training program due to the introduction of new weapon systems. It may also be appropriate when the efficiency of an existing training program requires verification. The following is a list of efforts that may be performed in accomplishing the training situation analysis. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Analyze the existing situation.
b. Develop a situation statement.
c. Develop impact statements.
d. Identify solutions/alternatives.
e. Develop recommendations.
f. Analyze similar systems.
g. Identify optimal number and mix of training equipment and optimal simulation and instructional features for each type of training equipment under study.
h. Develop state-of-the-art assessment.

5.1.1.2 Sample RFP language for the training situation analysis. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is as follows:

"The offeror shall provide a summary of previous experience in conducting training situation analyses. The offeror shall also define the management and technical processes to be used for the training situation. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for collecting the existing situation data.*
2. *Method(s) for developing the situation statement.*
3. *Method(s) for developing the impact statement.*
4. *Method(s) for determining solutions/alternatives.*
5. *Method(s) for determining recommendations.*
6. *Method(s) for developing course summaries and system requirements."*

b. Sample #2 is as follows:

"The offeror shall provide a summary of previous experience in conducting training technology assessments. The offeror shall also define the management and technical processes to be used for the training technology assessment. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Method(s) for determining similar systems.
2. Method(s) for determining similar training programs.
3. Method(s) for conducting the commonality analysis.
4. Method(s) for conducting the state-of-the-art assessment."

5.1.1.3 Data requirements tailoring for the training situation document. DID number DI-SESS-81517B, Training Situation Document, identifies the data requirements for an evaluation of the efficiency of existing training systems and emerging systems relative to current system similarities. The data provided in a training situation document can serve as the baseline to influence the eventual design, development, and operation of a training system. The following are some suggestions for tailoring DI-SESS-81517B:

a. In cases where only a training situation analysis is required, suggest deletion of DID paragraphs 2.3 through 2.3.6.
b. In cases where only a training technology assessment is required, suggest deletion of DID paragraphs 2.2 through 2.2.4.9.

5.1.1.4 Specification tailoring for the training situation document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.1, contains the verification criteria for data to be provided in a training situation document. The following are some suggestions for tailoring the specification:

a. In cases where only a training situation analysis is required, suggest deletion of verification criteria noted in 4.3.1.1d and e.
b. In cases where only a training technology assessment is required, suggest deletion of verification criteria noted in 4.3.1.1a, b, and c.

5.1.2 Instructional performance requirements document. The instructional performance requirements document provides mission, and collective and individual task information. This document also provides listings of knowledge, skills, attitudes, and learning objectives for the tasks that have been selected for training. The instructional performance requirements document contains data necessary to support the design of a training program.

5.1.2.1 Overview of the instructional performance requirements analysis. The types of analysis which should be conducted to determine instructional performance requirements include mission, procedures (operator and maintenance tasks), and content and structure (academic discipline). The following is a list of efforts that may be performed in accomplishing the instructional performance requirements analysis. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Identify individual and collective training tasks.
b. Analyze individual and collective training tasks.
c. Develop performance measures and performance levels, and identify affected occupational skill areas.
d. Determine prerequisite knowledge, skills, and attitudes of trainees entering the training program.
e. Identify learning objectives, learning types and levels, and instructional methodology of each learning objective.
f. Identify required sensory stimuli to support each learning objective.
g. Determine instructional setting, course mission, length, and class size.
h. Develop Individual Training Standards (ITS).

5.1.2.2 Sample RFP language for the instructional performance requirements analysis. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is as follows:

"The offeror shall provide a summary of previous experience in conducting instructional performance requirements analyses. The offeror shall also define the management and technical processes to be used for the analysis of instructional performance requirements. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Mission analysis.*
2. *Task analysis.*
3. *Training task development and analysis.*
4. *Development of performance measures and levels.*
5. *Development of learning objectives.*
6. *Determining the types and instructional methodology of each learning objective.*
7. *Determining the course mission, course length, class size, and instructional setting.*

8. Identifying the media required to support the training program.
9. ITS development.
10. Personnel performance profiles development.
11. Methodology for developing training course data.
12. Methodology for developing Mission Performance Standards (MPS)."

b. Sample #2 is as follows:

"The offeror shall provide a summary of previous experience in conducting instructional performance requirements analyses. The offeror shall also define the management and technical processes to be used for the analysis of instructional performance requirements. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Mission analysis.
2. Task analysis.
3. Personnel performance profiles development.
4. Development of performance measures and levels.
5. Development of learning objectives.
6. Determining the types and instructional methodology of each learning objective.
7. Determining the instructional setting, course mission, length, and class size.
8. Identifying the media required to support the training program."

5.1.2.3 Data requirements tailoring for the instructional performance requirements document. DID number DI-SESS-81518B, Instructional Performance Requirements Document, identifies the data requirements for mission, collective, individual, and occupational training tasks. It also provides data requirements for knowledge, skills, and learning objectives for the tasks that have been selected for training. Data provided in an instructional performance requirements document can serve as the baseline to support the design of a training program. The following are some suggestions for tailoring DI-SESS-81518B:

a. In instances where the training program is needed to support Army, United States Air Force (USAF), or United States Marine Corps (USMC) complex major weapon systems or equipment for new development, suggest deletion of DID paragraphs 2.6.7 through 2.6.11.
b. In instances where mission information is not required, suggest deletion of DID paragraph 2.3.1.

5.1.2.4 Specification tailoring for the instructional performance requirements document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.2, contains

the verification criteria for data to be provided in an instructional performance requirements document. The following are some suggestions for tailoring the specification:

a. In instances where the training program is needed to support Army, USAF, or USMC complex major weapon systems or equipment for new development, suggest deletion of verification criteria noted in paragraph 4.3.2.1l.
b. In cases where mission information is not required, suggest deletion of verification criteria noted in paragraph 4.3.2.1a).

5.1.3 Instructional media requirements document. The instructional media requirements document provides specifications for the media selection model used, a description of primary and alternate media requirements, and functional requirements for the instructional delivery system. Its purpose is to serve as the baseline for instructional media performance specifications.

5.1.3.1 Overview of the instructional media requirements analysis. Prior to the development of the instructional delivery systems (e.g., training devices, training equipment, training aids, interactive courseware), an instructional media requirements analysis should be performed. The results of the analysis will provide the baseline for performance specifications that may be used in an RFP for the instructional delivery system(s). The following is a list of efforts that may be performed in accomplishing the instructional media requirements analysis. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Identify the media selection model to be used.
b. Determine the media selection/allocation process to be used.
c. Determine the sensory stimulus requirements (e.g., motion, color, sound) needed to support the learning objectives.
d. Match the sensory stimulus requirements to the media features.
e. Determine the most cost effective instructional delivery system that supports the training requirement.
f. Determine the training system functional characteristics required to support the training requirement.
g. Determine the training instructional delivery system support requirements.
h. Develop Advanced Distributed Learning (ADL) requirements data to support the development of a training portal infrastructure.

5.1.3.2 Sample RFP language for the instructional media requirements analysis. The following is provided as an example of language for “Section L - Instructions, Conditions, and Notices to Offerors” of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is provided as an example for a media selection model RFP, as follows:

"The offeror shall provide a summary of previous experience with training media selection models. The offeror shall also define the management and technical processes to be used for the instructional media requirements analysis. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for identifying sensory stimulus requirements and media features.*
2. *Method(s) for using sensory stimulus requirements and media features in selecting an instructional delivery system.*
3. *Procedure for using the course outline in media selection.*
4. *Process for identifying constraints that could impact media selection.*
5. *Procedures for identifying media.*
6. *Procedures for identifying media analysis data."*

b. Sample #2 provides an example for a media selection analysis RFP, as follows:

"The offeror shall provide a summary of previous experience in conducting instructional media analysis. The offeror shall also define the management and technical processes to be used for the instructional media analysis. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *The procedure for selecting candidate alternative instructional delivery systems.*
2. *The procedure for applying constraints on media selection.*
3. *The procedure for identifying sensory stimulus requirements for learning objectives.*
4. *The procedure for using sensory stimulus requirements and media features in selecting an instructional delivery system.*
5. *The procedures for allocating media.*
6. *The procedure for evaluating instructional delivery system alternatives.*
7. *Procedures for identifying media.*
8. *Procedures for identifying media analysis data."*

c. Sample #3 provides an example for an instructional delivery system functional characteristics analysis RFP, as follows:

"The offeror shall provide a summary of previous experience in conducting instructional

delivery system functional characteristics analysis. The offeror shall also define the management and technical processes to be used for the instructional delivery system functional characteristics analysis. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for determining the training considerations which form the basis for functional characteristics of the instructional delivery system.*
2. *Method(s) for determining functional characteristics requirements.*
3. *The method(s) for determining training system support requirements during the design of training.*
4. *Methodology for determining Pre-Planned Product Improvement requirements."*

d. Sample #4 provides an example for a training system modification requirements determination, as follows:

"The offeror shall provide a summary of previous experience in conducting training system modification requirements determination. The offeror shall also define the management and technical processes to be used for a training system modification requirements determination. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *The process of identifying the relationship between training deficiencies and training system modification requirements.*
2. *The method(s) for estimating the impact on training resources and training capability as a result of the modification.*
3. *Procedures for determining references."*

5.1.3.3 Data requirements tailoring for the instructional media requirements document. DID number DI-SESS-81519B, Instructional Media Requirements Document, identifies content and format requirements. This document's purpose is to identify the media selection model specifications, provide a description of the primary and alternate instructional delivery systems applicable to the training requirement, and provide a definition of the functional requirements for the recommended instructional delivery system. The data provided in an instructional media requirements document can serve as the baseline for an instructional delivery system performance specification, and support the life-cycle configuration management of a training program. The following are some suggestions for tailoring DI-SESS-81519B:

a. In cases where a media selection model is not required, suggest deletion of DID paragraph 2.2.

b. In instances where only a media selection analysis is required to determine the most efficient and cost effective media, suggest deletion of all except DID paragraphs 2.3 through 2.3.3.
c. In instances requiring only modifications to an existing training system, suggest deletion of all except DID paragraph 2.5.

5.1.3.4 Specification tailoring for the instructional media requirements document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.3, contains the verification criteria for data to be provided in an instructional media requirements document. The following are some suggestions for tailoring the specification:

a. In instances where a computer operated media selection model is the only requirement, suggest deletion of all verification criteria except as noted in paragraph 4.3.3.1a.
b. In instances where computer-based courseware or interactive courseware is needed, all examinations may be appropriate.
c. In cases where only a modification to an existing training system is required, suggest deletion of all verification criteria except as noted in paragraph 4.3.3.1i.

5.1.4 Instructional media design package. The instructional media design package provides the baseline design requirements data necessary for the development and production of courseware.

5.1.4.1 Overview of the instructional media design. The media analysis results may indicate a need for different types of media delivery methods (paper-based, computer-based, and/or interactive courseware) to support a training requirement. The purpose of instructional media design is to document an agreed upon design of courseware to include the level of interactivity, conventions, audio and visual features requirements, and the overall course structure. When completed and agreed upon, the instructional media design becomes the standard for courseware evaluation, and is one of the elements used in life-cycle configuration management of the courseware. The following is a list of efforts that may be performed in accomplishing the instructional media design analysis. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Identify the tasks and learning objectives that are to be supported for the courseware.
b. Determine the overall course and lesson design strategies.
c. Determine the estimated course duration.
d. Develop courseware interface design and controls.
e. Develop lesson formats.
f. Determine the instructional theory, model, and description to be used as the basis for instructional strategies employed in the courseware.

5.1.4.2 Sample RFP language for the instructional media design. The following is provided as an example of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

> *"The offeror shall provide a summary of previous experience in developing instructional media design data. The offeror shall also define the management and technical processes to be used for the development of an instructional media design. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:*
>
> *1. The method(s) for identifying the tasks and learning objectives that are to be supported by the courseware.*
> *2. The method(s) for determining the overall course and lesson design strategies.*
> *3. The method(s) for estimating the course duration.*
> *4. The method(s) for developing courseware interface design and controls.*
> *5. The method(s) for developing lesson formats.*
> *6. The method(s) for determining resource requirements.*
> *7. Procedures for determining the scope of the training program.*
> *8. The method(s) for developing prototype lessons.*
> *9 The method(s) for determining courseware logic flow data."*

5.1.4.3 Data requirements tailoring for the instructional media design package. DID number DI-SESS-81520B, Instructional Media Design Package, identifies the content and format requirements for design criteria for courses and lessons. The data provided in an instructional media design package can serve as the baseline for courseware production. The following are some suggestions for tailoring DI-SESS-81520B:

a. In instances where only a lesson format guide is required, suggest deletion of all DID paragraphs except 2.4.6.
b. In instances where computer-based courseware or interactive courseware is needed, all data content requirements of this DID may be needed.
c. In instances where Defense Instructional Technology Information System (DITIS) data is required do not delete DID paragraph 2.2.
d. In instances where ADL is not selected, suggest deletion of DID paragraphs 2.3.12 and 2.4.4.e.

5.1.4.4 Specification tailoring for the instructional media design package. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.4, contains the verification

criteria for data to be provided in an instructional media design package. The following are some suggestions for tailoring the specification:

a. In instances where only paper-based courseware is required, suggest deletion of verification criteria noted in paragraphs 4.3.4.1g, h, and i.
b. In instances where computer-based courseware or interactive courseware is needed, all examinations may be appropriate.
c. In instances where ADL is not selected, suggest deletion of verification criteria noted in paragraphs 4.3.4.2a and b.

5.1.5 Training program structure document. The training program structure document provides training planning data and training course control data. This information is relative to long-range training program resource requirements, for personnel and equipment, and their implementation. This training data product documents the detailed configuration baseline of a training course.

5.1.5.1 Overview of the training program structure determination. Prior to and during development of a training course, long-range, mid-range, and short range planning for resource requirements and determination of the overall course structure should be conducted. (The results of the training situation analysis can provide a basis for resource planning, and the instructional design results can provide the basis for the course structure preparation.) The following is a list of efforts that may be performed in accomplishing the training program structure determination. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Identify the training mission requirement.
b. Determine the overall training requirement.
c. Determine the overall training strategy.
d. Identify course data.
e. Develop milestones.
f. Identify resource requirements and their availability.
g. Develop the course outline of instruction.

5.1.5.2 Sample RFP language for the training program structure determination. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is provided as an example for an RFP for training planning data, as follows:

"The offeror shall provide a summary of previous experience in developing training planning data. The offeror shall also define the management and technical processes to be used for the development of training planning data. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Method(s) for developing training planning data.
2. Method(s) for determining resource requirements and availability.
3 Method(s) for determining follow-on training recommendations.
4. Method(s) for developing course data, including justification and impact."

b. Sample #2 provides an example for an RFP for training course data, as follows:

"The offeror shall provide a summary of previous experience in developing training course data. The offeror shall also define the management and technical processes to be used for the development of training course data. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. The method(s) for developing training course descriptive data.
2. The method(s) for developing course and curriculum outline of instruction and course summary data.
3. The process for estimating profile item-to-topic objective assignments.
4. The method(s) for developing a fault applicability list.
5. The method(s) for identifying resources required.
6. Methodology for identifying Individual Training Standards (ITS)."

5.1.5.3 Data requirements tailoring for the training program structure document. DID number DI-SESS-81521B, Training Program Structure Document, identifies the content and format requirements for training planning data and training course data. The data provided in a training program structure document identifies the detailed configuration baseline of a training course. The following are some suggestions for tailoring DI-SESS-81521B:

a. In instances where only training planning data is required, suggest deletion of DID paragraphs 2.3 through 2.3.13.
b. In instances where only training course data is required, suggest deletion of DID paragraphs 2.2 through 2.2.6.
c. In instances where ADL is not required, suggest deletion of DID paragraphs 2.3.1x and y.

5.1.5.4 Specification tailoring for the training program structure document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.5, contains the verification criteria for data to be provided in a training program structure document. The following are some suggestions for tailoring the specification:

a. In instances where only training planning data is required, suggest deletion of verification criteria noted in paragraph 4.3.5.1e.
b. In instances where only training course data is required, suggest deletion of verification criteria noted in paragraphs 4.3.5.1a through 4.3.5.1d.
c. In instances where ADL is not required, suggest deletion of verification criteria noted in paragraphs 4.3.5.2c and d.

5.1.6 Course conduct information package. The course conduct information package provides data required by the Government to support outsourcing the conduct of training. This data will provide sufficient information to permit an accurate evaluation of a trainee's capabilities to meet all learning objectives of a course and identifies prerequisite skills and knowledge of trainees entering the course. The course conduct information package also provides information for trainees regarding the training syllabus, training organization, operating, scheduling, etc. It also provides information on an evaluation of the trainee's performance, the trainee evaluation of training, and a certificate of completion of training for the trainee.

5.1.6.1 Overview of the course conduct information development. The course conduct information package should be developed in cases where a contractor is to be conducting the training. (In cases where Government furnished information (e.g., lesson plan, trainee guide, tests, ICW) is provided to support contractor conducted training, acquisition of additional data products may be needed.) The following is a list of efforts that may be performed in accomplishing the course conduct information development. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Development of trainee orientation guidance.
b. Development of training course standards.
c. Development of trainee materials.
d. Development of trainee and training course completion information.

5.1.6.2 Sample RFP language for the course conduct information development. The following is provided as an example of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

> *"The offeror shall provide a summary of previous experience in developing course conduct information packages. The offeror shall also define the management and*

technical processes to be used for the course conduct information package. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Method(s) for determining trainee orientation guidance.
2. Method(s) for determining training course standards.
3. Method(s) for developing trainee materials.
4. Method(s) for determining trainee and training course completion information."

5.1.6.3 Data requirements tailoring for the course conduct information package. DID number DI-SESS-81522B, Course Conduct Information Package, identifies the data requirements for an evaluation of a trainee's capabilities, information for trainees regarding the course, and an evaluation of the trainee's performance. The following are some suggestions for tailoring DI-SESS-81522B:

a. In instances where only training course standards data is required, suggest deletion of all DID paragraphs except 3.3 through 3.3.2.3.
b. In instances where only trainee and training course completion data is required, suggest deletion of all DID paragraphs except 3.5 through 3.5.7.
c. In instances where ADL is the method of delivery, suggest deletion of DID paragraphs 3.2.1 through 3.2.1.10, and 3.5.5.1.
d. In instances where resident training is the method of delivery, suggest deletion of DID paragraphs 3.2.2 through 3.2.2.8, and 3.5.5.2.

5.1.6.4 Specification tailoring for the course conduct information package. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.6, contains the verification criteria for data to be provided in a course conduct information package. The following are some suggestions for tailoring the specification:

a. In cases where only training course standards data is required, suggest deletion of all verification criteria except those noted in paragraphs 4.3.6.1b and c.
b. In cases where only trainee and training course completion data is required, suggest deletion of all verification criteria except those noted in paragraphs 4.3.6.1f through h.

5.1.7 Training conduct support document. The training conduct support document provides specific definition and direction to the instructor and trainees on learning objectives, equipment, and instructional media for use during the conduct of training. It also provides updates to course materials for life cycle maintenance of the training course.

5.1.7.1 Overview of the training conduct support document development. Prior to the conduct of in-service formal training, a written outline should be developed which provides specific definition and direction for the instructor and trainee. (For contractor conducted training, it may not be necessary for Government procurement of training conduct support documentation.) The following is a list of efforts that may be performed in accomplishing the training conduct support document development. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Develop course administrative information.
b. Develop course introduction information.
c. Develop instructional materials sequenced to ensure maximum transfer of knowledge.
d. Develop instructional materials which enhance the trainee's mastery of those knowledge and skills for a given subject.
e. Develop instructional materials structured to be utilized as a self-paced instructional system which will allow for the trainee to develop skills without the oversight or assistance of an instructor.
f. Develop instructional visual aids to be used by the instructor in the conduct of the course.
g. Develop training materials change data.

5.1.7.2 Sample RFP language for the training conduct support document development. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is provided as an example for a lesson plan requirement RFP, as follows:

"The offeror shall provide a summary of previous experience in development of lesson plans and instructional visual aids. The offeror shall also define the management and technical processes to be used in the development of lesson plans and instructional visual aids. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for developing a lesson plan.*
2. *Method(s) for identifying course administrative information.*
3. *Methodology to be used for sequencing instruction to ensure maximum transfer of knowledge.*
4. *Methodology to be used for the development of instructional visual aids.*
5. *Procedures for developing document front matter.*
6. *Procedures for developing training material change data."*

b. Sample #2 provides an example for an On-the-Job Training (OJT) handbook RFP, as follows:

"The offeror shall provide a summary of previous experience in development of trainee guides and/or On-the-Job Training OJT handbooks. The offeror shall also define the management and technical processes to be used for development of the OJT handbooks. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for the development of a trainee guide.*
2. *Method(s) for the development of an OJT handbook.*
3. *The method(s) for identifying essential information not contained in technical manuals."*

5.1.7.3 Data requirements tailoring for the training conduct support document. DID number DI-SESS-81523B, Training Conduct Support Document, identifies the data requirements which provide specific definition and direction to the instructor and trainees on learning objectives, equipment, and instructional media for use during the conduct of training. The following are some suggestions for tailoring DI-SESS-81523B:

a. In instances where only a lesson plan and trainee guide are required, suggest deletion of DID paragraphs 2.4 through 2.7.
b. In instances where only an OJT handbook is required, suggest deletion of DID paragraphs 2.2 through 2.3.7 and 2.5 through 2.7.
c. In instances where only a training materials change data is required, suggest deletion of all DID paragraphs except 2.6 through 2.6.2.
d. In instances where a specific style or format is required, suggest samples be provided as an attachment to the SOO and/or SOW. Also insert an appropriate statement in Block 16 of the CDRL, such as, "Block 4: Delete paragraph 1. The style and format shall be in accordance with Attachment ____."

5.1.7.4 Specification tailoring for the training conduct support document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.7, contains the verification criteria for data to be provided in a training conduct support document. The following are some suggestions for tailoring the specification:

a. In instances where only a lesson plan and trainee guide are required, suggest deletion of verification criteria noted in paragraph 4.3.7.1e through h.
b. In instances where only an OJT handbook is required, suggest deletion of all verification criteria except those noted in paragraphs 4.3.7.1a and e.

c. In instances where only training materials change data is required, suggest deletion of all verification criteria except as noted in paragraph 4.3.7.1h.

5.1.8 Training evaluation document. The training evaluation document specifies the personnel, resources, organization, functions, procedures, and requirements for evaluating training and training equipment. It also includes requirements for data resulting from a training evaluation.

5.1.8.1 Overview of the training evaluation. Training evaluations may identify deficiencies during the development of training (formative evaluations), or during the follow-on conduct of training (summative evaluations). Training evaluation results can be used to define requirements for changes in training and training management. The following is a list of efforts that may be performed in accomplishing the training evaluation. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Determine the target training element to be evaluated.
b. Develop an evaluation plan.
c. Provide resources to support the evaluation.
d. Conduct the evaluation.
e. Analyze the results of the evaluation.

5.1.8.2 Sample RFP language for training evaluation. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 provides an RFP statement example for development of a training evaluation plan, as follows:

"The offeror shall provide a summary of previous experience in conducting training evaluations. The offeror shall also define the management and technical processes to be used for the evaluation of training. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The statement for technical processes shall include but not be limited to the determination of the evaluation scope, type, and method for the specified training element.

1. Method(s) for developing the evaluation plan data.
2. Method(s) for determining resources required to support the evaluation."

b. Sample #2 provides an RFP statement example for conducting an evaluation, as follows:

"The offeror shall provide a summary of previous experience in conducting training evaluations. The offeror shall also define the management and technical processes to be used for the evaluation of training. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for conducting a training evaluation.*
2. *Method(s) for data analysis.*
3. *Method(s) for determining evaluation findings.*
4. *Method(s) for determining conclusions and recommendations.*
5. *Methodology for developing evaluation background data."*

c. Sample #3 provides an RFP statement example for conducting a test and evaluation of the instructional delivery system, as follows:

"The offeror shall provide a summary of previous experience in conducting test and evaluation of instructional delivery systems. The offeror shall also define the management and technical processes to be used for the test and evaluation of the instructional delivery system. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *The method(s) for developing the contractual acceptance plan.*
2. *The method(s) for identifying the critical issues for the operational test and evaluation of the instructional delivery system."*

5.1.8.3 Data requirements tailoring for the training evaluation document. DID number DI-SESS-81524B, Training Evaluation Document, identifies the data requirements for an evaluation of the efficiency of existing training systems and emerging systems relative to current system similarities. The data provided in a training evaluation document can serve as the baseline to influence the modification of a training system. The following are some suggestions for tailoring DI-SESS-81524B:

a. In instances where only training evaluation planning data is required, suggest deletion of DID paragraphs 2.4 through 2.5.
b. In instances where only training evaluation results data is required, suggest deletion of DID paragraphs 2.3 and 2.5.
c. In instances where only an instructional delivery system test and evaluation is required, suggest deletion of DID paragraphs 2.3 through 2.4.4.

5.1.8.4 Specification tailoring for the training evaluation document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.8, contains the verification criteria for data to be provided in a training evaluation document. The following are some suggestions for tailoring the specification:

a. In instances where only training evaluation planning data is required, suggest deletion of all verification criteria except as noted in paragraph 4.3.8.1a.
b. In instances where only training evaluation results data is required, suggest deletion of all verification criteria except those noted in paragraphs 4.3.8.1b, c, and d.
c. In instances where only an instructional delivery system test and evaluation is required, suggest deletion of all verification criteria except as noted in paragraph 4.3.8.1e.

5.1.9 Test package. Test packages are used to examine and evaluate an individual's or unit's achievement of learning objectives or performance standards.

5.1.9.1 Overview of the test package development. This training data product shall provide specific data necessary to support the examination of an individual's knowledge, skills, attitudes, and achievement of learning objectives. The following is a list of efforts that may be performed in accomplishing test package development. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Develop test items.
b. Develop tests.
c. Develop test administration materials.
d. Develop a testing plan.
e. Develop a test administrator's guide.

5.1.9.2 Sample RFP language for test package development. The following is provided as an example of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

"The offeror shall provide a summary of previous experience in developing test packages. The offeror shall also define the management and technical processes to be used for the development of test packages. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Method(s) for developing test items.

2. *Method(s) for determining the type of tests to be developed.*
3. *Method(s) for determining the quantity of test items per learning objectives.*
4. *Method(s) for designing tests.*
5. *Method(s) for establishing test item cross-references."*

5.1.9.3 Data requirements tailoring for the test package. DID number DI-SESS-81525B, Test Package, identifies the data requirements for evaluation of achievement of learning objectives or performance standards. The following are some suggestions for tailoring DI-SESS-81525B:

a. In instances where only test items are required, suggest deletion of DID paragraphs 2.3 through 2.4.3.
b. In instances where a testing plan is not required, suggest deletion of DID paragraph 2.4.1.

5.1.9.4 Specification tailoring for the test package. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.9, contains the verification criteria for data to be provided in a test package. The following are some suggestions for specification tailoring:

a. In instances where only training test items are required, suggest deletion of verification criteria noted in paragraphs 4.3.9.1d through 4.3.9.1j.
b. In instances where only a testing plan is required, suggest deletion of verification criteria noted in paragraphs 4.3.9.1a through 4.3.9.1e and 4.3.9.1h through 4.3.9.1k.

5.1.10 Instructional media package. The instructional media package contains visual, textual, and audio information to be used in the development and presentation of training. It also includes the fully integrated instructional media presentation package.

5.1.10.1 Overview of the instructional media package development. An instructional media package requires development when the agreed upon results of the media selection indicate a need for interactive courseware or computer-based courseware. The instructional media package contains audio and video training materials that are used in a training environment. It also contains storyboard and script data, instructional media data files, and all other data necessary for life-cycle configuration support of an ICW package. The following is a list of efforts that may be performed in accomplishing the instructional media package development. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Develop video script.
b. Develop audio script.
c. Develop storyboards.
d. Develop graphics.
e. Develop video materials.

f. Develop audio materials.
g. Develop data files.
h. Obtain legal data, such as clearances and rights for scripts, narratives, intelligence, software use, clip-art, and rental equipment from prime contractor, subcontractors, and vendors.
i. Obtain releases required for production replication, modification, distribution, and/or re-use.
j. Develop an ADL infrastructure.
k. Develop SCOs.

5.1.10.2 Sample RFP language for the instructional media package development. The following is provided as an example of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

"The offeror shall provide a summary of previous experience in development of Interactive Courseware (ICW). The offeror shall also define the management and technical processes to be used for development of ICW. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The statement for technical processes shall include but not be limited to the following:

1. *The method(s) for developing audiovisual scripts.*
2. *The method(s) for developing audio scripts.*
3. *The method(s) for developing storyboards.*
4. *The method(s) for developing media data files.*
5. *The method used to determine the format for courseware delivery (e.g., Compact Disk-Read Only Memory (CD-ROM), tapes).*
6. *The method(s) used to determine the choice of instructional media generation programs.*
7. *A description of the type of hardware, hardware specifications, and hardware operating characteristics required for delivery of the proposed courseware.*
8. *A description of the hardware system operational software (and its operating characteristics) to be used for running the proposed courseware.*
9. *Method(s) for developing master scripts.*
10. *Method(s) for developing video shot lists.*
11. *Method(s) for developing audiovisual production plans.*
12. *Method(s) for developing Edit Decision Lists (EDL).*
13. *Method(s) for developing adjunctive materials.*
14. *Method(s) for determining program media.*

15. *Method for obtaining all legal data from prime contractors, subcontractors, and vendors.*
16. *Method for developing the general plan or approach to production (treatment).*
17. *Method for developing audio scene data.*
18. *Method for developing ICW directions.*
19. *Method for determining programming requirements for graphics and animations.*
20. *Method for applying and using SCO metadata tags.*
21. *Method for selecting components of a training portal.*
22. *A description of the convention for naming SCO digital files."*

5.1.10.3 Data requirements tailoring for the instructional media package. DID number DI-SESS-81526B, Instructional Media Package, identifies the content and format requirements for courseware. The following are some suggestions for tailoring DI-SESS-81526B:

a. In instances where courseware with only video required, suggest deletion of DID paragraphs 3.3.2.2, 3.3.4, 3.6.2a(4), 3.6.2b(4), and 3.6.6m.
b. In instances where both audio and video is required for the courseware, all data content requirements of this DID may be needed.
c. In instances where training is not to be delivered in an ADL environment, suggest deletion of DID paragraph 3.7 in its entirety.

5.1.10.4 Specification tailoring for the instructional media package. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.10, contains the verification criteria for data to be provided in an instructional media package. The following are some suggestions for tailoring the specification:

a. In instances where only video is required, suggest deletion of verification criteria noted in paragraph 4.3.10.1b.
b. In instances where both audio and video are needed, all examinations may be appropriate.
c. In instances where training is not to be delivered in an ADL environment, suggest deletion of verification criteria noted in paragraphs 4.3.10.1n and o, and 4.3.10.2 l and m.

5.1.11 Training system support document. The training system support document provides complete procedures for utilization of all software utility programs, support software file generation, and system performance characteristics verification for life cycle maintenance. This document also contains information for user personnel to aid them in operating and achieving full utilization of a training system during the presentation of course(s) of instruction, training exercise(s), or missions.

5.1.11.1 Overview of the training system support document development. The training data product provides specific requirements data necessary for the operation and life cycle

configuration management of a training system. The following is a list of efforts that may be performed in accomplishing the training system support document development. This list is provided as information to the acquisition manager and is not all inclusive. Efforts include:

a. Develop software utilities procedures.
b. Develop procedures and information for support software file generation.
c. Develop performance characteristics verification data.
d. Develop procedures for training system operation.
e. Develop trainer emergency procedures.
f. Develop reference and text materials.
g. Develop procedures for use of the training system to support training exercises.
h. Develop a training system user's guide.

5.1.11.2 Sample RFP language for the training system support development. The following are provided as examples of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

a. Sample #1 is as follows:

"The offeror shall provide a summary of previous experience in developing trainer software application data. The offeror shall also define the management and technical processes to be used for the development of trainer software application data. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. Method(s) for developing software utilities.
2. Method(s) for developing procedures for support software file generation.
3. Method(s) for developing performance characteristics verification data.
4. Method(s) for determining supplementary information requirement."

b. Sample #2 is as follows:

"The offeror shall provide a summary of previous experience in developing training system operating data. The offeror shall also define the management and technical processes to be used for the training system operating data. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:

1. *Method(s) for developing procedures for training system operation.*
2. *Method(s) for determining trainer emergency procedures."*

5.1.11.3 Data requirements tailoring for the training system support document. DID number DI-SESS-81527B, Training System Support Document, identifies the requirements for trainer software application and training system operating data. The following are some suggestions for tailoring DI-SESS-81527B:

a. In instances where only trainer software application data is required, suggest deletion of DID paragraphs 2.3 through 2.3.10.
b. In instances where only training system operating data is required, suggest deletion of DID paragraphs 2.2 through 2.2.4.

5.1.11.4 Specification tailoring for the training system support document. MIL-PRF-29612, Performance Specification, Training Data Products, paragraph 4.3.11, contains the verification criteria for data to be provided in a training system support document. The following are some suggestions for tailoring the specification:

a. In instances where only trainer software application data is required, suggest deletion of verification criteria noted in paragraphs 4.3.11.1d through i.
b. In instances where only training system operating data is required, suggest deletion of verification criteria noted in paragraphs 4.3.11.1a through 4.3.11.1c.

5.2 Procuring standard digital data. Standard digital data is information presented in a format that conforms to the data standards specified in the Defense Data Dictionary System (DDDS). Careful application of requirements in contractual documents is necessary for successful acquisition and use of standard digital data. Guidance on acquisition of standard digital data is provided in the following paragraphs.

5.2.1 Standard digital data requirements determination guidance. Training analysis and design data, and courseware that have a long life span and complex publishing requirements should be stored in Government or contractor repositories for access by a broad user community. Other training data products, such as a Training Situation Document, program management reports and schedules, cost reports, technical reports, and agenda and minutes documenting meetings can be delivered or accessed in accordance with a mutually agreeable, desktop publishing, word processing, spreadsheet, cost reporting, or scheduling package. Generally, these types of documents have a relatively short life span and limited user community, and are less complex with respect to their graphics. Additional guidance for the application of standard digital data requirements in contracts is provided in Appendix C.

5.2.2 Government Concept of Operations (GCO) for standard digital data. When procuring standard digital data, the Government acquisition manager should develop a Government Concept of Operations (GCO) prior to preparing a RFP. The GCO should be included as part of the RFP in Section L or as an attachment. The GCO should include plans for data management and the use of standard digital data for training acquisition, analysis, design, development, and support. The GCO should document Government plans to acquire and use computer systems that can access, receive, store, process, and use standard digital data formatted in accordance with DDDS requirements. Key factors to include in the GCO are the time frames and actions for Service/Agency implementation of capabilities for each data product applicable to the acquisition. Before digital data delivery or access is specified, the acquisition manager should evaluate productivity and quality gains to be achieved using standard digital data.

5.2.2.1 GCO for standard digital data and SOW/SOO preparation guidance. To provide potential bidders with an understanding of specific user needs for technical information throughout all life-cycle activities, a standard digital data GCO should be developed and included in the section J of the RFP as GFI. Appendix C provides detailed guidance on the preparation of a GCO.

5.2.3 Contractor Integrated Technical Information Service (CITIS). CITIS is a contractor developed service which provides electronic access to and/or delivery of contractually required CDRL data to users. CITIS, and consequently the contract provisions for CITIS, does not include the databases to which access is granted. The database process and the format of data to be accessed through CITIS are factors that are provided in the SOW/SOO. The application of CITIS in a contract can be useful in conducting in-process reviews, data product performance verification, acceptance, and data exchange between the Government and contractor. Therefore, training development costs and lead time can be reduced.

5.2.3.1 CITIS requirements. MIL-STD-974 defines a set of core and tailorable CITIS functions which collectively constitute a contractor provided service for electronic access to and delivery of contractually required standard digital data. Invoking CITIS and standard digital data requirements should be made with full consideration of the ability of contractors to provide standard digital data and the ability of Government activities to make cost effective use of standard digital data deliverables or access. When CITIS interactive access to a contractor's technical database is chosen, then electronic communications are warranted as a delivery mode for deliverables. Security aspects will also affect the selection of the delivery method. Detailed guidance on applying CITIS requirements are provided in Appendix D.

5.2.4 Tailoring of digital data requirements. Proper tailoring of standard digital data requirements is essential to avoid unnecessary costs. In addition to the proper tailoring of

standard digital data requirements. Guidance regarding data requirements tailoring is provided in the following paragraphs:

5.2.4.1 Standard digital data and ISD relationships. Paragraphs 5.1.1.1, 5.1.2.1, etc. through 5.1.11.1 contain information to familiarize the acquisition manager on the ISD efforts required for development of page-based format training data products. The efforts described in those paragraphs are, for the most part, also necessary in development of standard digital data format training data products.

5.2.4.2 Sample RFP language for standard digital data. Paragraphs 5.1.1.2, 5.1.2.2, etc. through 5.1.11.2 contain sample RFP language for page-based format training data product RFPs. Those samples may also be applicable when procuring standard digital data format training data products. In addition to the 5.1.X.2 paragraph samples, the following is provided as an example of language for "Section L - Instructions, Conditions, and Notices to Offerors" of an RFP for standard digital data format acquisitions. As each training requirement is unique, language must be written for each RFP that reflects the specific training need.

> *"The offeror shall provide a summary of previous experience in developing standard digital data. The offeror shall also define the management and technical processes to be used in the development of standard digital data. The statement for management processes shall include but not be limited to Quality Assurance (QA), metrics, scheduling, tests, and risk management. The technical processes shall include but not be limited to the following:*
>
> 1. *The method of ensuring compliance with the Defense Data Dictionary System (DDDS).*
> 2. *The method of maintaining the logical data model concurrence with the DoD Data Architecture (DDA) and the physical data model compatibility with the logical data model.*
> 3. *The method of ensuring data compatibility with the users hardware and software."*

5.2.4.3 Data requirements tailoring. When standard digital data is procured it is necessary to tailor the DID. At the end of each DID is a table that lists all SDEs for that particular DID. Select the required SDEs from the table. This table is a tool for use in specifying SDEs required for your acquisition. The annotated DID table that specifies requirements for standard digital data should become an attachment to the CDRL. When only standard digital data is procured the following is a sample statement for Block 16 of the CDRL (Paragraph numbers for DI-SESS-81517B were used in this sample statement.):

> "*Block 4: Delete all except paragraphs 1b and 3. Standard digital data shall be delivered for the standard data elements annotated as "Required" in the attached table."*

5.2.4.4 Specification tailoring for standard digital data. Paragraphs 5.1.1.4, 5.1.2.4, etc. through 5.1.11.4 contain guidance for tailoring the specification for training data products. Normally, the only tailoring of performance requirements and verification criteria tailoring necessary would be to include requirements that are unique to the specific application.

6. NOTES

6.1 Intended use. This handbook is approved for use by all Departments and Agencies of the DoD. This handbook is intended to provide guidance to DoD personnel on preparing solicitations and evaluating solicitation responses.

6.2 Subject term (key word) listing.

Advanced Distributed Learning (ADL)
Course
Courseware
Evaluation
Examination
Instructional
Interactive Courseware (ICW)
Lesson
Learning objective
Media
Sharable Content Object (SCO)
Standard Data Elements (SDE)
Standard digital data
Test
Training
Training aid
Training conduct
Training equipment
Training situation
Training support
Training system

APPENDIX A

TRAINING DATA PRODUCT REQUIREMENTS TAILORING GUIDANCE

A.1 SCOPE

A.1.1 Scope. This appendix contains information to support users of MIL-PRF-29612, its related DIDs, and MIL-HDBK-29612-1. It provides cross-references among document paragraphs to support the proper application of training data product requirements.

A.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

A.3 DEFINITIONS

The definitions in MIL-HDBK-29612-4 apply to this appendix.

A.4 TAILORING GUIDANCE SUPPORT

A.4.1 DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference. Table 2 provides cross-references among DID, MIL-PRF-29612, and MIL-HDBK-29612-1 paragraphs that will help users in applying proper performance requirements and verification criteria when tailoring training data product content requirements. See section 5 for additional guidance on data product requirements tailoring.

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81517B	2.1	4.3.1, 4.3.1.1, 4.3.1.1.m	
81517B	2.2 thru 2.2.3.k	4.3.1, 4.3.1.1, 4.3.1.1.a	5.1.1.2.a, 5.1.1.2.a(1)
81517B	2.2.4 and 2.2.4.1	4.3.1, 4.3.1.1, 4.3.1.1.f	5.1.1.2.a, 5.1.1.2.a(2)
81517B	2.2.4.2 thru 2.2.4.2.e	4.3.1, 4.3.1.1, 4.3.1.1.b	5.1.1.2.a, 5.1.1.2.a(3)
81517B	2.2.4.3	4.3.1, 4.3.1.1, 4.3.1.1.g	5.1.1.2.a, 5.1.1.2.a(4)
81517B	2.2.4.4 and 2.2.4.5	4.3.1, 4.3.1.1, 4.3.1.1.h	5.1.1.2.a, 5.1.1.2.a(4)
81517B	2.2.4.6	4.3.1, 4.3.1.1, 4.3.1.1.i	5.1.1.2.a, 5.1.1.2.a(4)
81517B	2.2.4.7 thru 2.2.4.7.c(3)	4.3.1, 4.3.1.1, 4.3.1.1.c	5.1.1.2.a, 5.1.1.2.a(5)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81517B	2.2.4.7.c(4)	4.3.1, 4.3.1.1, 4.3.1.1.n	5.1.1.2.a, 5.1.1.2.a(5)
81517B	2.2.4.7.d thru 2.2.4.8	4.3.1, 4.3.1.1, 4.3.1.1.c	5.1.1.2.a, 5.1.1.2.a(5)
81517B	2.2.4.9 thru 2.2.4.9.b	4.3.1, 4.3.1.1, 4.3.1.1.j	5.1.1.2.a, 5.1.1.2.a(6)
81517B	2.3 and 2.3.1	4.3.1, 4.3.1.1, 4.3.1.1.d	5.1.1.2.b, 5.1.1.2.b(1)
81517B	2.3.2	4.3.1, 4.3.1.1, 4.3.1.1.d	5.1.1.2.b, 5.1.1.2.b(2)
81517B	2.3.3 thru 2.3.3.o	4.3.1, 4.3.1.1, 4.3.1.1.d	5.1.1.2.b, 5.1.1.2.b(1)
81517B	2.3.4 thru 2.3.4.e	4.3.1, 4.3.1.1, 4.3.1.1.k	5.1.1.2.b, 5.1.1.2.b(3)
81517B	2.3.5 thru 2.3.5.e	4.3.1, 4.3.1.1, 4.3.1.1.l	5.1.1.2.b, 5.1.1.2.b(4)
81517B	2.3.6	4.3.1, 4.3.1.1, 4.3.1.1.e	5.1.1.2.b, 5.1.1.2.b(3), 5.1.1.2.b(4)
81518B	2.1	4.3.2, 4.3.2.2, 4.3.2.2.j	
81518B	2.3 thru 2.3.1.h(3)	4.3.2, 4.3.2.1, 4.3.2.1.a	5.1.2.2.a, 5.1.2.2.a(1)
81518B	2.3.2 thru 2.3.2.f	4.3.2, 4.3.2.1, 4.3.2.1.b	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.2.g	4.3.2, 4.3.2.1, 4.3.2.1.b, 4.3.2.1.d, 4.3.2.2, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.2.h thru 2.3.2.n	4.3.2, 4.3.2.1, 4.3.2.1.b, 4.3.2.2, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.2.o	4.3.2, 4.3.2.1, 4.3.2.1.b, 4.3.2.2, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(2), 5.1.2.2.a(4)
81518B	2.3.2.p thru 2.3.2.y	4.3.2, 4.3.2.1, 4.3.2.1.b, 4.3.2.2, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.2.z thru 2.3.2.z(8)	4.3.2, 4.3.2.2, 4.3.2.2.a, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.3 thru 2.3.3.b	4.3.2, 4.3.2.2, 4.3.2.2.b	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.4	4.3.2, 4.3.2.2, 4.3.2.2c	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.3.5	4.3.2, 4.3.2.2, 4.3.2.2d	5.1.2.2.a, 5.1.2.2.a(2)
81518B	2.4	4.3.2, 4.3.2.2, 4.3.2.2.e	5.1.2.2.a, 5.1.2.2.a(3)
81518B	2.4.1 thru 2.4.3.l	4.3.2, 4.3.2.2, 4.3.2.2.e	5.1.2.2.a, 5.1.2.2.a(3)
81518B	2.5.1 thru 2.5.1.d	4.3.2, 4.3.2.1, 4.3.2.1.g	5.1.2.2.a, 5.1.2.2.a(7), 5.1.2.2.a(11)
81518B	2.5.1.e thru 2.5.1.h	4.3.2, 4.3.2.1, 4.3.2.1.c, 4.3.2.1.k(2), 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(5), 5.1.2.2.a(11)
81518B	2.5.1.i and j	4.3.2, 4.3.2.2, 4.3.2.2.g	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.k	4.3.2, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81518B	2.5.1.l and m	4.3.2, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.n	4.3.2, 4.3.2.1, 4.3.2.1.j, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.o	4.3.2, 4.3.2.1, 4.3.2.1.f, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(7), 5.1.2.2.a(11)
81518B	2.5.1.p	4.3.2, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.q	4.3.2, 4.3.2.1, 4.3.2.1.h, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(8) 5.1.2.2.a(11)
81518B	2.5.1.r	4.3.2, 4.3.2.1, 4.3.2.1.f, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(6), 5.1.2.2.a(11)
81518B	2.5.1.s thru 2.5.1.v(4)	4.3.2, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.w thru 2.5.1.w(2)	4.3.2, 4.3.2.1, 4.3.2.1.k, 4.3.2.1.k(1), 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.1.x	4.3.2, 4.3.2.2, 4.3.2.2.f, 4.3.2.2.k	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.5.2	4.3.2, 4.3.2.1, 4.3.2.1.i, 4.3.2.2, 4.3.2.2.f	5.1.2.2.a, 5.1.2.2.a(5), 5.1.2.2.a(11)
81518B	2.5.3	4.3.2, 4.3.2.2, 4.3.2.2.f	5.1.2.2.a, 5.1.2.2.a(11)
81518B	2.6 thru 2.6.2	4.3.2, 4.3.2.2, 4.3.2.2.g	5.1.2.2.a, 5.1.2.2.a(10)
81518B	2.6.3	4.3.2, 4.3.2.1, 4.3.2.1.l, 4.3.2.2, 4.3.2.2.g	5.1.2.2.a, 5.1.2.2.a(10)
81518B	2.6.4 thru 2.6.11	4.3.2, 4.3.2.2, 4.3.2.2.g	5.1.2.2.a, 5.1.2.2.a(10)
81518B	2.7 thru 2.7.e	4.3.2, 4.3.2.2, 4.3.2.2.h	5.1.2.2.a, 5.1.2.2.a(12)
81518B	2.8 thru 2.8.5	4.3.2, 4.3.2.2, 4.3.2.2.i	5.1.2.2.a, 5.1.2.2.a(9)
81519B	2.1	4.3.3, 4.3.3.1, 4.3.3.1.n	
81519B	2.2	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(7)
81519B	2.2.a	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.e, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(1), 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(3), 5.1.3.2.b(7)
81519B	2.2.b	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(1), 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(7)
81519B	2.2.c thru 2.2.e	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(7)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81519B	2.2.f and 2.2.g	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(3), 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(7)
81519B	2.2.h	4.3.3, 4.3.3.1, 4.3.3.1.a, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(5), 5.1.3.2.b, 5.1.3.2.b(7)
81519B	2.3 thru 2.3.2	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.a	4.3.3, 4.3.3.1, 4.3.3.1.l	5.1.3.2.a, 5.1.3.2.a(4), 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(2), 5.1.3.2.b(8)
81519B	2.3.2.b	4.3.3, 4.3.3.1, 4.3.3.1.e, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(2), 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(4), 5.1.3.2.b(8)
81519B	2.3.2.c	4.3.3, 4.3.3.1, 4.3.3.1.d, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(1), 5.1.3.2.b(6), 5.1.3.2.b(8)
81519B	2.3.2.d	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.d(1)	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(1), 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.d(2) and 2.3.2.d(3)	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.e	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(6), 5.1.3.2.b(8)
81519B	2.3.2.f and 2.3.2.g	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.h and 2.3.2.i	4.3.3, 4.3.3.1, 4.3.3.1.c, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.2.j	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(5), 5.1.3.2.b(8)
81519B	2.3.2.k	4.3.3, 4.3.3.1, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.3 and 2.3.3.a	4.3.3, 4.3.3.1, 4.3.3.1.b, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.3.b	4.3.3, 4.3.3.1, 4.3.3.1.b, 4.3.3.1.f, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(1), 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.3.c	4.3.3, 4.3.3.1, 4.3.3.1.b, 4.3.3.1.c, 4.3.3.1.d, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(2), 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(4), 5.1.3.2.b(5), 5.1.3.2.b(8)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81519B	2.3.3.d thru 2.3.3.d(7)	4.3.3, 4.3.3.1, 4.3.3.1.b, 4.3.3.1.c, 4.3.3.1.d, 4.3.3.1.j	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.3.3.d(8)	4.3.3, 4.3.3.2, 4.3.3.2.a, 4.3.3.2.b	5.1.3.2.a, 5.1.3.2.a(6), 5.1.3.2.b, 5.1.3.2.b(8)
81519B	2.4 thru 2.4.2.d(9)	4.3.3, 4.3.3.1, 4.3.3.1.g, 4.3.3.1.h	5.1.3.2.c, 5.1.3.2.c(1), 5.1.3.2.c(2)
81519B	2.4.2.e, e(1) and e(2)	4.3.3, 4.3.3.1, 4.3.3.1.h, 4.3.3.2, 4.3.3.2.a	5.1.3.2.c, 5.1.3.2.c(2)
81519B	2.4.3 thru 2.4.3.c	4.3.3, 4.3.3.1, 4.3.3.1.k	5.1.3.2.c, 5.1.3.2.c(4)
81519B	2.4.4 thru 2.4.4.f(2)c	4.3.3, 4.3.3.1, 4.3.3.1.l	5.1.3.2.c, 5.1.3.2.c(3)
81519B	2.5.a	4.3.3, 4.3.3.1, 4.3.3.1.i	5.1.3.2.d, 5.1.3.2.d(1)
81519B	2.5.b thru 2.5.c(4)	4.3.3, 4.3.3.1, 4.3.3.1.i	5.1.3.2.d, 5.1.3.2.d(1), 5.1.3.2.d(2)
81519B	2.6 thru 2.6.5	4.3.3, 4.3.3.1, 4.3.3.1.m	5.1.3.2.d, 5.1.3.2.d(3)
81520B	2.1	4.3.4, 4.3.3.1, 4.3.4.1j	
81520B	2.2 thru 2.2.q	4.3.4, 4.3.4.1, 4.3.4.1.a	5.1.4.2, 5.1.4.2(2), 5.1.4.2(3), 5.1.4.2(6), 5.1.4.2(7)
81520B	2.3	4.3.4, 4.3.4.1, 4.3.4.1.b, 4.3.4.1.g	5.1.4.2, 5.1.4.2(2)
81520B	2.3.1	4.3.4, 4.3.4.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(2)
81520B	2.3.2 and 2.3.3	4.3.4, 4.3.4.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(2)
81520B	2.3.3.1	4.3.4, 4.3.3.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(1)
81520B	2.3.3.2	4.3.4, 4.3.4.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(2), 5.1.4.2(3)
81520B	2.3.3.3 thru 2.3.5	4.3.4, 4.3.4.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(2)
81520B	2.3.6 thru 2.3.7	4.3.4, 4.3.4.1, 4.3.4.1.b, 4.3.4.1.g	5.1.4.2, 5.1.4.2(2), 5.1.4.2(4)
81520B	2.3.8 thru 2.3.10	4.3.4, 4.3.4.1, 4.3.4.1.b	5.1.4.2, 5.1.4.2(2)
81520B	2.3.11 thru 2.3.11.j	4.3.4, 4.3.4.1, 4.3.4.1.b, 4.3.4.1.h	5.1.4.2, 5.1.4.2(2)
81520B	2.3.12	4.3.4, 4.3.4.2, 4.3.4.2.b	5.1.4.2, 5.1.4.2(2), 5.1.4.2(4)
81520B	2.4 thru 2.4.3	4.3.4, 4.3.4.1, 4.3.4.1.c	5.1.4.2, 5.1.4.2(2), 5.1.4.2(5)
81520B	2.4.4 thru 2.4.4.e	4.3.4, 4.3.4.1, 4.3.4.1.c, 4.3.4.1.e, 4.3.4.2.a	5.1.4.2, 5.1.4.2(2)
81520B	2.4.5	4.3.4, 4.3.4.1, 4.3.4.1.c, 4.3.9.1, 4.3.9.1.a, 4.3.9.1.c	5.1.4.2, 5.1.4.2(2), 5.1.9.2(1)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81520B	2.4.6 thru 2.4.6.i	4.3.4, 4.3.4.1, 4.3.4.1.c, 4.3.4.1.f	5.1.4.2, 5.1.4.2(5)
81520B	2.4.7 thru 2.4.8.d	4.3.4, 4.3.4.1, 4.3.4.1.c, 4.3.4.1.d	5.1.4.2, 5.1.4.2(6), 5.1.4.2(8)
81520B	2.5 thru 2.5.g	4.3.4, 4.3.4.1, 4.3.4.1.g, 4.3.4.1.i	5.1.4.2, 5.1.4.2(9)
81521B	2.1	4.3.5, 4.3.5.2, 4.3.5.2.b	
81521B	2.2 and 2.2.1	4.3.5, 4.3.5.1, 4.3.5.1.a	5.1.5.2.a, 5.1.5.2.a(1)
81521B	2.2.1.a and 2.2.1.b	4.3.5, 4.3.5.1, 4.3.5.1.a, 4.3.5.1.b, 4.3.5.2	5.1.5.2.a, 5.1.5.2.a(1), 5.1.5.2.a(2)
81521B	2.2.1.c thru 2.2.1.e	4.3.5, 4.3.5.1, 4.3.5.1.a	5.1.5.2.a, 5.1.5.2.a(1)
81521B	2.2.2	4.3.5, 4.3.5.1, 4.3.5.1.b	5.1.5.2.a, 5.1.5.2.a(1), 5.1.5.2.a(4)
81521B	2.2.3 thru 2.2.4.e	4.3.5, 4.3.5.1, 4.3.5.1.c	5.1.5.2.a, 5.1.5.2.a(1)
81521B	2.2.5 thru 2.2.5.h	4.3.5, 4.3.5.1, 4.3.5.1.d	5.1.5.2.a, 5.1.5.2.a(2)
81521B	2.2.6	4.3.5, 4.3.5.1, 4.3.5.1.a	5.1.5.2.a, 5.1.5.2.a(3)
81521B	2.3 thru 2.3.1.y	4.3.5, 4.3.5.1, 4.3.5.1.e, 4.3.5.2.a-d	5.1.5.2.b, 5.1.5.2.b(1)
81521B	2.3.2 thru 2.3.p	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(1)
81521B	2.3.3 thru 2.3.4.c(5)b	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(1)
81521B	2.3.4.c(5)c and d	4.3.5, 4.3.5.2, 4.3.5.2.d	5.1.5.2.b, 5.1.5.2.b(1)
81521B	2.3.4.c(5)e thru 2.3.7	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(1)
81521B	2.3.8 thru 2.3.9.i	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(2)
81521B	2.3.10	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(6)
81521B	2.3.11	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(3)
81521B	2.3.12	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(4)
81521B	2.3.13 thru 2.3.13.e	4.3.5, 4.3.5.1, 4.3.5.1.e	5.1.5.2.b, 5.1.5.2.b(5)
81522B	3.1	4.3.6, 4.3.6.2, 4.3.6.2.b	
81522B	3.2.1 thru 3.2.1.10.b	4.3.6, 4.3.6.1, 4.3.6.1.a	5.1.6.2, 5.1.6.2(1)
81522B	3.2.2 thru 3.2.2.10.b	4.3.6, 4.3.6.1, 4.3.6.1.a	5.1.6.2, 5.1.6.2(1)
81522B	3.3	4.3.6, 4.3.6.1, 4.3.6.1.c	5.1.6.2, 5.1.6.2(2)
81522B	3.3.1 thru 3.3.1.b	4.3.6, 4.3.6.1, 4.3.6.1.c	5.1.6.2, 5.1.6.2(2)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81522B	3.3.1.c	4.3.6, 4.3.6.1, 4.3.6.1.b, 4.3.6.1.c	5.1.6.2, 5.1.6.2(2)
81522B	3.3.1.d and e	4.3.6, 4.3.6.1, 4.3.6.1.c, 4.3.6.1.d, 4.3.6.2.a	5.1.6.2, 5.1.6.2(2)
81522B	3.3.1.f and 3.3.1.g	4.3.6, 4.3.6.1, 4.3.6.1.c, 4.3.6.2.a	5.1.6.2, 5.1.6.2(2)
81522B	3.3.2 thru 3.3.2.3.g	4.3.6, 4.3.6.2, 4.3.6.2.b	5.1.6.2, 5.1.6.2(2)
81522B	3.4 thru 3.4.2.o	4.3.6, 4.3.6.1, 4.3.6.1.e	5.1.6.2, 5.1.6.2(3)
81522B	3.5 thru 3.5.4	4.3.6, 4.3.6.1, 4.3.6.1.f	5.1.6.2, 5.1.6.2(4)
81522B	3.5.5 thru 3.5.5.2.d(4)	4.3.6, 4.3.6.1, 4.3.6.1.f, 4.3.6.1.g	5.1.6.2, 5.1.6.2(4)
81522B	3.5.6	4.3.6, 4.3.6.1, 4.3.6.1.f	5.1.6.2, 5.1.6.2(4)
81522B	3.5.7 thru 3.5.7.h	4.3.6, 4.3.6.1, 4.3.6.1.f, 4.3.6.1.h	5.1.6.2, 5.1.6.2(4)
81523B	2.1 thru 2.1.10	4.3.7, 4.3.7.1, 4.3.7.1.a	5.1.7.2.a, 5.1.7.2.a(5)
81523B	2.2	4.3.7, 4.3.7.1, 4.3.7.1.b	5.1.7.2.a, 5.1.7.2.a(1)
81523B	2.2.1	4.3.7, 4.3.7.1, 4.3.7.1.a	5.1.7.2.a, 5.1.7.2.a(5)
81523B	2.2.2 thru 2.2.2.f	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.g and h	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.i thru 2.2.2.l	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.m	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(1), 4.3.7.1.c(3), 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.n	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.o	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(4), 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.p thru 2.2.2.s	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.t	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(1), 4.3.7.1.c(3), 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81523B	2.2.2.u	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.v and w	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.2.x thru 2.2.2.ak	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.2, 4.3.7.2.a	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(2)
81523B	2.2.3 thru 2.2.3.g	4.3.7, 4.3.7.1, 4.3.7.1.b	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.3.h	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(6)	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.3.i	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(5)	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.3.j thru 2.2.3.n	4.3.7, 4.3.7.1, 4.3.7.1.b	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.3.o	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(5)	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.3.p thru 2.2.3.w	4.3.7, 4.3.7.1, 4.3.7.1.b, 4.3.7.1.c, 4.3.7.1.c(5)	5.1.7.2.a, 5.1.7.2.a(1), 5.1.7.2.a(3)
81523B	2.2.4 thru 2.3.2.c	4.3.7, 4.3.7.1, 4.3.7.1.d	5.1.7.2.b, 5.1.7.2.b(1)
81523B	2.3.2.d	4.3.7, 4.3.7.1, 4.3.7.1.d	5.1.7.2.b, 5.1.7.2.b(1), 5.1.7.2.b(3)
81523B	2.3.2.e thru 2.3.7.c	4.3.7, 4.3.7.1, 4.3.7.1.d	5.1.7.2.b, 5.1.7.2.b(1)
81523B	2.4 thru 2.4.3.g	4.3.7, 4.3.7.1, 4.3.7.1.e, 4.3.7.1.f	5.1.7.2.b, 5.1.7.2.b(2)
81523B	2.4.4 thru 2.4.4.d	4.3.7, 4.3.7.1, 4.3.7.1.e, 4.3.7.1.f, 4.3.9.1, 4.3.9.1.a	5.1.7.2.b, 5.1.7.2.b(2)
81523B	2.4.5 thru 2.4.6.c(2)	4.3.7, 4.3.7.1, 4.3.7.1.e	5.1.7.2.b, 5.1.7.2.b(2)
81523B	2.5 thru 2.5.4.e	4.3.7, 4.3.7.1, 4.3.7.1.g	5.1.7.2.a, 5.1.7.2.a(4)
81523B	2.6 thru 2.6.2	4.3.7, 4.3.7.1, 4.3.7.1.h	5.1.7.2.a, 5.1.7.2.a(6)
81524B	2.1 thru 2.2	4.3.8, 4.3.8.1, 4.3.8.1.g	
81524B	2.3 thru 2.3.l	4.3.8, 4.3.8.1, 4.3.8.1.a	5.1.8.2.a, 5.1.8.2.a(1)
81524B	2.3.m	4.3.8, 4.3.8.1, 4.3.8.1.a	5.1.8.2.a, 5.1.8.2.a(1), 5.1.8.2.a(2)
81524B	2.3.n thru 2.3.r	4.3.8, 4.3.8.1, 4.3.8.1.a	5.1.8.2.a, 5.1.8.2.a(1)
81524B	2.4 thru 2.4.1.c	4.3.8, 4.3.8.1, 4.3.8.1.b	5.1.8.2.b, 5.1.8.2.b(1), 5.1.8.2.b(3)
81524B	2.4.1.d thru 2.4.1.n	4.3.8, 4.3.8.1, 4.3.8.1.b	5.1.8.2.b, 5.1.8.2.b(1), 5.1.8.2.b(2)
81524B	2.4.2	4.3.8, 4.3.8.1, 4.3.8.1.c	5.1.8.2.b, 5.1.8.2.b(3)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81524B	2.4.3	4.3.8, 4.3.8.1, 4.3.8.1.d	5.1.8.2.b, 5.1.8.2.b(4)
81524B	2.4.4 thru 2.4.4.g	4.3.8, 4.3.8.1, 4.3.8.1.f	5.1.8.2.b, 5.1.8.2.b(5)
81524B	2.5	4.3.8, 4.3.8.1, 4.3.8.1.e	5.1.8.2.c, 5.1.8.2.c(2)
81524B	2.5.a	4.3.8, 4.3.8.1, 4.3.8.1.e	5.1.8.2.c, 5.1.8.2.c(1), 5.1.8.2.c(2)
81524B	2.5.b thru 2.5.c(7)	4.3.8, 4.3.8.1, 4.3.8.1.e	5.1.8.2.c, 5.1.8.2.c(2)
81525B	2.1	4.3.9, 4.3.9.2, 4.3.9.2.c	
81525B	2.2 thru 2.2.b	4.3.9, 4.3.9.1, 4.3.9.1.a, 4.3.9.1.b	5.1.9.2, 5.1.9.2(1)
81525B	2.2.c	4.3.9, 4.3.9.1, 4.3.9.1.a, 4.3.9.1.b, 4.3.9.2, 4.3.9.2.a	5.1.9.2, 5.1.9.2(5)
81525B	2.2.d thru 2.2.h	4.3.9, 4.3.9.1, 4.3.9.1.a, 4.3.9.1.c	5.1.9.2, 5.1.9.2(1)
81525B	2.3 thru 2.3.b	4.3.9, 4.3.9.2, 4.3.9.2.a	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.3.c	4.3.9, 4.3.9.1, 4.3.9.1.e, 4.3.9.2, 4.3.9.2.a	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.3.d thru 2.3.j	4.3.9, 4.3.9.2, 4.3.9.2.a	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.4 thru 2.4.1.a	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.1.b	4.3.9, 4.3.9.1, 4.3.9.1.f, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.1.c thru 2.4.1.e	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.4.1.f	4.3.9, 4.3.9.1, 4.3.9.1.g, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.1.g thru 2.4.1.k	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.4.1.l	4.3.9, 4.3.9.1, 4.3.9.1.m	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.4.2 thru 2.4.2.a	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(2), 5.1.9.2(4)
81525B	2.4.2.b thru 2.4.2.d	4.3.9, 4.3.9.1, 4.3.9.1.d, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.2.e	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.2.e(1)	4.3.9, 4.3.9.1, 4.3.9.1.e, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.2.e(2) thru 2.4.2.h	4.3.9, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.4.2.i	4.3.9, 4.3.9.1, 4.3.9.1.j, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81525B	2.4.2.j thru 2.4.4	4.3.9, 4.3.9.1, 4.3.9.1.m, 4.3.9.2, 4.3.9.2.b	5.1.9.2, 5.1.9.2(4)
81525B	2.5 thru 2.5.b	4.3.9, 4.3.9.1, 4.3.9.1.k	5.1.9.2, 5.1.9.2(5)
81526B	2.b	4.3.10, 4.3.10.2.l	5.1.10.2, 5.1.10.2
81526B	3.1	4.3.10, 4.3.10.1.j	5.1.10.2, 5.1.10.2(4)
81526B	3.3.1 thru 3.3.1.m	4.3.10, 4.3.10.1, 4.3.10.1.k	5.1.10.2, 5.1.10.2(16)
81526B	3.3.2 thru 3.3.2.1.n	4.3.10, 4.3.10.1, 4.3.10.1.a, b, and c, 4.3.10.2, 4.3.10.2.c	5.1.10.2, 5.1.10.2(9), 5.1.10.2(1)
81526B	3.3.2.2 thru 3.3.2.2.c	4.3.10, 4.3.10.1, 4.3.10.1.c	5.1.10.2, 5.1.10.2(2)
81526B	3.3.3 thru 3.3.3.e(13)	4.3.10, 4.3.10.1, 4.3.10.1.a, 4.3.10.2, 4.3.10.2.a, 4.3.10.2.d	5.1.10.2, 5.1.10.2(3)
81526B	3.3.4 thru 3.3.4.h	4.3.10, 4.3.10.1, 4.3.10.1.l	5.1.10.2, 5.1.10.2(17)
81526B	3.3.5	4.3.10, 4.3.10.2, 4.3.10.2.e and f	5.1.10.2, 5.1.10.2(10), 5.1.10.2(11)
81526B	3.3.5.a	4.3.10, 4.3.10.2, 4.3.10.2.f	5.1.10.2, 5.1.10.2(10), 5.1.10.2(11)
81526B	3.3.5.b thru 3.3.5.b(2)	4.3.10, 4.3.10.2, 4.3.10.2.e and f	5.1.10.2, 5.1.10.2(10), 5.1.10.2(11)
81526B	3.3.5.c	4.3.10, 4.3.10.2, 4.3.10.2.f	5.1.10.2, 5.1.10.2(11)
81526B	3.3.6	4.3.10, 4.3.10.1, 4.3.10.1.g, 4.3.10.2, 4.3.10.2.a, 4.3.10.2.b, 4.3.10.2.i,	5.1.10.2, 5.1.10.2(5) thru 5.1.10.2(8)
81526B	3.3.7 thru 3.3.7.f	4.3.10, 4.3.10.1, 4.3.10.1.g	5.1.10.2, 5.1.10.2(12)
81526B	3.3.8	4.3.10, 4.3.10.2, 4.3.10.2.i	5.1.10.2, 5.1.10.2(4)
81526B	3.3.9	4.3.10, 4.3.10.2, 4.3.10.2.h	5.1.10.2, 5.1.10.2(13)
81526B	3.3.10	4.3.10, 4.3.10.1, 4.3.10.1.d, 4.3.10.2, 4.3.10.2.i	5.1.10.2, 5.1.10.2(14)
81526B	3.4	4.3.10, 4.3.10.2, 4.3.10.2.k	5.1.10.2, 5.1.10.2(18)
81526B	3.5 thru 3.5.h	4.3.10, 4.3.10.1, 4.3.10.1.m	5.1.10.2, 5.1.10.2(19)
81526B	3.6 thru 3.6.1.g	4.3.10, 4.3.10.1, 4.3.10.1.e, 4.3.10.2, 4.3.10.2.i	5.1.10.2, 5.1.10.2(4), 5.1.10.2(6)
81526B	3.6.2 thru 3.6.3.c(2)	4.3.10, 4.3.10.1, 4.3.10.1.e, 4.3.10.1.f, 4.3.10.2, 4.3.10.2.i	5.1.10.2, 5.1.10.2(4)
81526B	3.6.4	4.3.10, 4.3.10.1, 4.3.10.1.f	5.1.10.2, 5.1.10.2(4)
81526B	3.6.5 thru 3.6.5.j	4.3.10, 4.3.10.2, 4.3.10.2.i	5.1.10.2, 5.1.10.2(4)

TABLE 2. **DIDs, MIL-PRF-29612, and MIL-HDBK-29612-1 cross-reference - Continued.**

DID DI-SESS-	DID Paragraph	MIL-PRF-29612 Paragraph	MIL-HDBK-29612-1 Paragraph
81526B	3.6.5.k	4.3.10, 4.3.10.1, 4.3.10.1.h	5.1.10.2, 5.1.10.2(4)
81526B	3.6.6 thru 3.6.6.p	4.3.10, 4.3.10.2, 4.3.10.2.j	5.1.10.2, 5.1.10.2(4)
81526B	3.7.1	4.3.10, 4.3.10.2, 4.3.10.2.l	5.1.10.2, 5.1.10.2(20)
81526B	3.7.1.b	4.3.10, 4.3.10.2, 4.3.10.2.l	5.1.10.2, 5.1.10.2(22)
81526B	3.7.2	4.3.10, 4.3.10.2, 4.3.10.2.m	5.1.10.2, 5.1.10.2(21)
81527B	2.1	4.3.11, 4.3.11.1, 4.3.11.1.l	
81527B	2.2 thru 2.2.1	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(1)
81527B	2.2.1.d	4.3.11, 4.3.11.1, 4.3.11.1.a, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(1)
81527B	2.2.1.e	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(1)
81527B	2.2.2 thru 2.2.2.c	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(2)
81527B	2.2.2.d	4.3.11, 4.3.11.1, 4.3.11.1.b, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(3)
81527B	2.2.2.e thru 2.2.3.b	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(2)
81527B	2.2.3.c	4.3.11, 4.3.11.1, 4.3.11.1.c, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(3)
81527B	2.2.3.d and e	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(3)
81527B	2.2.4 thru 2.2.4.b	4.3.11, 4.3.11.1, 4.3.11.1.j	5.1.11.2.a, 5.1.11.2.a(4)
81527B	2.3 thru 2.3.1.g	4.3.11, 4.3.11.1, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.2 and 2.3.2.a	4.3.11, 4.3.11.1, 4.3.11.1.h, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.2.b thru 2.3.2.f	4.3.11, 4.3.11.1, 4.3.11.1.d, 4.3.11.1.h, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.3	4.3.11, 4.3.11.1, 4.3.11.1.d, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.4 thru 2.3.4.e	4.3.11, 4.3.11.1, 4.3.11.1.g, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(2)
81527B	2.3.5	4.3.11, 4.3.11.1, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.6 thru 2.3.7.b	4.3.11, 4.3.11.1, 4.3.11.1.i, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)
81527B	2.3.8 thru 2.3.10.c	4.3.11, 4.3.11.1, 4.3.11.1.k	5.1.11.2.b, 5.1.11.2.b(1)

APPENDIX B

STANDARD DIGITAL DATA

B.1 SCOPE

B.1.1 Scope. This appendix provides supplemental information concerning Standard Digital Data (SDD) discussed in 5.2.

B.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

B.3 DEFINITIONS

The definitions in MIL-HDBK-29612-4 apply to this appendix.

B.4 STANDARD DIGITAL DATA

B.4.1 Standard Data Elements (SDEs). A data element is a basic unit of information having a meaning and subcategories (data items) of distinct units and value. Through its name and definition, a data element conveys a single informational concept. A SDE is a data element that has been formally approved in accordance with DoD's data element standardization procedures. A SDE specifies the characteristics of digital data (e.g., data type, data name, maximum number of characters, etc.). These characteristics, called metadata, are used to establish the structure of the data element for use in, and exchange between RDBMSs. Table 3 defines some of these metadata fields, and Table 3 provides an example of a complete Defense Data Dictionary System (DDDS) entity.

TABLE 3. **Definitions for data element metadata**.

DATA ELEMENT METADATA TYPE	DEFINITION
SDE Name	The long standard name that describes and identifies a given data element. Structured name format will consist of a prime word name and a generic element name.
Access Name	An abbreviated name representing a specific data element. An access name is used to reference a data element in a database and must conform to the syntactical requirements of the database management system or programming language of the application in which a data element is used.

TABLE 3. **Definitions for data element metadata - Continued.**

DATA ELEMENT METADATA TYPE	DEFINITION
Data Type Name	The name of the data type associated with the SDE (i.e., bit-string, integer, character-string, fixed-point, or floating-point).
Definition Text	Freeform text that represents the definition of a given data element.
Domain Definition Text	Freeform text that describes the overall meaning or generic characteristics of the domain of a specific data element.
Maximum Character Count Quantity	The maximum number of characters that can be stored for a data element.
Prime Word Name	The name of the primary object (i.e., person place, thing, or concept) of interest that a given data element describes.

B.4.2 DIDs and SDEs. A DID contains many paragraphs and sub-paragraphs. Each of these can be considered a “data content requirement”. When discussing standard digital data, it is important to understand that multiple SDEs may be required to address a single data content requirement. The format of standard digital data elements as specified in the DDDS provide a listing of attributes relative to each SDE. These attributes are used by data administrators and programmers in the development of data management systems and in management of databases. These attributes also support the capability for automated interchange and re-use of data. As an example, DID DI-SESS-81517B, paragraph 2.2.1k requires the contractor to provide "data sources". Nine SDEs are required to cover this data requirement. They are:

a. Document Identifier.
b. Document Name Text.
c. Information-Asset Identifier.
d. INFORMATION-ASSET ORGANIZATIONAL ROLE TYPE CODE.
e. Organization Identifier.
f. Organization-Name Text.
g. Person Identifier.
h. Person-Name Category Code.
i. Person-Name Text.

Table 4 shows some of the metadata describing the SDE named “INFORMATION-ASSET-ORGANIZATION ROLE TYPE CODE”:

TABLE 4. **Example of data element metadata and related values.**

Information-Asset-Organization Role Type Code	**Data Content (Value)**
Access Name:	INF-AST-ORG-ROL-CD
Accuracy ID:	
Authority Document:	FIPS 183
Comment Text:	
Creator ID:	dmoore
Data Type Name:	CHARACTER-STRING
Definition Text:	The code that represents a kind of function of an INFORMATION-ASSET-ORGANIZATION.
Domain Definition Text:	A specific domain comprised of ASCII characters 1, 2, 3, 4, 5.
Domain Value Accuracy Number:	100
Formula Definition Text:	
Functional Abbreviation:	
Functional Area ID:	033
Generic Element Counter:	4
Generic Element Name:	CODE
Generic Element Version Number:	1
High Range ID:	
Low Range ID:	
Maximum Character Quantity:	1
Prime Word Name:	INFORMATION-ASSET-ORGANIZATION
Prime Word Position ID:	1
Prime Word Version:	1
Scale Number:	
SDE Counter:	30795
SDE Derive Code:	3
SDE Name:	INFORMATION-ASSET-ORGANIZATION ROLE TYPE CODE
SDE Version Number:	1
Security Classification Code:	UNCLASSIFIED
Source List Text:	
Standard Authority ID:	DOD
Standards Status Code:	A
Timeliness Category:	AR
Unit Measure Name:	

TABLE 4. **Example of data element metadata and related values - Continued.**

Information-Asset-Organization Role Type Code	**Data Content (Value)**
Domains:	
Domain Value ID	Domain Definition Text
1	CREATOR
2	DEVELOPER
3	MAINTAINER
4	STEWARD
5	PROPONENT

B.5 DATA MODELS

B.5.1 Data model. In a database, a data model is the user's logical view of the data in contrast to the physically stored data, or storage structure. A data model is also description of the organization of data in a manner that reflects the information structure of an enterprise.

B.5.2 Logical data model. A model of the data stores and flows of the organization derived from the conceptual business model.

B.5.3 Physical data model. A representation of the technologically independent requirements in a physical environment of hardware, software, and network configurations representing them in the constraints of an existing physical environment.

APPENDIX C

GOVERNMENT CONCEPT OF OPERATIONS FOR DIGITAL TRAINING DATA

C.1 SCOPE

C.1.1 Scope. This appendix provides guidance for the development of a Government Concept of Operations (GCO) for the interchange of digital training data through an Integrated Data Environment (IDE). The GCO describes how digital data or information is managed in an organization. The GCO identifies users capabilities and limitations, operating systems, software, protocols, infrastructure, interchange standards, formats, media type, etc. The objective is an IDE that will enable continuous process improvement through the use, re-use, and automated interchange of digital training data. The GCO is a Government document that is prepared during the acquisition planning and requirements determination activity for each procurement. It is used to provide information to potential offerors about the Government's infrastructure and IDE implementation strategy for training programs. To provide potential bidders with an understanding of specific user needs for training information throughout all Instructional Systems Development/Systems Approach to Training (ISD/SAT) phases, a SDD GCO should be developed and included in Section L of the Request For Proposal (RFP).

C.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

C.3 DEFINITIONS

The definitions in MIL-HDBK-29612-4 apply to this appendix.

C.4 GCO AND CONTRACTING

C.4.1 Contract objectives. The RFP and ensuing contract should state that an objective of the acquisition is to require the contractor to generate digital training data in an integrated information system and a shared data environment to the maximum extent practicable. The objective is to create each data element once and use it repeatedly in subsequent processes without manual reentry work and unnecessary labor costs.

C.4.2 Contracting steps. The GCO generated utilizing this guide will provide potential offerors an understanding of specific Government user needs for technical information throughout all ISD/SAT phases of a training program. The relationship of the GCO to the various contracting steps is shown in Figure 3.

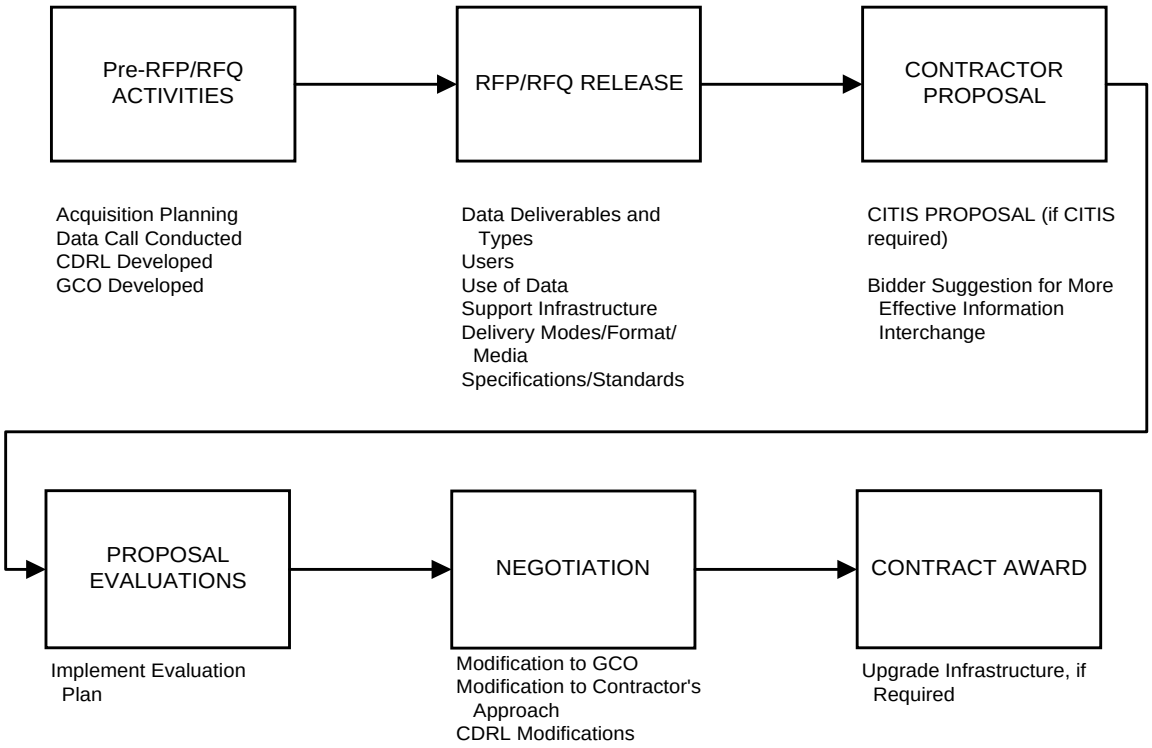

FIGURE 3. **The CALS GCO in the contracting process.**

C.4.2.1 Pre-RFP activities and RFP release. The GCO planning process should start as early in the acquisition process as possible. The process for gathering the GCO information should simply be part of the overall data call during the pre-RFP activities. A GCO should be distributed to the functional organizations along with the normal data call information. Development of a GCO will help ensure that the Government receives the correct version and formats of digital data needed to acquire and support a training program. A flow diagram of the entire process is shown in Figure 4. The suggested methodology to determine the data acquisition requirements as diagrammed in Figure 4 is contained in paragraph C.5.1. During the GCO development process, the following will be determined and documented:

a. The hardware and software systems the Government has, or is developing, to manage and use the data.
b. Data users, types of data, frequency of use, and timeliness of data access or delivery to each user.
c. Data use and the review and/or approval processes to support life cycle functions.
d. Users' locations and their primary functions in support of the defense system.
e. Data interchange requirements including format, media, applicable standards, and existing telecommunications capabilities.

f. Access authorizations and restrictions; and data acceptance requirements including data format and content of data and the Government processes for accepting data.

C.4.2.2 Offerors proposals. Referencing the GCO, offerors should provide an approach to digital training data in their prepared responses to the RFP. This should include a description of the offeror's approach, experiences, and successes in the creation, management, use, and exchange of digital data. The approach can then be evaluated by the Government during the source selection process. If CITIS requirements are included in the RFP, the offeror should address the approach to CITIS within the proposed operations approach. See Appendix D for a more detailed discussion of CITIS. Bidders should be encouraged to identify, within their proposal, a more efficient and more cost effective IDE strategy. Section L of the RFP, for example, can be used to offer potential bidders the opportunity to review the GCO and the RFP data requirements and propose alternative forms of delivery for digital data and information services that reduce life-cycle costs and improve business processes.

C.4.2.3 Proposal evaluations. Suggested factors for evaluating a proposed approach to digital training data development and operations are:

a. Does the proposed approach describe a physical data model that will support the creation of training data that will meet the Government's requirements?
b. Does the proposed approach describe a logical data model to be used in development of the physical data model?
c. Are the digital data standards used in the models compatible with the Government's standards?
d. Do the digital data elements (and their relationships) incorporated in the physical data model structure support the data requirements identified in the CDRL?

C.4.2.4 Negotiation. Differences in concepts of operation between the Government and the bidder selected through the source selection process become a subject for negotiation. The agreements reached during negotiation may result in changes to the GCO, and/or changes in the contractor's approach to digital training data creation and operations. Any changes resulting from the negotiations may also cause changes in the CDRL.

C.5 GCO DEVELOPMENT

C.5.1 GCO and training acquisitions. The depth and scope of information contained in a Standard Digital Data (SDD) GCO will vary with each training program acquisition. A GCO that relates to a single training course with a limited number of users and types of information processing systems may be two pages or less, while a GCO that relates to multiple courses at multiple locations with many different types of information processing systems may be 10 pages or more. The GCO must provide potential bidders an understanding of specific Government user

needs for training data throughout all relevant life-cycle activities of the defense system. The effective definition of the training data requirements necessitates the complete identification of data needs and uses. Identification of these data requirements can be effectively accomplished through the use of a well-defined process such as described in C.5.1 through C.5.11. A flow chart of the process is shown in Figure 4.

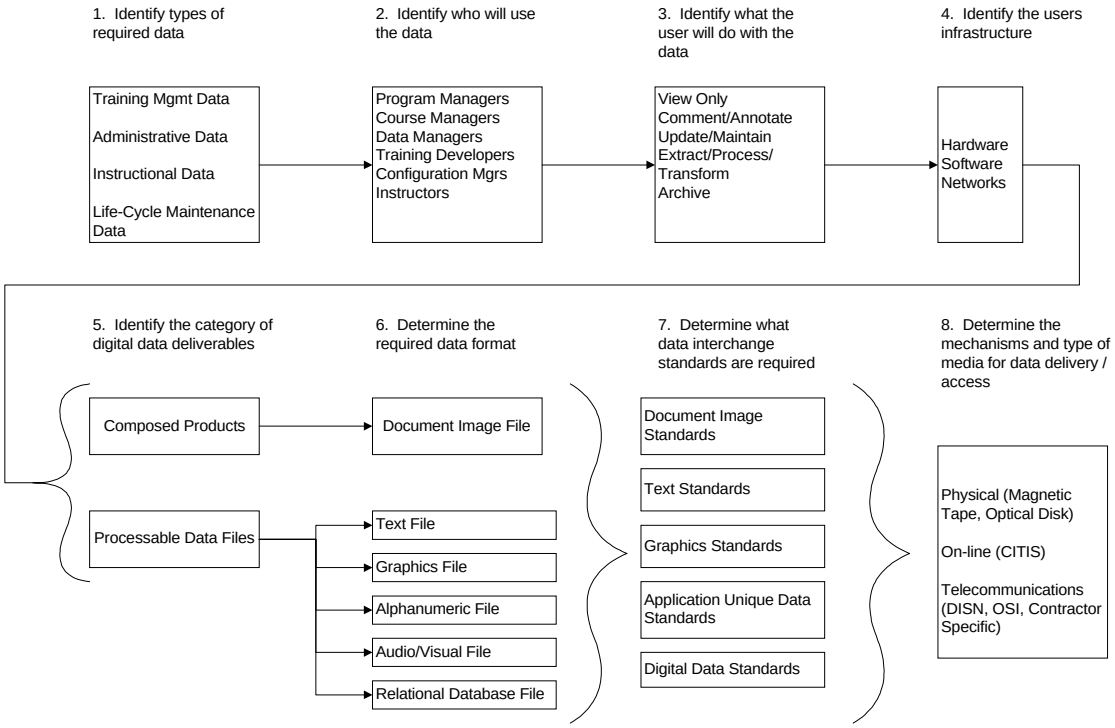

FIGURE 4. **GCO development process.**

C.5.2 Identify data type deliverables. Data type deliverables are the data requirements specified on the CDRL, Contract Line Item Number (CLIN), or Exhibit for a typical program. The data types selected will ultimately influence data format, interchange standards, and media considerations. Example data types to be digitally developed, accessed and/or delivered, and maintained are listed in Table 5. Note that Table 5 is not intended to be all inclusive, nor does it suggest that all listed data are required in any particular contract.

TABLE 5. **Typical data type deliverables.**

MANAGEMENT & ADMINISTRATION PRODUCTS	**INSTRUCTIONAL PRODUCTS**
Conference Agenda	Course Conduct Information Package
Conference Minutes	Training Conduct Support Document
Training Situation Document	Test Package
Training Evaluation Document	Instructional Media Package
	Training System Support Document
LIFE-CYCLE MAINTENANCE TRAINING DATA PRODUCTS	
Instructional Performance Requirements Document	
Instructional Media Requirements Document	
Instructional Media Design Package	
Training Program Structure Document	

C.5.3 Identify data users. The data users are the functional organizations that will require access to the program data. These organizational areas can include management, developmental, and implementation activities. In addition to their functional responsibilities, these organizations are defined by their location and the specific disciplines involved. The data user information provides offerors with an understanding of the separation of work functions and the scope of geographic locations for data transmission requirements or other modes of data delivery or access.

C.5.4 Identify data use/processing. The data use requirements are the ways in which the user can process the chosen data types. They are valuable in minimizing infrastructure investment while providing needed capability. For example, a user with a view-only requirement may be able to satisfy a need to view two-dimensional data using a typical desktop computer suite. A user with an update/maintain requirement may require an enhanced computer system and software to edit files. The acquisition manager will need to match the digital data deliverables to the existing or planned suite of equipment that makes up the users' infrastructure. The acquisition manager will need to identify the use of the data types by the support organizations chosen for the program. To complete this step in the GCO process, the acquisition manager needs to identify the deliverables required by the organizations using the data. An added benefit of this task is that as each organization determines its use of the data, deliverables are often identified that are no longer needed and can therefore be dropped from the CDRL, resulting in a cost savings for the program. The five defined methods of data processing typical of most training systems are described below:

a. View only - the ability to examine a data file without the ability to change it. This may include viewing selected portions of one or several documents as well as side-by-side comparisons of documents.

b. Comment/annotate - the ability to evaluate and highlight for future reference or to make annotations, approvals, and comments without the ability to change the original file. Annotations are associated with a specific item or location within a document such that the annotations are displayed whenever that point or area of the document is displayed.
c. Update/maintain - the ability to change data either directly or through controlling software in the active files on the host computer.
d. Extract/process/transform - the ability to extract and modify the format, composition, and structure of the data into another usable form.
e. Archive - the placing of inactive data into a repository to preserve it for future use.

C.5.5 Identify data user infrastructure. The acquisition manager must ensure that authorized recipients of digital data have the capability to view, receive, store, and maintain the data. The evolution of this required infrastructure is a key consideration in managing data for any given acquisition. The availability of digital data processing and telecommunications technology and approved standards for creation, storage, transmission, data protection, and integrity of data at the time of delivery or access are important criteria for acquisition decisions. The current and projected capabilities of both the contractor and Government must be assessed with respect to program needs and schedules. The GCO is an excellent vehicle for making these determinations. The data user infrastructure is the computing environment available to a particular user. This environment establishes the data processing capabilities of that user. The following areas identify a user's infrastructure:

a. Hardware - determine the current and planned hardware available to support the program.
b. Software - this is the most critical element. Interoperability will normally be achieved through the use of software. Again, determine both present and future software applications and availability.
c. Networks - determine the networking capabilities and whether CITIS will be used.
d. Data user personnel - consider the skills and expertise required to accomplish identified data use requirements.
e. Computer support personnel - consider the skills and expertise required to establish, operate, and maintain a functional and reliable computing environment.
f. Communications - determine data communication capabilities.
g. Collaboration - determine on-line data review, comment, edit, revision, and approval procedures.
h. Security requirements.

C.5.6 Identify category of deliverable. The following are categories of digital deliverables supported by delivery and access methods specified by acquisition managers. Additional information to assist in determining the type of deliverables is provided in Table 5.

C.5.6.1 Page-based (composed) data products. Human-readable or viewable documents in digital or hard copy format. These products display pages, illustrations, or other objects. Page-based training documents normally provide textual (prose) information and/or graphics that, as delivered, are suitable for use in an instructional environment (e.g., a hard-copy lesson plan, transparency, wall chart, graphic, etc.).

C.5.6.2 Processable data files. Machine-readable data that users can input into and edit using multiple data applications to produce standard and custom documents. Examples of processable files are text files, graphic files, alphanumeric files, audio/visual files, and relational database files. Files available in standard data exchange formats are more widely transportable among dissimilar hardware and software applications. Processable data files are the preferred data type for most new deliverables. Acquisition managers should also be aware of neutral file formats such as Portable Document Format (PDF). These types of files fall between composed and processable formats - they are not fully processable, but they are much more versatile than page-based composed products, and are therefore becoming very popular, especially for legacy data.

C.5.6.3 Legacy data files. Legacy data files provides information presented in a format that conforms to the data structures specified in existing service unique, legacy automated systems sometimes referred to as Government Off the Shelf (GOTS) automated systems and Commercial Off the Shelf (COTS) automated systems which have not conformed to data standards specified in the Defense Data Dictionary System (DDDS). Using legacy data, while not directly facilitating full interoperability of training data, has significant advantages over continuing to purchase printed data products. Most GOTS AND COTS systems manage data in a computer-based Relational Data Base Management System (RDBMS). It is important that the RDBMS be OBDC compliant and that the data structure of the GOTS or COTS be mapped to the data standards in the DDDS. This will facilitate its future conversion to standard digital data and its use by other organizations. The primary reason that legacy data is purchased is to facilitate its use or manipulation of digital data in existing systems and tools which convert it into information suitable for immediate use in an instructional environment. The decision on whether to convert any existing training data product (e.g., lesson plan, trainee guide, audio/visuals, etc.) to SDD will be based on factors such as current life-cycle stage, volume of data, economic feasibility of conversion, and data usage and frequency of change. Since most military training organizations have some legacy systems or use some COTS programs, the purchase of legacy type data will be required until these are replaced by DDDS compliant systems. The GCO defines the organization's mix of existing legacy (GOTS/COTS) systems.

C.5.7 Determine data format. The acquisition manager will need to identify the data format(s) for delivery, which is determined by the type of data deliverable described in paragraph C.5.6. The chosen formats will affect interchange standards and the media used for data delivery. The following data formats are the forms in which each of the types of data

deliverables can be procured. Refer to Figure for their relationships to the type of data deliverable.

a. Document image file.
b. Text file.
c. Graphics file.
d. Alphanumeric file.
e. Audio/visual file.
f. Relational database files as follows:

(1) Standard digital data file.
(2) Legacy data file.

C.5.8 Determine data interchange standards. Complying with data exchange standards will maximize the acquisition manager's ability to share data across dissimilar information systems. The following are some types of interchange standards.

a. Document image standards (e.g., PDF, HTML, etc.).
b. Text standards (e.g., ASCII, RTF, etc.).
c. Graphics standards (i.e., IGES, GIFF, JPEG).
d. Application unique data standards.
e. Digital data standards.

C.5.9 Determine data delivery and access media. The two options that an acquisition manager may use to support digital delivery requirements are physical delivery and on-line access/delivery via telecommunications. Digital delivery and access requirements are specified through the Statement Of Work/Statement Of Objectives (SOW/SOO), the CDRL, and specific DID. In general, on-line delivery and access are recommended for all training data products that will not overburden the network (e.g., the size of an interactive courseware program file may prohibit acceptable on-line delivery or access). Physical delivery via magnetic disk, magnetic tape, or optical disk is recommended only for data products that will overburden the network.

C.5.9.1 Physical media. Physical media are easily transportable data storage devices. The types of physical media include, but are not limited to the following:

a. Magnetic tape is a mature, stable technology that is able to handle the large volumes of data typically associated with a major training program acquisition. Magnetic tape standards are well defined, and little additional investment cost will be involved. However, other media may be more efficient and, therefore, preferred.
b. Magnetic disk is also widely implemented on personal computers and work stations and may be the physical medium of choice for small business contractors.

c. Optical media is used here as a generic term to include Compact Disk-Read Only Memory (CD-ROM), Write-Once-Read-Many (WORM), and rewriteable disk. These media are not yet as widely implemented as magnetic disk, but the percentage of personal computers with CD-ROM drives is increasing rapidly. Optical media are ideal for mass distribution and archival purposes for large volumes of data.

C.5.9.2 On-line access/delivery. The contract may provide for on-line access through the use of CITIS services or other similar information management services. According to DoD 5000.2-R: "Beginning in FY97, all new contracts shall require on-line access to, or delivery of, their programmatic and technical data in digital form, unless analysis shows that life-cycle time or life-cycle costs would be increased by doing so. Preference shall be given to on-line access to contractor developed data through contractor information services rather than data delivery." If a full CITIS is used, MIL-STD-974 provides information concerning core and tailorable CITIS functions that the SOW/SOO must specify and the contract must list as contract line items. Telecommunication networks also provide an excellent opportunity to establish common practices for the exchange of data. The acquisition manager must consider taking advantage of this opportunity for program administration process improvements. Acquisition managers can achieve on-line delivery via two methods:

a. Delivery of CDRL items from a contractor to a Government repository via telecommunications download, or
b. On-line access, which allows the acquisition program to store and maintain data items at a contractor's site for retrieval and display via telecommunications using a Government terminal, personal computer, or workstation.

C.5.10 Sample GCO. Actual content, format, and depth of coverage will be dependent on the scope and nature of the training program acquisition. Figure 5 provides a sample GCO for standard digital data for training. The text within Figure 5 is not meant to be representative of an actual GCO, but is shown for illustrative purposes only.

FIGURE 5. **GCO Example.**

GOVERNMENT CONCEPT OF OPERATIONS (GCO)
FOR THE XYZ SYSTEM

1.0 INTRODUCTION

1.1 Background. The XYZ program was established in 1988 to support the U.S. defense capability. The current project involves a major redesign of its onboard computer system. This redesign will provide substantially greater capability for the XYZ system. The Program Office for the XYZ program is located in Washington, D.C. The XYZ training program is scheduled for implementation of Standard Digital Data (SDD) to support paperless operations within the next year. The overall objective of this SDD effort is to design, implement, and use an Integrated Data Environment (IDE) across the XYZ organization to the maximum extent possible. The IDE will provide efficient and effective digital support for all XYZ systems and supporting business management functions. This IDE will include essential linkages between the XYZ program and its prime contractors as well as with other participating Government organizations. Data will be created once and be made accessible to authorized users through the use of a data management system as it is released into the IDE, regardless of location. The IDE will allow all personnel involved in the management, production, and support of the system to access, manage and share (via network resources) data in a format appropriate for its intended use. The IDE will also allow these personnel to automate and participate in on-line, integrated processes regardless of organization or physical location. The IDE will be easily expandable so that additional XYZ personnel and other organizations who need access to the data can get it. The IDE will also be expandable so that new tools and additional data can be easily added to it.

1.2 Purpose. This document is provided as Government Furnished Information (GFI) to describe the XYZ program's implementation of SDD and the creation of a digital data environment. It will describe how the program intends to create, manage, and use data in conformance with the SDD strategy. SDD is a strategy that will enable more effective generation, exchange, storage, and use of data for training operations. This GCO is intended to give XYZ data users, contractors, and other Government activities an understanding of the IDE approach that will be implemented for the training portion of the XYZ program.

1.3 Scope. The strategies set forth in this document are applicable to XYZ program managers, contractors, and to other Government organizations providing support to this project. The concepts contained in this document apply to all types of data that are generated by contractors and the Government during the life-cycle of the XYZ training program.

1.4 Application. The GCO is provided for both Government and contractor planning purposes and articulates the Government's commitment to achieving digital data exchange within the XYZ program. This GCO is provided to Government and contractor activities as guidance for their preparation of SDD-related plans and development of IDE capabilities. Government activities should use this document in defining their participation in the XYZ training program and the exchange/use of

FIGURE 5. **GCO Example - Continued.**

digital data. Contractors should use the GCO in conjunction with a Request for Proposal (RFP) as source information for developing the contractor's approach to developing SDD and an IDE implementation plan. This GCO and resulting contractor's approach provides a basis for further Government and contractor planning for implementation of SDD in the XYZ training program. Participating activities are encouraged to propose beneficial changes to the information provided herein that improve operation, increase quality, and reduce costs.

1.5 Approach. This GCO is presented in five sections. This first section provides an introduction to the XYZ training program SDD implementation. Section 2 provides additional details regarding the implementation to include background, objectives, phases, and planning. Section 3 provides a discussion on the types and formats of data that will be available within the IDE. Section 4 discusses the core functionality that will be provided in the IDE. Section 5 outlines current capabilities of the XYZ training program infrastructure and provides a view toward the future capabilities expected within the IDE.

2.0 SDD IMPLEMENTATION

2.1 Background. In December of last year, the XYZ Program Office conducted an internal study of the XYZ training operations to characterize the existing operational situation and to identify opportunities for streamlining training operations and management. This study revealed that: Most training administration and management actions are done in hard copy, SDD initiatives exist for these programs but are disjointed and not integrated, and program data formats range from paper to digital. As a result of these findings, the XYZ training program manager has initiated efforts that will result in a more consistent approach to SDD implementation.

2.2 Objectives. The overall objective of the SDD implementation effort is to design, implement, and use an IDE across the entire XYZ training organization to include essential linkages to the prime contractors and other participating Government organizations. The basic tenet of the IDE project is to utilize SDD to the maximum extent possible. The XYZ training program will also leverage in-place computer and communications resources to the maximum extent possible to support IDE implementation and operations. The SDD/IDE objectives are:

a. Implement a baseline architecture for dissemination of information in electronic format and applicable standards to authorized users.
b. Create an integrated communications and project management capability to allow paperless project management.
c. To develop a standard, distributed open system data processing environment which makes maximum use of existing hardware and software, as well as existing/planned standard systems.
d. Take advantage of the opportunities presented by evolving information technologies to improve acquisition and life cycle support processes.

FIGURE 5. **GCO Example - Continued.**

2.3 Implementation planning. Key to the success of the SDD implementation effort is the development and implementation of programs and plans to support the seamless transfer of systems and configuration management responsibility to the program manager and supporting activities. It is incumbent upon each XYZ training program manager to conduct SDD implementation planning not only to support the goals and objectives of their individual programs, but also to support the goals, objectives and concept of operations set forth in this GCO and other project plans. Program managers will also consider coordinating their IDE efforts with any on-going contractor efforts.

2.4 Contractor IDE planning. The XYZ program contractors have an important role in planning and execution of the IDE. The XYZ training program will require each offeror to provide both a contractor's approach to SDD and either a SDD Implementation Plan (SDDIP) or similar plan (e.g., an IDE Implementation Plan, Program Data Integration Plan, etc.). These documents are used to describe the contractor's approach to SDD and their plan to implement SDD in accordance with this GCO.

2.4.1 Contractor's approach to SDD. The contractor's approach to SDD is included in response to the RFP, and describes the contractor's approach, experiences, and successes in the creation, management, use, and exchange of digital information. Information in the contractor's approach is used to gauge the risk associated with the contractor's ability to provide the digital data products and services required by the RFP. After contract award, the contractor's approach should be used as the basis for subsequent planning documents. As a minimum, the contractor's approach to SDD should include:

a. The contractor's approach and experiences in the management, use, and exchange of digital information. This description should include, at a minimum, a discussion concerning the delivery of digital data.
b. SDD program management, including program objectives and strategy, program management responsibilities, and program management approach.
c. Information system description, including source and destination systems, and relationship with Government receiving systems as depicted in the SDD GCO.
d. Data protection and integrity, including risk assessment and system security certification.

2.4.2 SDD implementation plan. The SDDIP should address capabilities for automating the access and retrieval of technical data, and provide for digital exchange and integration between and among contractor and Government functional areas. The SDDIP should not be a static document, but should be revised to reflect the reality of changing XYZ training program requirements, technology, and improved processes. Program managers may choose to develop CDRL, CLIN, or exhibit language that identifies each deliverable and the delivery method(s). The program manager may also choose to accept alternative approaches to identifying and providing data deliverables that do not require the rigidity of the formal CDRL process.

FIGURE 5. **GCO Example - Continued.**

3.0 DATA REQUIREMENTS. All XYZ training data shall be generated and made available to authorized users in digital form only. This applies to both contractor and Government generated data. The digital data shall be standardized to agreed upon formats for data sharing. This goal will be achieved through orderly steps where the type, mode, and frequency of each deliverable are evaluated for intended use, frequency of use, and infrastructure of the users.

3.1 Data categories. There are three primary types of data that will be associated with the XYZ training program. They are as follows:

a. Training management and administrative data.
b. Instructional data.
c. Training life-cycle maintenance data.

3.2 Data users. Table 3-1 lists the primary Government users of XYZ training data, their location, support function, and data requirements. This list has been derived from the CDRL addressees associated with the XYZ training program.

TABLE 3-1. **Data users associated with XYZ program.**

ACTIVITY	LOCATION	FUNCTION	DATA REQUIREMENTS
CNO (N889)	Pentagon, Wash. D.C.	Training Requirements	Training program structure data
NAVAIRSYSCOM	Patuxent River, MD	Program Management Configuration Management	Management data
Naval Air Maintenance Training Group HQ	Pensacola, FL	Training Management Configuration Control	Life cycle maintenance training data
NAMTRAGRUDET 2202	NAS East Coast	Conduct of Training	Instructional data
NAMTRAGRUDET 2203	NAS West Coast	Conduct of Training	Instructional data

3.3 Data use requirements. Data use requirements are the ways in which the specific data types may be processed. The XYZ IDE will support the five typical methods of data processing as described below.

3.3.1 View only (V). The IDE will provide controlled, on-line access to specific data products to authorized individuals/organizations. The end user will be provided electronic access to data products for the purposes of viewing and printing of the data. This includes viewing selected portions of one or several documents as well as side-by-side comparisons of documents. The user will not have the ability to modify the data. Provisions will exist to provide additional users with view only access upon request.

FIGURE 5. **GCO Example - Continued.**

3.3.2 Comment/annotate (C). The IDE will provide users with the ability to evaluate and highlight for future reference or to make annotations, approvals, and comments without the ability to change the original file. Annotations will be associated with a specific item or location within a document so that the annotations are displayed whenever that point or area of the document is displayed.

3.3.3 Extract/process/transform (E). The IDE will provide authorized users the ability to extract and modify the format, composition, and structure of all or a portion of the data into another usable form without affecting the original content or format.

3.3.4 Update/maintain (U). The IDE will provide authorized users with the ability to change data either directly or through controlling software, in the active files on the host computer.

3.3.5 Archive (A). The concept of archiving involves the placing of data into a repository to preserve it for future use. Once the Government assumes XYZ training configuration management responsibility, long-lived data, such as instructional performance requirements, media requirements, instructional media design, and training program structure should be delivered in accordance with the DDDS. These items will be archived for long-term storage and protection for future developmental changes and support purposes. Prior to the Government assuming XYZ training configuration management responsibility, the record copy of most training data will remain with the prime contractor. Table 3-2 provides a summary of the data use requirements of XYZ training program data users and depicts how the data is intended to be used. Note that this list is not intended to be all inclusive; rather it leads to a decision point for the format and delivery mode of the data deliverables. The numbers found in the 'V', 'C', 'E', 'U', 'A', and '2' columns indicate how many of the Activities supporting this program use the CDRL data item in the manner indicated. Note: Two or more methods may be required by a single user, the methods are not mutually exclusive.

TABLE 3-2. **Data use requirements summary for the XXZ program.**

DATA ITEM TITLE	ITEM ID	V	C	E	U	A	2
Training Situation Document	A001	5	1	0	0	1	1
Instructional Performance Requirements Doc.	A002	4	4	3	1	1	0
Instructional Media Requirements Document	A003	4	4	3	1	1	0
Instructional Media Design Package	A004	4	4	3	1	1	0
Training Program Structure Document	A005	5	5	3	1	1	2
Course Conduct Information Package	A006	4	4	3	1	1	1
Training Conduct Support Document	A007	3	3	2	1	1	0
Training Evaluation Document	A008	3	2	2	1	1	1
Test Package	A009	3	3	2	1	1	0
Instructional Media Package	A0010	3	3	2	1	1	0
Training System Support Document	A0011	3	3	2	1	1	0

Legend: V=View only; C=Comment/annotate; E=Extract/process/transform; U=Update/maintain; A=Archive; 2=Secondary distribution Note: Two or more methods may be required by a single user, the methods are not mutually exclusive.

FIGURE 5. **GCO Example - Continued.**

3.4 Data format requirements. While several military, commercial, and international standards and specifications currently address formats for data creation, storage, and interchange, many of the military standards are being eliminated under the current acquisition reform effort, and others are being transitioned to performance specifications (MIL-PRF). The performance specifications define what the DoD needs in terms of form, fit, and function rather than how to build an item. Standards set boundaries for data acquisition and management. However, to achieve "best value" in data as well as in weapon systems, IDE data standards must be neither restrictive nor prescriptive. They must be driven by existing and emerging commercial standards as well as by programmatic business needs. Where applicable and more advantageous, XYZ will adopt into its weapon system programs, commercial product data creation, storage, and interchange standards to meet its business needs. Specific data formats and delivery media shall be stated on individual CDRL items, CLINs, or Exhibits. Proper safeguards will be used for classified information (DoD 5520.22M). When discrepancies occur between this GCO and the CDRL/CLIN/Exhibit, the CDRL/CLIN/Exhibit shall take precedence. In general, the formats and delivery media listed in paragraph 3.5 are recommended for each data type.

3.5 Data format recommendations. Within each of the three major IDE data categories discussed in Section 3.1, one or more of the following data types will be digitally developed, delivered, and maintained within the XYZ IDE. The following sub-sections describe these data types and provide the XYZ training program manager's recommendations for format. On-line delivery/access is recommended for all data types. However, very large data files that would overburden the network are still recommended for delivery via physical media (e.g., magnetic tape) in accordance with MIL-STD-1840.

a. Training management data. Training management and administrative data includes information that is not usually used for instructional materials configuration management, however, the data is updated and archived during the life cycle of the training program.
b. Instructional data. Instructional data includes lesson plans, student guides, audio/visual aids, and other instructional material.
c. Training life-cycle maintenance data. Life-cycle maintenance data includes instructional performance requirements, instructional media design, and other source information to be used in development of instructional materials. This source data is updated and maintained for the life cycle of the training program.
d. Administrative data. Includes program plans, budgets, and schedules, cost performance reports, program financial execution data, engineering management plans, general communications, procurement data, etc. All XYZ administrative data will be available via on-line access/delivery. On-line management status data will be analogous to that available to contractor program managers. This data should be developed in Mutually Agreeable Commercial Software (MACS) formats. When the Government is the originator of data, XYZ will electronically deliver GFI data into the IDE for Government and contractor use.

FIGURE 5. **GCO Example - Continued.**

3.6. Legacy data. The decision to convert any existing training data will be based on factors such as current life-cycle stage, volume of data, economic feasibility of conversion, data usage, and frequency of change. In general, if the data item is frequently viewed then it should be converted to at least raster or neutral format (e.g., PDF). If the item will be further processed (commented on, extracted), it should be converted to a neutral format as a minimum. Updates will probably require conversion to a processable format compatible with the formats used for the current program, although this decision will depend on the extent of updates required (e.g., if more than 25% of the document will be updated, it should be converted to processable format).

3.7 Contractor format and media recommendations. The contractor should identify and describe alternative formats and delivery media options offering increased utility and cost effectiveness. These formats must be compatible with the XYZ infrastructure and user capabilities (see Table 3-1). When determining the suitability of a particular format or media option, the contractor will consider the life expectancy and purpose of each deliverable. Electronic access/delivery of deliverables is required except for data items that could overburden the network. These very large data items should be delivered via magnetic tape or other physical means until such time as network capabilities and performance will permit reasonable on-line access/delivery. Relatively short-lived data such as agenda, minutes, planning schedules, spreadsheets, plans, and progress reports will be developed in MACS products common to all users of the XYZ data. Contractors will review the tools used by the Government to ensure data are created in compatible formats that can be accessed using existing application software when required. The information that contractors include in their approach to SDD and/or implementation plan will help determine the method utilized to exchange these data between the Government and the contractor. Specific MACS products have not been finalized, but will include widely-used word processing, spreadsheet, database, project management, and graphics programs. The information provided in Table 3-1 identifies the hardware, software, and networks used by XYZ program's supporting activities. The infrastructure elements most commonly used by this program's activities are shown below. The numbers in parentheses ( ) indicate the percent of activities using that item.

4.0 IDE REQUIREMENTS. XYZ will establish an IDE functionality that supports the interchange of management and product data between XYZ and its prime contractors and between XYZ and other Government organizations.

4.1 CITIS functionality. The XYZ program is not implementing a CITIS as defined in MIL-STD-974, Contractor Integrated Technical Information Service (CITIS). However, XYZ is requiring that the CITIS meet some of the core functional requirements articulated in this military standard and defined below.

FIGURE 5. **GCO Example - Continued.**

4.1.1 CITIS capabilities. Contractually required CITIS/IDE capabilities will be stated in the contract SOW. The CITIS services shall include data management, security, and telecommunications. Additionally, CITIS shall be capable of storing GFI provided to the contractor. Some capabilities that must be implemented are described below.

a. On-line access: The Government will be provided with on-line access to contractor-maintained databases containing management, financial, engineering, and logistics program data. On-line access to databases should allow users to perform searches on data, make comments on data, produce and run preformatted (standardized) reports with output at their location, produce ad-hoc reports with output at their location, and download selected data to their location for use in further processing.
b. File transfer ability: This should allow users to download contractor data files (CDRL data and non-CDRL data specified in the SOW). This capability should also allow users to upload data files to the contractor (for GFI and information requests).
c. Electronic mail: Electronic mail capability compatible with the existing e-mail system. The email system will be employed as the primary means of communications between activities and individuals. Email will not be the mechanism for transfer/access to very large CDRL data deliveries.
d. Electronic notification: Electronic notification will be used to identify the availability of delivery in-place data products. Electronic notification may be via e-mail or other methods such as workflow as approved by the Government. Electronic notification will be made to all individuals or organizations requiring on-line access for a given information deliverable.
e. Indexing: The CITIS will include an index of completed program information held by both the contractor and the Government to enable the location, access, and retrieval of information products from various program data participants.

4.2 IDE functionality. The IDE will support the following functions in addition to the capabilities provided by the CITIS.

a. Automated workflow: Automated workflow techniques will enable electronic 'folders' of multi-media data to be passed among government and contractor organizations to efficiently perform business processes such as submitting or evaluating change requests and reviewing and approving deliverables. The XYZ training program will identify business processes and define them sufficiently to allow electronic workflow modeling. The workflow system will allow complete interoperability between on-site team members and those at remote locations with the intercommunications and workflow processing transparent to the participants.

FIGURE 5. **GCO Example - Continued.**

b. Configuration Management (CM): The IDE will support the integration of a full range of CM functions. This includes the system capability to support configuration identification, configuration status accounting, and configuration control. Configuration identification functionality includes the ability to identify configuration items, capture the data elements necessary to establish configuration baseline and the capability to define system interfaces both functional and physical. The IDE will support configuration status accounting including change status reporting, audit status reporting, request for waiver/request for deviation status, and provide for traceability of changes to the original baseline. The IDE will also enable the accomplishment of appropriate configuration control procedures including those required to support the Engineering Change Proposals (ECPs) and Notices of Revision as well as preparation of specification change notices.

c. Video teleconferencing: The IDE will include the capability to allow for multi-site personal computer teleconferencing among contractor sites, XYZ training program office, and other program participants. This capability will incorporate remotely displayed data/data products from the IDE to support video teleconferencing.

4.3 Delivery criteria. Data provided by contractors via the technical interface will be considered delivered when the requiring office receives notification that the data are available for Government access. MIL-STD-974 provides additional guidance: "Data items are deemed to be delivered either when they are electronically transmitted to the government or when they are made available for Government access, and the contractor has given notice of delivery to the Government (delivery in-place)". Physical media (e.g., magnetic tape) will be used only for large volumes of data that would otherwise degrade internal network performance or in the case of network and/or communications failure.

4.3.1 Change history. The concept of baseline management must be adapted for use in the IDE. Baseline documents will have to evolve to a concept of baseline files. Audit trails shall be possible such that the traceability history is retained, from initial availability throughout the remainder of the contract life. Audit trails shall allow traceability from the current file baseline back to the original released version. At each stage of an audit, the applicable version and the change authority which created that version shall be identified.

4.4 Government access. On-line access to contract data will be available to the government from existing personal computers via methods such as modems and network connections using Windows™ user interfaces. The XYZ training program IDE project will build on the existing communications with its contractors and other Government organizations to integrate access to data through one common entry point and a common user interface for handling all data.

4.5 Data classification. The XYZ training program IDE will be required to handle data up to and including confidential.

FIGURE 5. **GCO Example - Continued.**

4.6 Data protection and security. XYZ training program IDE capabilities will include a means to ensure that only authorized Government users are allowed access to data and that only one proponent for the data can permanently change its content for the record. Data associated with each XYZ training program will be subject to authentication and regular backup. Backups of both software and data will be made periodically in a manner that ensures redundant storage and disaster protection. Viral and intrusion protection shall also be provided.

4.7 Data rights. Rights in technical and/or business data proposed for, or available via the IDE, will be in accordance with Defense Federal Acquisition Regulation Statement.

5.0 IDE INFRASTRUCTURE. The XYZ training program is committed to using GOTS and COTS tools and products already owned by the Government for the purpose of performing digital project management operations. This section describes the XYZ training program infrastructure that participating activities and contractors should consider in determining format and communication capabilities. This data is provided to allow program participants to understand the capabilities of other users and to make informed decisions regarding options and capabilities that will be or could be established to support the program.

5.1 User capabilities. Table 5-1 describes a sample of the hardware, software, and communication network capabilities that each user activity would typically have currently. This information is not intended to be all inclusive; rather it gives prospective offerors a general insight into the infrastructure in place to support the program including hardware, software, and networking capabilities of XYZ training program activities. This information will be updated as user automated data processing equipment changes.

TABLE 5-1. **XYZ training program user capabilities.**

USER	FUNCTION	HARDWARE	SOFTWARE	NETWORKS
CNO (N889)	Training Requirements	IBM compatible PC (P166)	Windows 95 MS Office Pro	Internet LAN
NAVAIRSYSCOM	Program Management Configuration Management	IBM compatible PC (P166)	Windows 95 MS Office Pro	Internet LAN/WAN
Naval Air Maintenance Training Group HQ	Training Mgmt Configuration Control	IBM compatible PC (P166)	Windows 95 MS Office Pro	Internet LAN/WAN
NAMTRAGRUDET 2202	Conduct of Training	Electronic Classroom (V4)	Windows 95 MS Office Pro EC Manager	Internet ECNET
NAMTRAGRUDET 2203	Conduct of Training	Electronic Classroom (V4)	Windows 95 MS Office Pro EC Manager	Internet ECNET

C.6.0 REFERENCES

C.6.1 The following listing of specifications, standards, and handbooks can be of use in development of GCOs.

SPECIFICATIONS:

MIL-PRF-28000	Digital Representation for Communication of Product Data: Initial Graphics Exchange Specification (IGES) Applications Subsets and Applications Protocols
MIL-PRF-28001	Markup Requirements and Generic Style Specification for Electronic Printed Output and Exchange of Text SGML
MIL-PRF-28002	Requirements for Raster Graphics Representation in Binary Format
MIL-PRF-28003	Digital Representation for Communication of Illustration Data: CGM Application Profile
MIL-D-87269	Database Revisable: Interactive Electronic Technical Manuals, for the support of

STANDARDS:

MIL-STD-974	Contractor Integrated Technical Information Service (CITIS)
MIL-STD-1777	Internet Protocol
MIL-STD-1778	Transmission Control Protocol
MIL-STD-1840	Automated Information for Technical Exchange

FEDERAL INFORMATION PROCESSING STANDARDS (FIPS):

FIPS PUB 127-1	Database Language - Standard Query Language (SQL)
FIPS PUB 146-1	Government Open Systems Interconnection Profile (GOSIP)
FIPS PUB 146-2	Profile for Open Systems Internetworking Technologies (POSIT)
FIPS PUB 151-2	Portable Operating System (POSIX)
FIPS PUB 161	Electronic Data Interchange (EDI)

HANDBOOKS AND MANUALS:

DoD 5520.22-M	Industrial Security Manual for Safeguarding Classified Information

OTHER PUBLICATIONS:

DoD 5000.1	Defense Acquisition
DoD 5000.2-R	Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs
ISO 10303	Product Data Representation and Exchange (PDES/STEP)

APPENDIX D

CONTRACTOR INTEGRATED TECHNICAL INFORMATION SERVICES FOR TRAINING DATA

D.1 SCOPE

D.1.1 Scope. This appendix provides guidance for the determination of CITIS requirements for a training program acquisition. It also provides guidance for the development of CITIS requirements to be in included in a Request For Information/Request For Proposal (RFI/RFP).

D.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

D.3 DEFINITIONS

The definitions in MIL-HDBK-29612-4 apply to this appendix.

D.4 INTRODUCTION TO CITIS

D.4.1 Introduction to CITIS. The CITIS, as its name implies, is a service not a product. CITIS, in whatever form it takes, plays an important part in the implementation of the overall IDE because it furnishes a single entry point for authorized Government access to contractor-generated CDRL data. The term “CITIS” refers to any contractor-developed and maintained service to provide electronic access and/or delivery of Government-procured contractually required information. CITIS, in whatever form it takes, plays an important part in the implementation of the overall IDE because it furnishes a single entry point for authorized Government access to contractor-generated CDRL data. According to DoD 5000.2-R, paragraph 3.3.4.5: “Beginning in FY97, all new contracts shall require on-line access to, or delivery of, their programmatic and technical data in digital form, unless analysis shows that life-cycle time or life-cycle costs would be increased by doing so. Preference shall be given to on-line access to contractor developed data through contractor information services rather than data delivery.” Program managers should give preference to use of CITIS for performing the functions of updating, storing, controlling, reproducing, and distributing data items.

D.4.1.1 Benefits of CITIS. CITIS exemplifies the Standard Digital Data (SDD) philosophy of creating data once and using it many times. It also facilitates the SDD concept of "shared data", and it standardizes functional characteristics of the data to facilitate its usage by a wide variety of different users. The primary advantages of using CITIS are:

a. Substantial reduction in the amount of data delivered and stored in paper format.
b. Improved accuracy and timeliness of data.
c. Improved management and tracking of review status.
d. Reduction in review cycle time.
e. Improved comment collection and correlation.
f. Consistency of data used by all agencies/activities.
g. Readily accessible archive/repository of program data.
h. Facilitates sharing of data within the contractor's own enterprise, between the contractor and the Government, and between the Government's activities and locations.

D.4.1.2 Goal of CITIS. The ultimate goal of CITIS and SDD in general is to reduce lead times and costs for weapons system design, manufacturing, and support processes, and at the same time ensure technical information accuracy and timeliness. As a result of the recent Acquisition Reform efforts, the term "CITIS" no longer automatically implies compliance with MIL-STD-974. The CITIS functionality can range from basic data interchange functions via e-mail to extensive interactive capabilities. Although MIL-STD-974 is recommended as a guide for CITIS, many programs are having great success with alternative IDEs in which they implement only the functions needed to support the program.

D.5 THE DECISION TO ACQUIRE CITIS

D.5.1 Factors to consider. Acquisition/program managers considering procuring a CITIS, in whatever form, for their programs need to take into account the number, type, and use of deliverables, the number and locations of the data reviewers/users, and the cost to develop and implement the CITIS. The decision to utilize a CITIS requires careful analysis of the program's data requirements and usage. The data call and Government Concept of Operation (GCO) data collection process provides the best method for compiling and assessing this type of information. This type of up-front research is necessary to prevent the program manager from acquiring a CITIS that is inappropriate for the program. Figure 6 presents some of the key questions that need to be answered and the steps that need to be taken during the CITIS decision process. Table 6 presents a method of placing a relative value on each of the key questions asked in Figure 6, along with an overall "scoring" method to assist the program manager in the CITIS decision process.

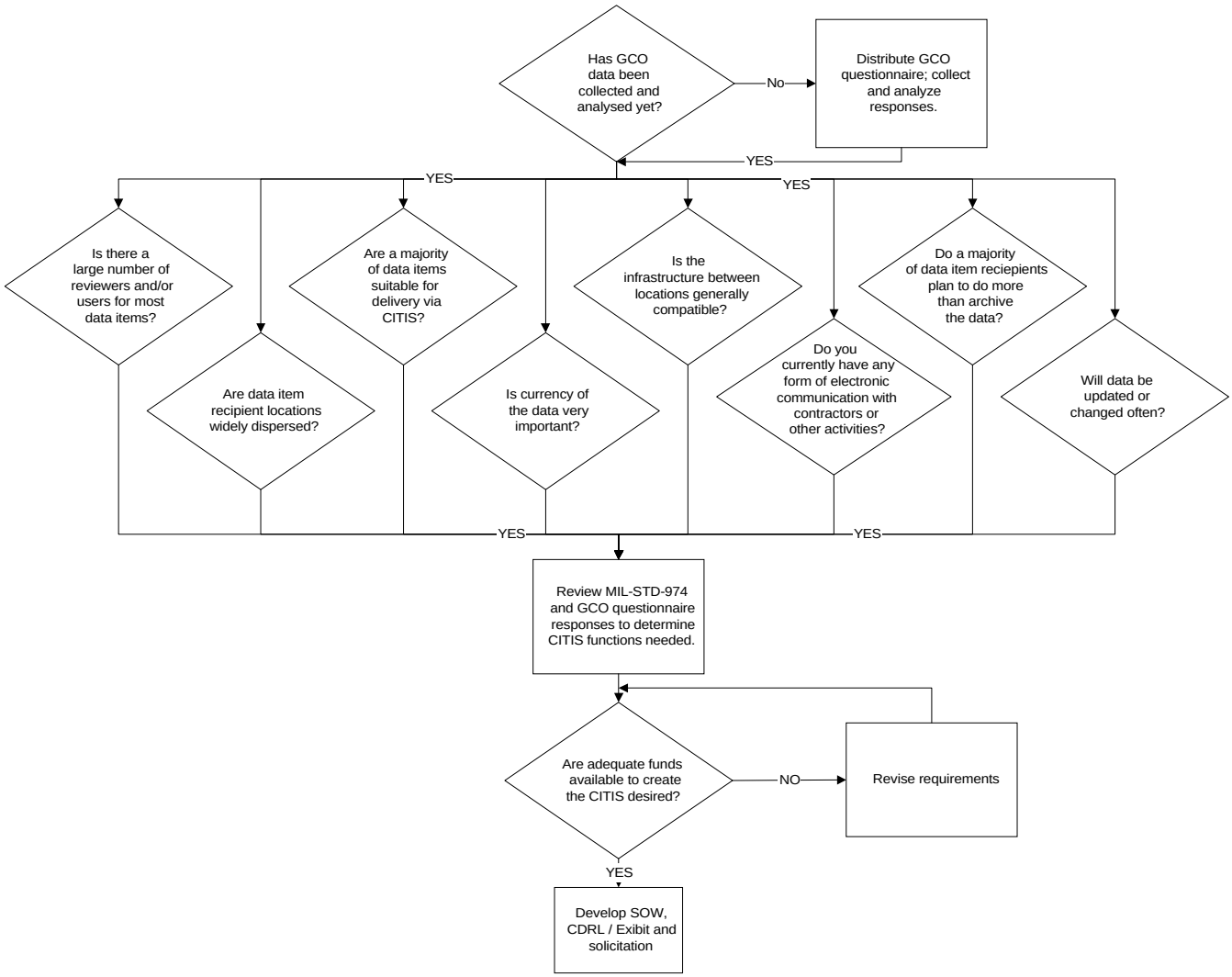

FIGURE 6. **CITIS decision flow chart.**

TABLE 6. **CITIS decision scorecard.**

PROGRAM CONSIDERATION QUESTIONS	VALUE (# POINTS)	Y/N *	SCORE
Are there a large number of reviewers and/or users for most data items?	2		
Are a majority of data items suitable for delivery via CITIS?	2		
Is the infrastructure between locations generally compatible?	1		
Do a majority of data item recipients plan to do more than archive the data? **	2		
Are data item recipient locations widely dispersed?	1		
Is currency of the data very important?	1		
Do you currently have any form of electronic communication with contractors or other activities?	3		
Will data be updated/changed often?	1		
TOTAL SCORE	13		
NOTES: * "No" = zero; "Yes" = assigned value ** "More than archive" means users will view, extract/process/transform, update/maintain, and/or comment/annotate data. TOTAL SCORE DECISION: 0-3 CITIS not recommended 4-6 CITIS may be valuable; perform further assessment 7-10 CITIS recommended 11-13 CITIS highly recommended			

D.5.1.1 Preliminary data collection. The first step in the CITIS decision process is to gather all the data needed to make an informed decision. This can best be done by compiling and analyzing the GCO survey information. The results of the GCO survey will provide the program manager with information on the data requirements and usage at each of the functional areas, along with their existing infrastructure. All of this information is critical to the determination of the CITIS requirements. If a GCO is not being created, the program manager must find some other means of gathering the data needed to assess the advantages of a CITIS.

D.5.1.2 Number of data reviewers and users. The benefits of a program CITIS are typically directly proportional to the number of Government data reviewers and users. That is, as the number of Government and Government contractor support personnel that review, generate comments, and process data deliverables increases, so do the potential benefits of the CITIS itself.

D.5.1.3 Recommended CITIS deliverables. In general, on-line delivery and access are recommended for most programmatic and technical data, including the following data types as a minimum: program management data, product description data, logistics data, and technical publications. Physical delivery via magnetic disk, magnetic tape, or optical disk is recommended

only for data that will overburden the network. Any data that is frequently accessed for viewing or processing is an excellent candidate for inclusion in the CITIS, while data that is only archived and is seldom accessed is not recommended for CITIS. Keep in mind that inclusion of data in the CITIS that is rarely accessed will only increase the size of the CITIS database and reduce the speed of data location and retrieval.

D.5.1.4 Infrastructure upgrades and contractor compatibility. According to DoD 5000.2-R, paragraph 3.3.4.5, *"The PM shall ensure compatibility of data deliverables with existing internal information systems, and augment such systems as required to provide timely data access and distribution consistent with DFARS."* As part of the data call and GCO development process, each location requiring access to program data will identify its computer hardware, software, and network infrastructure. Once this information is gathered, it should be analyzed and compared to determine whether the existing infrastructures are generally compatible or whether each location uses a substantially different system. The greater the disparity in existing systems, the greater will be the cost for infrastructure upgrades and CITIS development. If any locations are using old equipment (e.g., far out-of-date with current technology), these locations may require infrastructure upgrades to be able to access the CITIS. The ultimate decision on infrastructure upgrades will depend on the amount of funding available and the program manager's own judgment. If some locations have equipment inadequate to accommodate a basic CITIS, they are probably inadequate for performing many other functions that could be valuable to the program and should be upgraded regardless of whether a CITIS is required. If it appears that the existing infrastructures are fairly compatible and state-of-the-art, the program manager can probably safely acquire a CITIS without having to worry about paying for extensive Government infrastructure upgrades.

D.5.1.5 Reviewer locations. One of the main goals of CITIS is to facilitate the movement of data deliverables from one status to the next, and the more widely dispersed the reviewer locations, the greater will be the benefits from using a CITIS. When data reviewers are at widely separated locations, a substantial portion of the review cycle time can be taken up by shipment of the data and review comments from one location to another. When a CITIS is available, as soon as one reviewer has completed the review and approved the data item for passage to the next reviewer, that next reviewer can instantly access the data item and begin his review, regardless of his physical location. The review cycle time is now simply the amount of time taken by the reviewers to actually review, comment, and approve/disapprove the data item.

D.5.1.6 Data currency. One of the many advantages of CITIS is improved accuracy and timeliness of data. After data has been created or revised, it can be made almost instantly available to the Government reviewers and/or users who need it. Using current business processes, data items can take days to travel from the contractor developing it to the Government personnel who need it. If rapid access to new data is important to the program, a CITIS may prove to be highly beneficial.

D.5.1.7 Existing electronic communication capabilities. If a program already has some form of electronic communication/data transfer capabilities in place, either between the Government and the contractor, or between Government activities, the cost and effort to implement a CITIS may be substantially reduced. For example, if the Government and contractor have the capability to exchange e-mail, they may have most of the infrastructure they need for a basic CITIS already in place. All that may be required would be a change in business processes to accommodate on-line data delivery.

D.5.1.8 Data revision frequency. If the CDRL includes a substantial amount of "living" data that will often be updated, a CITIS can prove highly beneficial in ensuring the accuracy and consistency of the data used by all of the CITIS locations. Because all locations have access to the same master data file, the likelihood of data users possessing outdated or incorrect information is substantially reduced.

D.5.1.9 Program considerations. CITIS can be beneficial to all types of programs -- new starts, mature programs, retrofits, and modifications. It is more cost effective and beneficial when applied to programs that have substantial data requirements, are in an early phase of development, and/or have long-term data requirements. However, because of the wide range of data interchange options available today (and often already in place), CITIS should not be ruled out just because a program doesn't meet any of the above criteria; all of the questions shown in Table 6 should be answered before a decision regarding CITIS is made. The program manager should evaluate and implement process improvements wherever economic benefits can be achieved.

D.5.2 CITIS functional requirements determination. MIL-STD-974 can provide guidance on some of the more commonly used functions. Program managers should bear in mind that the greater the number of CITIS functions and services required, the greater the potential cost of CITIS development and implementation. After determining program-specific CITIS requirements, the program manager should weigh the estimated cost of the service against available funds and potential benefits.

D.6 CITIS REQUIREMENTS

D.6.1 CITIS functionality. The CITIS functionality can range from basic data interchange functions to extensive interactive capabilities. Because of current acquisition reform efforts, program managers are no longer required to implement CITIS in accordance with MIL-STD-974. Although it is recommended as guidance for CITIS development, many programs are having great success with alternative data environments in which they implement some of the data interchange functions without following MIL-STD-974 exactly. The CITIS functions

selected should be based solely on the needs of the program, and all desired functions should be specified in the SOW/SOO, CDRL, and solicitation.

D.6.2 CITIS services and functions. Table 7 provides supplemental details on each of the CITIS services and functions identified in MIL-STD-974. Information provided includes potential problems, lessons learned, and other issues to consider when determining the CITIS requirements for the SOW/SOO, CDRL, and solicitation. Program managers may choose to implement some, all, or none of these functions.

TABLE 7. **CITIS services and functions - supplemental details.**

SERVICE/FUNCTION	CONSIDERATIONS
CITIS Services:	**Management information services typically required with CITIS.**
Availability and Accessibility	• SOW specifies hours of operation - is 24 hours a day, 7 days a week access really necessary? • SOW requires advance notice of events affecting CITIS operation. • SOW can specify amount of notice required (hours, etc.) prior to each event.
Government Furnished Information (GFI)	• SOW and GCO should specify size, format, and content of GFI - advance notice of format and software tools used to create GFI is extremely important. • SOW should specify which functions are required for GFI.
Multi-user Access	• SOW specifies the number of concurrent CITIS users. • The greater the number of users, the slower will be the CITIS performance (speed). SOW can specify the acceptable level of degradation.
Electronic Mail	• SOW can specify the number of users and the applicable. • protocols. • Currently, CCITT X.400 or IETF RFC821 Simple Mail. • Transfer Protocol (SMTP) should be considered the default e-mail standards.
Data Dictionary	• Intent of this requirement is to ensure that users can consistently and easily locate data of interest.
Interface Compatibility	• May require extensive planning and can be difficult to satisfy because of the potentially large range of Government receiving systems. • Government may want to specify/select a limited number of receiving systems to reduce complexity of CITIS.

Communication Protocols	• Currently, TCP/IP should be considered the default communication protocol.
	• May be able to save money by using slower connections to CITIS.
	• Typically, the following options are applicable:
	  • Dedicated (T1 or better) line - fast connection, high cost.
	  • Dedicated ISDN line (128 kbps) - reasonably fast connection, low cost (although higher than Internet/modem cost).
	  • Internet T1 connection - fast only if entire path is also at T1 speed, moderate cost.
	  • Internet 56 kbps connection - slow connection, low cost.
	  • Modem 28 kbps connection - slow connection, low cost.
	• Government is responsible for obtaining any waivers needed for use of a non-standard protocol.

TABLE 7. **CITIS services and functions - supplemental details – Continued.**

SERVICE/FUNCTION	CONSIDERATIONS
CITIS Services:	**Management information services typically required with CITIS.**
Training Support	• Will unique training materials and classes be required or can contractor internal materials and classes be used? • SOW specifies form(s) of training: documentation, contractor visits to CITIS user sites, number of training sessions, etc. • SOW can specify frequency of CITIS training/documentation updates (e.g., after major system changes, every six months, etc.).
Telephone Support	• SOW specifies hours of telephone support (may be different from CITIS hours of operation.) • Telephone support most advantageous for large and varied groups of CITIS users. • On-line Help.
Data Configuration Management	• CITIS users will not be able to replace contractor or GFI data. • SOW specifies user data access privileges (i.e., access to working data - neither contractor nor Government - is not granted unless specified in the SOW).
CITIS Security	• DD Form 254 provisions apply. • Also refer to DoDD 5230.24, 5230.25, MIL-STD-974, MIL-STD-1806, and DFARS for additional CITIS security guidance on sensitive data marking. • Contractor should obtain written approval from cognizant security officer before including classified data in CITIS. • SOW can address protection of business sensitive or proprietary data by both contractor and the Government.
Access Controls ·	• SOW specifies any encryption solution (e.g., hardware, software, or combination).
Contamination Control	• Primary contamination control typically provided by allowing only authorized users to access CITIS data. • SOW can require the contractor to scan all CITIS data for viruses prior to incorporation or can specify intervals at which all CITIS databases are scanned.
Data Item Index	• SOW specifies any indexing elements.
Data Exchange Standards	• As required by MIL-STD-1840. Include any COTS software formats when specifying data transfer methods on CDRL.
Core Functions:	Core functions required when CITIS is implemented in accordance with MIL-STD-974.
Acknowledge	• Government may consider allowing use of e-mail for this function. • Can be manually input, automatic confirmation by receiving computer, etc.
Approve or Disapprove	• Can be provided via e-mail or CITIS capabilities.
Comment	• Can be provided via e-mail or CITIS capabilities.
Notice of Delivery	• Government may consider allowing use of e-mail for this function.
Receive	
Search	• SOW specifies any additional elements desired as search criteria (will be included in the data item index).

TABLE 7. **CITIS services and functions - supplemental details - Continued.**

SERVICE/FUNCTION	CONSIDERATIONS
CITIS Services:	**Management information services typically required with CITIS.**
Store	• SOW should specify the length of time a data item will be stored/available through CITIS. • Function allows users to request that short-term data be retained on CITIS past its normal lifetime.
View	• Should also allow users to print out data.
Tailorable Functions:	SOW specifies required tailorable functions when CITIS is implemented IAW MIL-STD-974.
Applications	• Determine whether this is really necessary - can be costly in terms of licensing problems and faster telecommunications requirements. • Government should identify and grant access to applications only to specific personnel (not everyone); number of personnel requiring access should be specified in SOW, if known.
Archive	• SOW can specify length of time between archival data request and availability of data on CITIS. • SOW can specify whether data requester should be notified of data availability. • SOW can require creation of an archival data index. • Government should periodically review CITIS data to identify data to be archived (this should improve CITIS performance). • Can simply require that the contractor maintain all contract data for the life of the contract and provide access to it by authorized users upon request.
Combine	• Can cause data CM problems - SOW should specify disposition of combined data (i.e., how long to retain it, how to tag and index it, and how to notify CITIS administrators). • CITIS must ensure that combination of data does not affect original data files. • Might be better to simply require that users be allowed to download and upload data files in the appropriate formats (i.e., they can combine/edit files off-line).
Download	• SOW can specify maximum file size for data downloads to avoid telecommunications/network loading problems. • Files larger than approx. 30 Mb are recommended for delivery IAW MIL-STD-1840 via magnetic media. • Maximum download file size specification may be especially important if many CITIS user sites possess only limited CITIS access capability. • If maximum size is specified, SOW should specify how CITIS users can gain access to large data files (e.g., on-line request for data on tape). • Keep in mind that some users may have trouble with even relatively small file sizes (e.g., 5 MB) if they are using modems and regular phone lines to download data.
Edit	• Can cause data CM problems - requires same considerations as for the Combine function.

TABLE 7. **CITIS services and functions - supplemental details – Continued.**

SERVICE/FUNCTION	CONSIDERATIONS
CITIS Services:	**Management information services typically required with CITIS.**
Forward	• Function is related to workflow management and may be most useful when program uses integrated product teams. • SOW should specify whether data will be forwarded to other CITIS users, non-CITIS users, or both. • Function is useful for facilitating the review and approval/disapproval of data items.
Package	SOW must define this function - specifically: • How should the package be stored, tagged, and indexed? • Is the package temporary or permanent? • Is it accessible by all authorized CITIS users, and how can they be authorized? • Must the other CITIS functions be able to act on the package? • Might be better to simply require that users be allowed to download and upload data files in the appropriate formats (i.e., they can package files off-line).
Query	• Should be required.
Sort	• Optional requirement.
User Groups	• SOW should specify frequency and location of user group meetings. • SOW should specify disposition of information generated during the meetings. • SOW should specify who is responsible for taking minutes and tracking action items. • User groups most beneficial with large numbers of varied CITIS users.

D.6.3 Printing capabilities. Although printing requirements are not contained within MIL-STD-974, the ability of the CITIS to print file contents should be considered by the Government and the contractor. Although the goal of CITIS and SDD in general is to migrate from paper-based information to digital formats, real-world practices indicate that paper is still a popular medium for information distribution. The program manager should determine whether CITIS users will be allowed to print portions of CITIS data without having to download the entire file to their computer. If this service is desired, the program manager needs to require the contractor to incorporate a printing capability into CITIS. The Government also needs to specify the desired print options such as printing out a specific range of pages or portion of a document in addition to printing the entire document. It is very important that the Government include printing capability requirements in the contract so they can be appropriately priced, because the cost and effort to implement these capabilities may be significant. Printer compatibility issues cause problems for many information management programs because current technology can be fairly restrictive in terms of what types of files will print out correctly on various types of printers (e.g., non-Encapsulated PostScript files do not print well on PostScript printers).

D.7 CONTRACTING FOR CITIS

D.7.1 Benefits of a GCO. A well-developed GCO is an extremely important part of the acquisition process. The GCO benefits both the Government agency preparing it and the contractors using it to respond to an RFP. Development of the GCO will help ensure that the Government can access or receive the correct version and formats of digital data needed to acquire and support a specific program. The GCO includes information on the data types to be digitally accessed/delivered, who will use the data and where they are geographically located, how the data will be used (e.g., view, comment, etc.), the data user's infrastructure (e.g., hardware, software, networks), the data formats, relevant data interchange standards, and mechanisms/media for data delivery/access. An unexpected benefit to the GCO process is that analysis of the GCO information can result in identification of areas for internal improvements, such as elimination of data that is no longer needed, or upgrades for outdated software or equipment. A detailed discussion of the GCO development process can be found in Appendix C.

D.7.2 Solicitation. The solicitation defines the scope of work, schedule, conditions, clauses, instructions, evaluation criteria, and deliverables to be provided. The RFP elements should address the requirements for electronic (on-line/CITIS) services, digital data delivery, and functional integration. Detailed discussions of each section of the RFP that include SDD requirements can be found in sections 4 and 5 of this handbook.

D.7.2.1 CITIS CLIN. Section B of the RFP calls out the CITIS CLIN. Use of a CITIS CLIN provides a standard methodology for acquiring CITIS-type services and will simplify the evaluation of the CITIS portion of the RFP responses because all offerors responding to the RFP will have their cost for developing a CITIS clearly priced. When pricing elements are subdivided, the evaluation team will be able to verify that the contractor has included pricing to cover all aspects of the CITIS specified within the SOW/SOO. The individual pricing elements will also provide a consistent method for later auditing of the CITIS costs. If desired, the tailorable CITIS functions may be priced as alternative or optional CLIN(s) to allow cost/benefit assessment. When subdivision of CITIS pricing elements is required, typical costing areas can include system development and installation, equipment lease, access/connect times, equipment purchase, telecommunications, data storage, data delivery, infrastructure upgrades, data conversion, software licenses, system maintenance, and security. Cost to develop the data to be included in CITIS (excluding data conversions) is not included in the CITIS line item.

D.8 CITIS DEVELOPMENT

D.8.1 CITIS planning. The primary requirement for creating a successful CITIS is preliminary planning. The contractor and the Government must discuss and agree upon a large number of issues before the CITIS development is begun. An Integrated Product Team (IPT) for

CITIS development should be formed at this time. The IPT serves as an excellent forum to address developmental issues between the Government and participating contractors. Both sides must understand exactly which functions are required and how the Government intends to utilize them. They must discuss the hardware, software, and networks that will be used, how the CITIS should handle data in different formats, and how the contractor should handle major changes in the Government's computer infrastructure.

D.8.2 CITIS development strategy. During the planning phase of the CITIS development process, contractors must determine their strategy in terms of the location/distribution of the program-specific data repository, the extent to which their suppliers/subcontractors will be included in the CITIS, and CITIS data delivery.

D.8.2.1 CITIS program-specific data repositories. A major decision that must be made early in the planning process is where the data will reside. The data can reside at either a government facility or the contractor site. If it will reside at a Government site, that site should be specified in the SOW. If it will be at the contractor site, the Government should not specify the contractor's repository strategy, but rather specify how they need the repository to function. If any programmatic reasons indicate preference for one strategy over the others, that strategy should be specified in the SOW. The final repository strategy selected will typically depend on the required CITIS functionality, the existing Government and contractor infrastructure, and the budget available for CITIS development. The main options for program-specific data repository strategies include:

a. Database repository resides with the prime contractor as a single physical integrated database.
b. Database repository resides with the prime in the form of distributed multiple databases with a navigator.
c. Database repository resides with the prime; existing information systems are interfaced to extract CITIS data in a central repository.
d. Database repository resides with the prime and suppliers (many), with a navigator (gateway processor) to pass requests/access to supplier databases.
e. Database repository resides at a Government facility.

D.8.2.2 CITIS and suppliers/subcontractors. In keeping with the current shift in attitude toward telling contractors what needs to be done rather than telling them how to do it, the SOW/SOO should specify simply that the Government will (or will not) require access to supplier/subcontractor data via the CITIS. The contractor should then decide how they want that data delivered. The four methods for incorporation of subcontractor data into the CITIS include:

a. Subcontractor delivers data on paper - prime scans it in and adds it to CITIS in raster format.

b. Subcontractor delivers data via physical media in digital format - prime loads it into CITIS.
c. Subcontractor downloads its data directly into CITIS databases.
d. Subcontractor becomes member of CITIS network and users have access to all of its data.

D.8.2.3 CITIS data delivery. For most defense programs, a large volume of technical data will be created by the contractor in support of the program. Before this data can be released for access through the CITIS, it must meet the programmatic requirements and pass the contractual restrictions. Both the Government and the contractor must take precautions to ensure that data is not released for CITIS access without the appropriate approval. Contractors will typically have a database of working data that is not made available to the Government. This data must pass through a "contractual and programmatic filter" to determine whether the data content satisfies the program requirements and the data format meets the contractual restrictions before it is released to the Government. This process is no different from the current paper-based method of data delivery; it is simply performed electronically rather than on paper. When preparing its CITIS approach, the contractor will also need to consider how data that has been delivered to the Government but has not yet been accepted should be handled to prevent data users (other than those reviewing the deliverable) from accessing and using that data prematurely.

D.8.2.4 CITIS data acceptance. The contract must address the questions of what constitutes data delivery, and who in the Government will receive, inspect, and accept the data. The Government will specify in the contract the delivery methods for each CDRL item, and if delivery includes CITIS, this delivery may be in the form of either in-place delivery, in which the data item is considered delivered once it becomes available on the CITIS, or it may be in the form of a physical data download by the Government from the CITIS. The following scenario identifies the steps taken by a typical program office in the receipt, review, and acceptance of digital data delivered in a basic CITIS environment. Figure 7 shows details on the CITIS operational environment. This scenario assumes that the program uses a local Government server as the repository for data under review, and uses the contractor site as the repository for officially approved and released versions of data deliverables:

a. Data manager receives notice (via e-mail) from the contractor that the data item is ready for transfer/download from the contractor's server, along with information about the data item (e.g., file location and name).
b. Data manager transfers/copies the data file from the contractor's designated location to the designated Government server location via a direct network connection or through telecommunications.
c. Automated Data Processing (ADP) person inspects file for viruses, corruption, etc., verifies the data content and format, and renames the file according to a pre-determined naming convention. Note that this person only verifies that the file contains the information it is supposed to, not the technical content itself.

d. ADP person places file in designated location on server, and implements any access restrictions.
e. ADP person notifies data manager that file has been successfully downloaded and provides file name, location, and size.
f. Data manager notifies contractor via e-mail that file has been received (officially delivered).
g. Data manager notifies users that the file is now available on the network, file location, file name, file size, and point of contact for that data item.
h. Data item reviewers locate, view, and/or transfer data files as appropriate.
i. Remote users use FTP or TELNET to download files to their location.
j. Reviewers generate comments in a selected format.
k. Reviewers send comments to data item point of contact for collation and delivery to contractor.
l. Data item point of contact reviews and collates comments and passes them on to the data manager via e-mail or network.
m. Data manager transfers comments to designated contractor network location and notifies contractor via e-mail that comments have been delivered.
n. Contractor incorporates comments as necessary and resubmits document.
o. After the final document is approved for release, the contractor would place the document in an agreed upon location on its server and make it available to all authorized users.

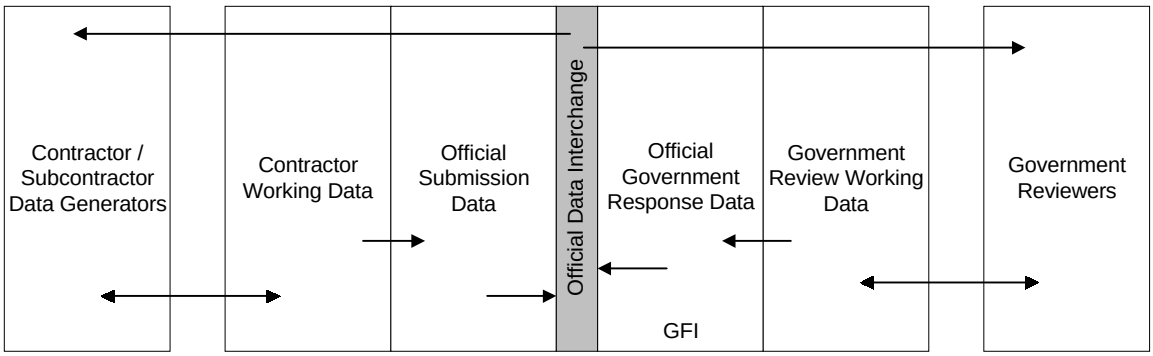

FIGURE 7. **CITIS operational environment.**

D.9 INFRASTRUCTURE CONSIDERATIONS

D.9.1 System options. The selection of hardware and software used to create the CITIS is critical and must be thoroughly analyzed before any attempt to develop CITIS is begun. The CITIS configuration should be determined only after analysis and comparison of the Government's and contractor's infrastructures. Some important considerations include compatibility of operating systems, file formats, and hardware and telecommunications options. The CITIS designer should also consider future impacts to the CITIS system should Government users upgrade their hardware or software. When determining the infrastructure for CITIS, the program manager must decide whether the contractor or the Government or both will provide the hardware and telecommunications for the Government to interface with CITIS. Typically, the Government will use its own computer hardware and software to access the CITIS data, with the contractor providing only the software necessary to access CITIS. However, the program manager may choose to have the contractor provide computer hardware (e.g., complete PCs, terminals, etc.) and/or software to be located at Government facilities and used exclusively for CITIS access. This option may be especially attractive for locations that could otherwise require infrastructure upgrades to access CITIS.

D.9.1.1 Hardware and software. Implementation of an IDE, including CITIS, can range from the very simple to the highly complex. Every CITIS should make maximum use of existing infrastructure in order to minimize costs and reduce the potential user resistance to new processes and technology. The basic hardware and software used by most CITISs includes:

a. PC Workstations.
b. Servers.
c. Network connections (Local Area Networks (LANs) and Wide Area Networks (WANs)).
d. E-mail software.
e. Modems and phone lines (if no direct network connection to contractor) plus communications software.
f. CITIS data access software to provide data query, indexing, and navigation capability.
g. Additional infrastructure that could increase functionality include:

    (1) Dedicated high speed lines (ISDN or T1.)
    (2) COTS applications for processing data online.
    (3) Data conversion software.
    (4) Optical drives for archiving data onto CD-ROM.
    (5) Software to provide functions such as on-line comment and approval, digital signature, etc.
    (6) Enhanced data security, including encryption hardware and software, firewalls, public and private keys, etc.
    (7) Workflow management software.

(8) Configuration management software.

h. A fairly new method for providing basic CITIS capabilities is a contractor-developed and maintained intranet. The concept of the intranet is becoming increasingly popular as a means to provide restricted Internet access to data and information. Intranet-specific technology includes Internet technology but adds filtering and security. An intranet usually carries the additional restriction that users allowed access to critical data sources be part of a limited collection of hosts. An intranet would allow users to locate, view, download, and print data items via the familiar mechanism of home pages. Use of an intranet would require the basic CITIS infrastructure listed above with the addition of web browser software for users (e.g., Netscape), and web development software for contractors (e.g., HTML authoring).

D.9.1.2 Networks and telecommunications. The simplest means of transferring data between the contractor and Government is to connect the appropriate locations with a WAN. Several WANs have been and will be implemented that incorporate both contractor and Government facilities. When networks are not available, users must utilize telecommunications, which involves the physical connection to CITIS via telephone or other type of lines. The CITIS access can be via regular phone lines, dedicated modem lines, high-speed optical lines, or networks, and will typically be a combination of these methods. Many Government facilities either presently have or are installing the infrastructure required for remote access and electronic data transfer, and no additional telecommunications lines or hardware will be required for CITIS access. If, however, any new lines or networks will be required, the program manager must decide whether the Government or the contractor will be responsible for line installation and maintenance. The Government will typically pay for its own connection time charges (e.g., phone line usage) for use of its own telecommunications lines. The Government may, however, require the contractor to establish an 800-number hotline that can be used by the specified number of concurrent CITIS users.

D.9.2 File format considerations. Before any CITIS development is performed, the Government and contractor must determine the data formats that will be available on-line. A matrix should be developed during the CITIS planning stage showing which software tools will be used and how the Government (GFI) and contractor data will be stored and displayed. An ideal CITIS would be able to display and process data in any format, regardless of the software tool used to develop it. However, this ideal CITIS may be economically prohibitive and technologically challenging. In practice, the program manager will need to specify a limited number of formats for data delivery. File format considerations are discussed further in Appendix C.

D.9.3 Infrastructure changes. Because of the rapidly changing computer hardware and software technology, it is reasonable to assume that at some point during the life of the CITIS,

the Government users will upgrade either their hardware or software or both. The Government and the contractor should agree up-front as to what technology upgrades the Government can expect the contractor to incorporate after the CITIS has been implemented. The Government may also want to state explicitly that CITIS shall be upgraded to be compatible with any major changes in hardware and/or network configuration. CITIS user group meetings can serve as an excellent forum for discussion of compatibility problems, technology advancements, and the advantages and disadvantages to upgrades to the CITIS.

D.10 CITIS ISSUES

D.10.1 Legal issues. When CITIS is being considered and/or developed, the program manager must be aware of some of the legal issues accompanying the use of a CITIS. The relationship between CITIS and the future SDD and Defense Shared Data Warehouse (DSDW) initiatives should also be considered when determining the scope and functionality of the CITIS, to reduce the number of possible conflicts when these systems are finally implemented. Because CITIS can involve extensive sharing of data between contractors, subcontractors, and Government activities, a significant number of legal issues have been raised and are still being debated. Some of the most prevalent issues include the questions of proprietary data rights (who owns the data at what time), software licensing, warranties and liabilities, and international data exchange.

D.10.1.1 Proprietary data rights. The extent and nature of rights which the Government may acquire to use, copy, or disclose data items shall be as expressly stated in the contract. Refer to DFARS for details concerning proprietary data rights. When dealing with intellectual property, there is an increased risk of misuse of proprietary and business sensitive data in digital form. No DoD regulation currently exists to assess liability on third parties for copyright or patent infringement. Even with access limitations, proprietary markings, such as proprietary legends and restrictive distribution statements, may be inadvertently deleted. The problem could be compounded if the CITIS network includes access by other contractors and subcontractors in addition to the prime contractor, because the release of proprietary data to widely accessed databases could amount to abandonment of secrecy with a resultant loss of rights. Finally, there is the potential problem where Contractor A doesn't want Contractor B to have access to its data, but it can be difficult to prevent that access on a robust CITIS network. All of these issues should be considered and discussed by the Government and the prime contractor in the early stages of CITIS planning.

D.10.1.2 Software rights/licensing. Potential third party licensing problems can arise whenever CITIS is used to launch/access other applications. If the applications being accessed are commercial software packages, the contractor will need to investigate the licensing policies of the software development company. In some cases, they may need to either purchase individual licenses for the maximum number of concurrent CITIS users or purchase a network or

site license that allows specified or unlimited usage of the software. If the applications being accessed were developed by either the prime or other DoD contractor, the CITIS developers will need to verify that the application has been released for general use. If access is restricted, those restrictions must be incorporated into the CITIS access rule set that will deny access to anyone without the proper authorization. Care should be taken to identify and grant access to both commercial and contractor-developed applications only to people who actually require that access in order to avoid excessive license purchases and proprietary data conflicts (i.e., don't just automatically grant all CITIS users access to all applications).

D.10.1.3 Warranties and liabilities. The contractor warrants that the data provided by them via the CITIS is accurate and complete, but the question of who is responsible for warranting data products created by CITIS users with ad-hoc queries has not yet been answered. The contractor can (and should) be held liable for providing defective data to the Government, but unfortunately, lack of statutory laws results in the contractor also being held liable for misuse of any data they provide. Until existing laws are changed, the contractor is liable for damages when data provided through CITIS is used incorrectly.

D.10.1.4 International data exchange. International data exchange is complicated by differences in treatment of intellectual data from nation to nation. Some nations do not recognize or protect intellectual property. Export licensing of technical data also creates a barrier to international CITIS implementation. Any data to be released internationally needs prior Government approval.

APPENDIX E

DIDs CROSS-REFERENCE

E.1 SCOPE

E.1.1 Scope. This appendix provides cross-reference tables that identify relationships between superseded DIDs that were related to MIL-STD-1379, Military Training Programs, and DIDs that are related to MIL-PRF-29612, Performance Specification, Training Data Products. This appendix contains guidance only.

E.2 APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

E.3 DEFINITIONS

The definitions in MIL-HDBK-29612-4 apply to this appendix.

E.4 CROSS-REFERENCE TABLES

E.4.1 New DIDs to old DIDs cross-reference. Table 8 identifies relationships between MIL-STD-1379 related DIDs and others that have been superseded, and the new DIDs that have superseded them.

TABLE 8. **New DIDs/old DIDs cross-reference.**

NEW DI-SESS	NEW DID TITLE	OLD DI-ILSS	OLD DID TITLE
81517B	Training Situation Document	81069	Training Situation Analysis Report
81517B	Training Situation Document	81082	Training Technology Assessment Report
81518B	Instructional Performance Requirements Document	81077	Mission Performance Standards
81518B	Instructional Performance Requirements Document	81078	Mission, Collective, Individual and Occupational Training Task Analysis Report
81518B	Instructional Performance Requirements Document	81079	Personnel Performance Profile Tables
81518B	Instructional Performance Requirements Document	81080	Training Path System Report

TABLE 8. **New DIDs/old DIDs cross-reference - Continued.**

NEW DI-SESS	NEW DID TITLE	OLD DI-ILSS	OLD DID TITLE
81518B	Instructional Performance Requirements Document	81081	Individual Training Standards
81518B	Instructional Performance Requirements Document	81083	Learning Analysis Report
81518B	Instructional Performance Requirements Document	81097	Individual Task Training Package
81518B	Instructional Performance Requirements Document	81098	Collective Task Training Package
81519B	Instructional Media Requirements Document	81072	Media Selection Model Report
81519B	Instructional Media Requirements Document	81073	Training Equipment Requirements Document
81519B	Instructional Media Requirements Document	81084	Media Selection Report
81519B	Instructional Media Requirements Document	81086	Training System Alternatives Report
81519B	Instructional Media Requirements Document	81087	Trainer System Modification Report
81519B	Instructional Media Requirements Document	81088	Training System Functional Characteristics Report (Partially)
81520B	Instructional Media Design Package	81090	Lesson Specifications Report
81520B	Instructional Media Design Package	81091	Instructional Media Design Report
81521B	Training Program Structure Document	81071	Individual Training Plan
81521B	Training Program Structure Document	81074	Training System Implementation Plan
81521B	Training Program Structure Document	81075	Training Course Control Document
81522B	Course Conduct Information Package	81099	Training Information Package
81522B	Course Conduct Information Package	81102	Trainee Orientation Guide
81522B	Course Conduct Information Package	81104	Trainee and Training Course Completion Report
81523B	Training Conduct Support Document	81095	Lesson Plan
81523B	Training Conduct Support Document	81100	Trainee Guide
81523B	Training Conduct Support Document	81101	On-the-Job Training Handbook
81523B	Training Conduct Support Document	81103	Nonresident Training Materials
81523B	Training Conduct Support Document	81106	Training Material Change Package
81523B	Training Conduct Support Document	81092	Instructional Media Package (Partially)
81524B	Training Evaluation Document	81076	Training Evaluation Plan
81524B	Training Evaluation Document	81088	Training System Functional Characteristics Report (Partially)
81524B	Training Evaluation Document	81105	Training Evaluation and Validation Rpt

TABLE 8. **New DIDs/old DIDs cross-reference - Continued.**

NEW DI-SESS	NEW DID TITLE	OLD DI-ILSS	OLD DID TITLE
81525B	Test Package	81085	Test Package
81526B	Instructional Media Package	81092	Instructional Media Package (Partially)
81526B	Instructional Media Package	81093	Instructional Media Data Files
81527B	Training System Support Document	81094	Trainer Software Application Hdbk
81527B	Training System Support Document	81096	Training System Utilization Handbook
None		81070	Training Program Development and Management Plan
None		81089	Training Facilities Report

E.4.2 Old DIDs to new DIDs cross-reference. Table 9 identifies relationships between MIL-PRF-29612 related DIDs and MIL-STD-1379 related DIDs that have been superseded.

TABLE 9. **Old DIDs/new DIDs cross-reference.**

OLD DI-ILSS	OLD DID TITLE	NEW DI-SESS	NEW DID TITLE
81069	Training Situation Analysis Report	81517B	Training Situation Document
81071	Individual Training Plan	81521B	Training Program Structure Document
81072	Media Selection Model Report	81519B	Instructional Media Requirements Document
81073	Training Equipment Requirements Document	81519B	Instructional Media Requirements Document
81074	Training System Implementation Plan	81521B	Training Program Structure Document
81075	Training Course Control Document	81521B	Training Program Structure Document
81076	Training Evaluation Plan	81524B	Training Evaluation Document
81077	Mission Performance Standards	81518B	Instructional Performance Requirements Document
81078	Mission, Collective, Individual and Occupational Training Task Analysis Report	81518B	Instructional Performance Requirements Document
81079	Personnel Performance Profile Tables	81518B	Instructional Performance Requirements Document
81080	Training Path System Report	81518B	Instructional Performance Requirements Document
81081	Individual Training Standards	81518B	Instructional Performance Requirements Document
81082	Training Technology Assessment Report	81517B	Training Situation Document
81083	Learning Analysis Report	81518B	Instructional Performance Requirements Document
81084	Media Selection Report	81519B	Instructional Media Requirements Document
81085	Test Package	81525B	Test Package
81086	Training System Alternatives Report	81519B	Instructional Media Requirements Document
81087	Trainer System Modification Report	81519B	Instructional Media Requirements Document
81088	Training System Functional Characteristics Report (Partially)	81519B	Instructional Media Requirements Document
81088	Training System Functional Characteristics Report (Partially)	81524B	Training Evaluation Document

TABLE 9. **Old DIDs/new DIDs cross-reference - Continued.**

OLD DI-ILSS	OLD DID TITLE	NEW DI-SESS	NEW DID TITLE
81090	Lesson Specifications Report	81520B	Instructional Media Design Package
81091	Instructional Media Design Report	81520B	Instructional Media Design Package
81092	Instructional Media Package	81523B	Training Conduct Support Document
81092	Instructional Media Package	81526B	Instructional Media Package
81093	Instructional Media Data Files	81526B	Instructional Media Package
81094	Trainer Software Application Handbook	81527B	Training System Support Document
81095	Lesson Plan	81523B	Training Conduct Support Document
81096	Training System Utilization Handbook	81527B	Training System Support Document
81097	Individual Task Training Package	81518B	Instructional Performance Requirements Document
81098	Collective Task Training Package	81518B	Instructional Performance Requirements Document
81099	Training Information Package	81522B	Course Conduct Information Package
81100	Trainee Guide	81523B	Training Conduct Support Document
81101	On-the-Job Training Handbook	81523B	Training Conduct Support Document
81102	Trainee Orientation Guide	81522B	Course Conduct Information Package
81103	Nonresident Training Materials	81523B	Training Conduct Support Document
81104	Trainee and Training Course Completion Report	81522B	Course Conduct Information Package
81105	Training Evaluation and Validation Report	81524B	Training Evaluation Document
81106	Training Material Change Package	81523B	Training Conduct Support Document
81070	Training Program Development and Management Plan	None	
81089	Training Facilities Report	None	

CONCLUDING MATERIAL

Custodians:
Army - AV
Navy - AS
Air Force - 94
Marine Corps - MC
DLA - DH

Review Activities:
Army - TM
Navy - SH, EC, TD
Air Force - 11
NSA - NS
DLA - CC, GS, IS, DP

Preparing Activity:
Navy - AS
(Project SESS-0015)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	**1. DOCUMENT NUMBER** MIL-HDBK-29612-1A	**2. DOCUMENT DATE** (*YYYYMMDD*) 20010831

3. DOCUMENT TITLE
GUIDE FOR ACQUISITION OF TRAINING DATA PRODUCTS AND SERVICES (PART 1 OF 5 PARTS)

4. NATURE OF CHANGE (*Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.*)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (*Last, First, Middle Initial*)	b. ORGANIZATION	
c. ADDRESS (*Include ZIP Code*)	d. TELEPHONE (*Include Area Code*) (1) Commercial (2) DSN (*If applicable*)	**7. DATE SUBMITTED** (*YYYYMMDD*)

8. PREPARING ACTIVITY

a. NAME COMMANDER NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION	b. TELEPHONE (*Include Area Code*) (1) Commercial (732) 323-2947	(2) DSN 624-2947
c. ADDRESS (*Include ZIP Code*) CODE 414100B120-3 HIGHWAY 547 LAKEHURST, NJ 08733-5100	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman Road, Suite 2533 Fort Belvoir, Virginia 22060-6221 Telephone (703) 767-6888 DSN 427-6888	