DATA ITEM DESCRIPTION

1. DID NUMBER: DID-ILS-TDATA-TDP-V5.3
2. TITLE: TECHNICAL DATA PLAN
3. DESCRIPTION and intended use

The Technical Data Plan (TDP) describes the Contractor’s strategy, plans, methodology, and processes for meeting Contract requirements for the identification, control, assembly, preparation, verification, validation and delivery of Technical Data.

The Contractor uses the TDP to:

document the strategy, plans and procedures to define, manage and monitor the Technical Data activities under the Contract; and

ensure that those parties (including Subcontractors) who are undertaking Technical Data related activities understand their respective responsibilities, the processes to be used, and the time-frames involved.

The Commonwealth uses the TDP to:

ensure that the full scope of Technical Data associated with the Contract will be appropriately defined, developed, and monitored, and that there are coherent management arrangements in place;

understand and evaluate the Contractor’s approach to meeting the Technical Data requirements of the Contract; and

understand the Commonwealth’s involvement in the Contractor’s Technical Data activities, including the monitoring of the Contractor’s activities.

1. INTER-RELATIONSHIPS

The TDP is subordinate to the following data items, where these data items are required under the Contract:

Project Management Plan (PMP);

Integrated Support Plan (ISP);

Systems Engineering Management Plan (SEMP); and

Configuration Management Plan (CMP).

The TDP inter-relates with the following data items, where these data items are required under the Contract:

Contract Work Breakdown Structure (CWBS);

Configuration Status Accounting Report (CSAR);

all data items derived from the Master Technical Data Index (MTDI);

Software List (SWLIST);

Data Accession List (DAL);

Publications Packages (PUBPACK); and

Verification and Validation Plan (V&VP).

1. Applicable Documents

Note to drafters: The following list is indicative of the range of Technical Data standards available. Project Offices need to amend the list to ensure that the references align with current Defence policy and requirements of the Contract. See also the standards listed in Annex A.

The following documents form a part of this DID to the extent specified herein:

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| --- | --- |
| 1. S1000D™ | 1. *International specification for technical publications using a common source database, Issue 5.0* |
| 1. DEF(AUST)5629C | 1. *Production of Military Technical Manuals* |
| 1. DEF(AUST)IPS-5630 | 1. *Developing S1000D Interactive Electronic Technical Publications (IETPs)* |
| 1. DEF(AUST)CMTD-5085C | 1. *Engineering Design Data for Defence Materiel* |
| 1. ISO 10303 | 1. *Automation systems and integration — Product data representation and exchange* |
| 1. ISO 10918 | 1. JPEG |
| 1. ISO 32000-1 | 1. *Document management – Portable document format* |
| 1. MIL-PRF-28000 | 1. *Digital Representation for Communication of Product Data: IGES Application Subsets and IGES Application Protocols* |
| 1. MIL-PRF-28001 | 1. *Markup Requirements and Generic Style Specification for Electronic Printed Output and Exchange of Text* |
| 1. MIL-PRF-28002 | 1. *Raster Graphics Representation in Binary Format* |
|  | 1. ADF Service Publication standard(s), as specified in the Statement of Work |

1. Preparation Instructions
   1. Generic Format and Content

This data item shall comply with the general format, content and preparation instructions contained in the CDRL clause entitled ‘General Requirements for Data Items’.

When the Contract has specified delivery of another data item that contains aspects of the required information, the TDP shall summarise these aspects and refer to the other data item.

The data item shall include a traceability matrix that defines how each specific content requirement, as contained in this DID, is addressed by sections within the data item.

* 1. Specific Content
     1. General

The TDP shall describe the objectives, scope, constraints, and assumptions associated with the Contractor’s Technical Data activities. Any risks associated with these activities shall be documented in the Risk Register; however, the TDP shall describe the risk management strategies associated with any global risks relating to Technical Data.

* + 1. Technical Data Organisation

The TDP shall describe the Contractor's organisational arrangements for meeting the Technical Data requirements of the Contract, including:

identification of the Contractor’s Technical Data manager, who will have managerial responsibility for meeting the Technical Data requirements of the Contract;

the Contractor’s and Approved Subcontractors’ organisations with a primary responsibility for managing Technical Data, showing how these arrangements integrate into the higher-level management structures and organisations;

the interrelationships and lines of authority between all parties involved in the Contractor’s Technical Data activities; and

the Contractor’s and Approved Subcontractors’ management positions with significant responsibilities for Technical Data activities.

* + 1. Overview of Technical Data and Related Activities

The TDP shall provide an overview of the Contractor’s program for meeting the Technical Data requirements of the Contract, including:

the major activities to be undertaken, when, and by whom;

the integration of Subcontractors into the Contractor’s Technical Data activities;

the personnel (including categories, expected numbers (by category) and associated skills/competencies) required by the Contractor and Subcontractors to meet the Technical Data requirements of the Contract, including the proposed sources for obtaining those personnel;

the interfaces between the Technical Data activities and the Systems Engineering (SE) and Integrated Logistics Support (ILS) programs, including the mechanisms for ensuring that the Technical Data activities and outcomes are consistent with the developmental outcomes and support concepts for both the Mission System and the Support System;

the interfaces between the Technical Data activities and the Configuration Management (CM) program;

if not addressed in other data items delivered to the Commonwealth, the Contractor’s strategy and methodology for electronic data interchange, if required, including the use of a Data Management System (DMS);

if escrow is a requirement under the Contract, the identification of the proposed escrow agent, categories of Technical Data to be placed in escrow, and an outline plan for maintaining the currency of the Technical Data stored in escrow for the duration of the Escrow Agreement; and

any training related to Technical Data that the Contractor’s and Subcontractors’ staff need to undertake, including details of any proposed Training courses.

If not addressed in other data items delivered to the Commonwealth, the TDP shall identify the issues, methodologies and processes for controlling and enabling access to Technical Data that is subject to restrictions, such as restrictions from Intellectual Property rights, security, Export Approvals, Technical Assistance Agreements, escrow arrangements, or other.

The TDP shall describe the Contractor’s expectations of the Commonwealth with respect to the management of Technical Data including, if applicable, the interfaces and interactions with Commonwealth organisations external to the project office.

* + 1. Technical Data Requirements Analysis

The TDP shall describe the Contractor’s strategy, methodology, and processes to be utilised to undertake a Technical Data requirements analysis, including:

the system for categorising Technical Data based on its intended purpose (eg, Maintenance manual, specification, drawing, presentation for a system review, etc), origin, management approach, and any other criteria defined by the Contractor;

determining the appropriateness of using existing Technical Data to enable the Materiel System to be operated and supported through life, considering Defence’s requirements for the configuration, roles and environments that are applicable to the Materiel System;

undertaking cost-benefit analyses, if required, to determine the applicable Technical Data standards and specifications to be used;

optimising the ‘packaging’ of scope and content for publications to:

minimise the number of publications required to be accessed by users to perform specific tasks;

minimise the duplication of content between publications, and ensuring consistency if duplication cannot be avoided; and

where publications will be applied to different configurations of the Mission System(s) and Support System Components, clearly identifying the relevance of configuration-specific content to the specific configurations;

identifying and optimising the range and quantity of Technical Data required to be delivered under the Contract, including:

existing Technical Data that is expected to be suitable without modification;

existing Technical Data that is expected to require conversion into a different format;

existing Technical Data that is expected to require modified content; and

proposed new Technical Data.

* + 1. Technical Data Development – General

The TDP shall describe:

the Contractor’s program of activities for managing the Technical Data program;

the Contractor’s program of activities for the identification, design, development, and delivery of Technical Data (appropriately cross-referenced to activities in the Contract Master Schedule (CMS) and in any subordinate schedules);

the Software tools to be applied to the generation and interpretation (authoring and viewing) of Technical Data;

the procedures, by category of Technical Data, for the receipt, review, Configuration Control, amendment, production and delivery of all Technical Data and associated supporting hardware and Software for the Support System (eg, to host IETPs, drawings / design data sets, or the Configuration Management System);

the procedures for the management and control of:

the MTDI, including the Support System Technical Data List (SSTDL);

the DAL, if a DAL is required under the Contract; and

related elements of the TDSR Schedule (with reference to the PMP);

the procedures for validating the MTDI, including the individual data items derived from the MTDI;

the strategy, methodology and processes to meet the Technical Data related regulatory / assurance requirements of the Contract, and any required organisational accreditations and / or certifications;

Note: Terms ‘validate’ and ‘verify’ in the following subclause are as used in DEF(AUST)5629C and DEF(AUST)IPS-5630, and do not apply to other sections of the Contract.

the Contractor’s overall strategy, methodology and processes to validate Technical Data, including an indicative schedule and standards to be used; and

the Contractor’s strategy and methodology for assisting the Commonwealth to verify Technical Data.

* + 1. Technical Data Development – Standards and Specifications

The TDP shall describe:

the standards, by Technical Data category, for the preparation of Technical Data (refer clauses 6.2.6.2 and 6.2.6.3 of this DID);

the strategy, methodology and processes to validate that each data type complies with the relevant Technical Data standard;

the strategy, methodology and processes for the Contractor to convert any Technical Data that currently exists in formats that do not comply with the standards and specifications identified at Annex A to formats that do comply;

Note: ‘Business Rules’ in the following clause has the meaning given in DEF(AUST)IPS-5630.

for Technical Data that is produced as Common Source Database (CSDB) Objects in accordance with DEF(AUST)IPS-5630 and S1000D™, the methodology and processes to validate that the structure and the set of eXtensible Markup Language (XML) accords with the required Business Rules;

for Technical Data that is produced in accordance with DEF(AUST)5629C, the methodology and processes to validate that the structure and set of the Standard Generalised Markup Language (SGML) tagging accords to the Document Type Definition (DTD) (Army/Navy/RAAF versions) detailed in DEF(AUST)5629C; and

the methodology to validate that data file formats comply with the applicable standards used for data exchange and the methodology to validate the data file interpreters (eg, viewing tools) where they are provided as part of the Contract deliverables, including:

the processes and timeframes for conducting compliance testing; and

details pertaining to whether the Contractor proposes to conduct the testing using an internationally recognised testing authority, a central body, or an agency sub-contracted by the central body.

For each of the Technical Data categories identified under clause 6.2.4.1a, the TDP shall identify the Technical Data standards and specifications to be applied, using the following descriptors:

***Primary Compliant Formats*** – digital formats that are compatible with the Commonwealth’s policies and business practices;

***Alternative Compliant Formats*** – digital formats that are not current Commonwealth policy or business policy, but may be considered on a case-by-case basis, depending upon the data type, Life Cycle Cost (LCC) considerations, intended management strategy, and application of the data;

***Acceptable Non-Compliant Formats*** – digital formats that may be considered by the Commonwealth, depending on the data type, LCC considerations, intended management strategy, and application of the data; and

***Formats that are not Suitable*** – proprietary digital formats that shall not be considered for delivery, except where the application is in current use in the Commonwealth and the cost-benefit analysis justifies delivery in these formats.

In applying the descriptors identified in the preceding clause, the TDP shall take into consideration that the Commonwealth currently utilises the Technical Data standards and specifications identified at Annex A to this DID.

* + 1. Technical Data Development – Publications

The TDP shall describe:

the strategy, methodology, processes, and standards associated with the identification, development and delivery of publications;

the strategy, methodology and processes for validating the publications for readability, technical accuracy and grammatical correctness;

the Contractor’s internal review and approval processes and procedures for publications prior to release to the Commonwealth, including in‑process reviews, controls, and schedules;

the methodology for handling routine and priority changes and supplements;

the strategy and methodology for assessing the suitability of existing Commonwealth publications, if applicable; and

the procedures to identify the amendments required to existing publications and the management of amendment incorporation.

* + 1. Technical Data Development – S1000D Technical Data

If S1000D Technical Data is applicable to the Contract, the TDP shall describe:

the Contractor’s strategy, methodology, and processes for the development of S1000D Technical Data, in accordance with the Business Rules defined in accordance with clause 6.2.8.2;

the Contractor’s program of activities associated with the design, development, and delivery of S1000D Technical Data (including cross-references to related activities in the CMS and in any subordinate schedules);

the functionality of the S1000D Technical Data IETPs to be produced;

the linkages with any Computer-Based Training required under the Contract;

the Contractor’s strategy, methodology, processes, and program of activities for undertaking verification and validation of S1000D Technical Data (cross-referenced to the applicable V&V program plans);

the Contractor’s proposed support strategy for the S1000D Technical Data, including the role and scope of the Commonwealth in the provision of in-service support and the proposed data exchange arrangements, the frequency of delivery for regular updates, and the approach to be implemented for urgent releases; and

the methods of data exchange and transfer under the Contract, including data transfer points, in accordance with DEF(AUST)IPS-5630 or as otherwise agreed by the Commonwealth.

The TDP shall include (as an annex) a Business Rules Index, based on Annex B to DEF(AUST)IPS-5630, which includes:

the (common) Defence Business Rules specified in DEF(AUST)IPS‑5630;

any additional or modified Business Rules specified at Annex A to the SOW or in the ADF Service Publication standard(s) identified in the SOW; and

Note: Commonwealth agreement to the Contractor-proposed BRDP will be provided through Approval of the TDP.

the Business Rules Decision Points (BRDP) proposed by the Contractor for those BRDP designated in Annex B to DEF(AUST)IPS-5630 as “Contractor to propose, Commonwealth to agree”.

* + 1. Technical Data Development – Engineering Drawings

Note: ‘Engineering drawings’ refers to engineering design data for hardware products of the Materiel System, including technical drawings and data sets (eg, three-dimensional modelling and computer-aided design data).

The TDP shall describe:

the methodology and processes to analyse the requirements for engineering drawings, including the applicable levels and categories of drawings, required:

to support Contract activities, including Mandated System Reviews; and

to enable the sustainment of the Materiel System;

the strategy, methodology, processes, and standards associated with the development and delivery of engineering drawings, including the Contractor’s proposed tailoring and implementation of DEF(AUST)CMTD-5085C;

the indexing method employed by the Contractor to manage and control the suite of engineering drawings;

the strategy for validating the engineering drawings for technical accuracy;

the Contractor’s internal review and approval processes and procedures for engineering drawings prior to release to the Commonwealth, including in‑process reviews, controls, and schedules; and

the methodology for handling routine and priority changes to engineering drawings.

CURRENT COMMONWEALTH TECHNICAL DATA STANDARDS AND SPECIFICATIONS

Note to drafters: Amend the following list to ensure that the standards align with current Defence policy and the requirements of the project, including any requirement to update legacy Technical Data.

1. Technical Publications
   1. Primary Delivery Compliant Format:
      1. for Interactive Electronic Technical Publications (IETPs), the publications accord with S1000D™ and DEF(AUST)IPS-5630), and any Contract-specific requirements for S1000D™ deliverables; and
      2. for page-based publications (including class 1 and 2 electronic technical manuals), the publications accord with either:
         1. S1000D™ and DEF(AUST)IPS-5630 (including for legacy publications produced in accordance with previous versions of S1000D (ie, prior to Issue 5.0)); or
         2. DEF(AUST)5629C.
   2. Primary Data-Source Compliant Format – Processable / Dynamic Documents:
      1. Text - XML applying the applicable schemas as per DEF(AUST)IPS-5630; and
      2. Graphics - vector and raster formats as detailed in S1000D™ (eg, Computer Graphics Metafile (CGM) for vector graphics and TIFF, PNG, JPEG for raster formats).
   3. Alternative Data-Source Compliant Format:
      1. Text - XML applying schemas Approved for use by the Commonwealth;
      2. Graphics - vector and raster formats as detailed in S1000D™ (eg, CGM for vector graphics and TIFF, PNG, JPEG for raster formats); and
      3. Composed Document - documents provided, which require no amendments throughout the life cycle of the equipment, may be delivered in Portable Document Format (PDF) in accordance with ISO 32000-1:2008.
   4. Acceptable Data-Source Non-Compliant Format:
      1. a neutral data file (platform independent file format) containing as a minimum hyperlink referencing between the table of contents and the applicable text. Preference is for PDF in accordance with ISO 32000-1:2008; and
      2. native digital format in use by the Commonwealth (eg, Word 2010 ‘.docx’ or later).
2. Engineering Drawings
   1. Primary Data-Source Compliant Format:
      1. DEF(AUST)CMTD-5085C; and
      2. ISO 10303.
   2. Acceptable Data-Source Non-Compliant Format:
      1. AutoCAD native drawing format (DWG) in accordance with versions used by the Commonwealth or as agreed by the Commonwealth Representative. Drawings must be a direct output from the authoring system, and not the result of a translation process. All information necessary to open and manipulate the data files, including libraries, fonts, logical name definitions, and other supporting files shall be delivered with the drawing files; and
      2. Autodesk Drawing Exchange Format (DXF) in accordance with versions used by the Commonwealth or as agreed by the Commonwealth Representative.