DATA ITEM DESCRIPTION

1. DID NUMBER: DID-ENG-MGT-IRMTP-V5.3
2. TITLE: Integrated Reliability, Maintainability And Testability Plan
3. DESCRIPTION and intended use

The Integrated Reliability, Maintainability and Testability Plan (IRMTP) describes the Contractor's plans, methodologies and processes for meeting the Integrated Reliability, Maintainability and Testability (IRMT) engineering program requirements of the Contract.

The Contractor uses the IRMTP to:

define, manage and monitor the IRMT engineering program;

ensure that those parties performing IRMT engineering program activities understand their responsibilities, the processes to be used, and the time-frames involved; and

ensure that those parties providing data for the IRMT engineering program understand their respective responsibilities, the data to be provided, and the time-frames for providing that data.

The Commonwealth uses the IRMTP to:

understand and evaluate the Contractor’s IRMT engineering program; and

understand the Commonwealth’s involvement in the Contractor’s IRMT engineering program, including the monitoring of the Contractor’s IRMT engineering program.

1. INTER-RELATIONSHIPS

The IRMTP shall be the single planning and controlling document for all IRMT engineering program activities, and shall have authority over, and give direction to, any subordinate IRMT engineering sub-program plans.

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

Systems Engineering Management Plan (SEMP); and

Integrated Support Plan (ISP).

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

Logistic Support Analysis Record (LSAR);

System Review Plan (SRP);

Software Management Plan (SWMP);

Software Support Plan (SWSP); and

Contract Master Schedule (CMS).

1. Applicable Documents

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

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| 1. Nil. |  |

1. Preparation Instructions
   1. Generic Format and Content

The 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 IRMTP 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. IRMTP Introduction

The IRMTP shall describe the objectives, scope, constraints, and assumptions associated with the Contractor’s IRMT engineering program. Any risks associated with the Contractor’s IRMT engineering program shall be documented in the Risk Register; however, the IRMTP shall describe the risk-management strategies associated with any global risks relating to the IRMT engineering program.

* + 1. IRMT Engineering Program Organisation

The IRMTP shall describe the Contractor’s IRMT engineering program organisation, including:

the organisational structure (including Approved Subcontractors), showing how organisational and managerial arrangements integrate into the higher-level management structures and organisations;

the interrelationships and lines of authority between all parties involved in the IRMT engineering program; and

the responsibilities of all parties involved, and the identification of the individuals within the Contractor’s organisation who will have managerial responsibility and accountability for the IRMT requirements of the Contract.

* + 1. IRMT Engineering Program Activities, Processes, Products and Standards
       1. Activities and Processes

The IRMTP shall:

identify and outline the activities to be conducted as part of the IRMT engineering program for each level of the Mission System design, including any specific analysis techniques to be employed;

relate the identified IRMT engineering program activities to the specified IRMT engineering program outcomes in the Statement of Work (SOW);

identify, for each activity, the internal Contractor procedures to be used to conduct the identified activities or, where no internal Contractor procedures exist, how this procedural deficiency will be overcome; and

identify, for each activity, the positions within the organisation assigned to perform that activity, and provide an outline of the role of each position in the activity.

* + - 1. Standards

The IRMTP shall identify the standards to be utilised by the Contractor, and Subcontractors, to undertake the IRMT engineering program, including standards pertaining to hardware and software.

The IRMTP shall describe (within annexes to the IRMTP for each standard), the Contractor’s tailoring of the identified standards to meet the IRMT-related requirements of the Contract for both hardware and software, including:

the tasks or processes from each standard to be undertaken, including the rationale for either including or excluding a task or process;

the expected outcomes from each task and/or process to be undertaken;

how the expected outcomes relate to the requirements of the Contract and the Contractor’s proposed solutions for the Mission System(s) and Support System;

how the outcomes will be documented/captured;

the data required by the IRMT program from other programs (eg, SE program) to enable the outcomes to be achieved;

the tools to be utilised to undertake the tasks or processes; and

the expected role of the Commonwealth in reviewing the outcomes.

* + - 1. Trade Studies

The IRMTP shall identify:

the trade studies to be conducted as part of the IRMT engineering program,

how the information resulting from trade studies will be utilised, and

where the information resulting from trade studies will be recorded.

* + - 1. Design and Analysis Products

The IRMTP shall identify and describe each of the design and analysis products to be generated from each identified IRMT engineering program activity.

* + - 1. Software Reliability, Maintainability and Testability

The IRMTP shall provide a detailed description of how the Contractor will address Reliability, Maintainability and Testability (RMT) for software.

* + - 1. IRMT Engineering Program Modelling and Simulation Tools

The IRMTP shall describe the RMT modelling and simulation tools to be used by the Contractor (and Subcontractors) to meet the requirements of the RMT program, including:

the relationship between the RMT modelling and simulation tools and the corresponding RMT program activities being supported by the tool;

the interfaces and any data sharing arrangements between each of the RMT modelling and simulation tool and all other tools to be used within the Contract (including other RMT modelling and simulation tools);

the methods for assuring interoperability between the Contractor’s RMT modelling and simulation tools and those utilised by Subcontractors and the Commonwealth; and

for each RMT modelling and simulation tool:

the assumptions underlying the algorithms used,

the constraints of the tool,

the information required to use the tool,

the sources of the information to be used as input to the tool,

how the level of confidence associated with any information required for running the tool will be taken into account, and

how the level of confidence associated with the output from the tool will be assessed.

* + 1. IRMT Engineering Program Data Management
       1. Data Sharing

The IRMTP shall describe the data management system to be used to document, disseminate and share data between the organisations within the IRMT engineering program and between the IRMT organisations and other organisational elements.

* + - 1. Logistic Support Analysis Record

If the Contract requires preparation of a LSAR, the IRMTP shall describe the information generated from the IRMT engineering program to be included in the LSAR.

If the Contract requires preparation of a LSAR, the IRMTP shall identify the positions of personnel responsible for preparing and maintaining the LSAR and the procedures for compiling and maintaining the LSAR with RMT information.

* + - 1. Provision of Data from External Sources

The IRMTP shall outline the information that the Contractor needs to obtain from external organisations (eg, Subcontractors, the Commonwealth and Associated Parties) to conduct the IRMT engineering program.

The IRMTP shall identify if arrangements exist for obtaining information from external sources or the arrangements need to be established to obtain that information.

* + 1. System Reviews

The IRMTP shall describe how IRMT engineering program outputs are integrated into System Reviews, cross-referring to the SRP where appropriate.

The IRMTP shall outline the procedures for conducting formal and informal reviews of IRMT engineering program outputs.

* + 1. IRMT Engineering Program Schedule

The IRMTP shall include a summary IRMT engineering program schedule as an annex to the IRMTP. The full program schedule shall be included within the CMS.

* + 1. IRMT Engineering Program Interfaces

The IRMTP shall describe the IRMT engineering program analysis and data interfaces with all other programs being conducted as part of the Contract effort.

The IRMTP shall describe how RMT-related design requirements are disseminated to designers and associated personnel in other programs.

* + 1. IRMT Engineering Program Subcontractor Control and Management

The IRMTP shall identify all Subcontractors to be involved in the IRMT engineering program and any applicable existing agreements, such as licensing and partnering arrangements, and advise of any new relationships likely to be formed.

The IRMTP shall identify the type and scope of work to be performed by each Subcontractor involved in the IRMT engineering program.

The IRMTP shall describe the method for allocating IRMT engineering program requirements to Subcontractors and for validating outputs received from Subcontractors.

* + 1. IRMT Engineering Program Commonwealth Interfaces

The IRMTP shall describe the Commonwealth inputs for the IRMT engineering program (eg, meetings, Government Furnished Material, technical assistance, site surveys, etc) and when that input is required. The IRMTP should cross-refer to the appropriate sections in the Contract relating to those Commonwealth inputs.

The IRMTP shall identify interfaces between the Contractor and the Commonwealth IRMT organisations. Specific information shall be provided on the position(s) authorised and responsible for communication between the Contractor and the Commonwealth. The position(s) shall be identified in the organisation structure.