DATA ITEM DESCRIPTION

1. DID NUMBER: DID-ENG-SW-SWMP-V5.3
2. TITLE: SOFTWARE MANAGEMENT PLAN
3. DESCRIPTION AND INTENDED USE

The Software Management Plan (SWMP) documents the Contractor’s plans for the management and development of Software. The SWMP describes the application of the relevant processes described in AS/NZS ISO/IEC/IEEE 12207:2019, *Systems and Software Engineering - Software life cycle processes*, as the Contractor intends to apply them to the activities of the Contract.

The Contractor uses the SWMP to:

document the approach, plans, and procedures for managing Software-related activities under the Contract; and

monitor the progress of Software-related activities.

For Contractors acquiring and/or supplying Software under the Contract, the SWMP is expected to describe the approach, plans and procedures to be applied to the management of the Software being acquired and/or supplied. This would typically include the monitoring and review of Subcontractors developing Software, the Configuration Management of acquired Software, and the integration and Verification of this Software with other elements being supplied under the Contract.

For Contractors developing Software, this plan is expected to include the approach, plans and procedures for Software development, in addition to those applied to the acquisition and/or supply.

The Commonwealth uses the SWMP to gain insight into the approach, plans and procedures to be employed by the Contractor in the execution of Software-related activities.

1. INTER-RELATIONSHIPS

The SWMP is subordinate to the Systems Engineering Management Plan (SEMP).

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

Software List (SWLIST);

Contract Master Schedule (CMS); and

Software Support Plan (SWSP).

The SWMP inter-relates with the Technical Data and Software Rights (TDSR) Schedule.

1. APPLICABLE DOCUMENTS

The following document forms a part of this DID to the extent specified herein:

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| 1. DI-IPSC-81427B | 1. Software Development Plan Data Item Description |
| 1. AS/NZS ISO/IEC/IEE 12207:2019 | 1. Systems and Software Engineering - Software life cycle processes |

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 data item 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 SWMP shall comply with the content requirements of DI-IPSC-81427B, with the exceptions contained in Table 1 below.

The SWMP shall, when addressing the content requirements of DI-IPSC-81427B, define Software life cycle processes and Software specific processes that are consistent with AS/NZS ISO/IEC/IEEE 12207:2019, and tailored to the scope of the Contract.

Table 1 – Tailoring to be applied to DI-IPSC-81427B

| Affected Paragraph | Tailoring to be Applied |
| --- | --- |
| 1. All | 1. Replace all occurrences of ‘Software development plan’ with ‘Software Management Plan’. |
| 1. All | 1. Replace all occurrences of ‘SDP’ with ‘SWMP’. |
| 1. All | 1. Delete all occurrences of ‘It shall cover all contractual clauses concerning this topic.’ |
| 1. 3.6a Software development process | 1. Replace with: This paragraph shall describe the selected Software development life cycle(s) for each component or group of related components together with the rationale for their use within the context of the Contract. The description should justify and link the selected life cycle models to Contract risks, major milestones, work products, deliverables and development phases to demonstrate its appropriateness. |
| 1. 3.7c1 Incorporating reusable Software products | 1. Add: Implications for supporting the Software shall be specifically addressed for each item affected and include an assessment of vendor viability, level of support available, alternate sources of support, ownership of Intellectual Property licensing arrangements (including costs and, by reference to the TDSR Schedule, restrictions), dependencies such as operating system and/or hardware compatibility and constraints. |
| 1. 3.7d1 Safety Assurance | 1. Add: It shall describe the integration of Software safety as part of the system safety program. It shall include the tailoring and use of selected Software assurance standards and guidelines and associated data deliverables. |
| 1. 3.7e (shown as a 2nd d1 in the DI-IPSC-81427B) Assurance of other critical requirements | 1. Add: It shall describe any mission critical Software and the steps either taken or planned to ensure failure of this Software will not compromise the system’s mission. |
| 1. 3.7f Computer hardware resource utilisation | 1. Add: It shall describe the interpretation of any resource utilisation requirements and how the satisfaction of these requirements are to be verified. |
| 1. 3.7h Access for acquirer review | 1. Replace with: This paragraph shall describe the approach to be followed for providing the Commonwealth Representative with access to Contractor and Subcontractor facilities for review of work products, activities and data including engineering and measurement data. Access should include at least physical access to facilities and preferably include electronic access to data (eg measurement data) and work products (eg, design information). |
| 1. 3.8b1 Software engineering environment | 1. Add: It shall include details of the Software engineering environment including computing resources (number, type, configuration, etc.), and the associated performance requirements of the environment (eg, required compile and link times). This paragraph shall address the certification implications of the environment. |
| 1. 3.8b2 Software test environment | 1. Add: It shall include details of the Software test environment including computing resources (number, type, configuration), special test equipment and the associated performance requirements of the environment (eg, simulator fidelity, instrumentation, recording, etc.). This paragraph shall address the certification implications of the environment. |
| 1. 3.8b5 Non-deliverable Software | 1. Add: It shall identify any non-deliverable Software and describe how this Software will be treated differently from deliverable Software. It shall address specifically the application and tailoring of the standards identified for Software development to non-deliverable Software. This paragraph shall address the certification implications and use of non-deliverable Software. |
| 1. 3.8d1 System-wide design decisions | 1. Replace with: This paragraph shall include details of how system design decisions affecting or affected by Software are to be made and recorded. It should address how such decisions and the rationale for making them will be preserved and applied during through life support of the system. |
| 1. 3.8e Software requirements analysis | 1. Add: It shall describe how Software requirements will be identified and allocated to Software components, how Software requirements will be reviewed to ensure a common understanding with relevant stakeholders and how Software requirements will be managed and controlled. |
| 1. 3.8f1 CSCI-wide design decisions | 1. Add: It shall detail the criteria used to define and select CSCIs, including the rationale for each of the selection criteria. It shall include design decisions regarding the partitioning of the Software and the consideration given to enhancement and modification during through life support of the Software. |
| 1. 3.8o7 Transition to the designated support site | 1. Add: This paragraph shall detail the management strategy and plans for the transition of the Software development capability to the support agency and address any special considerations (eg, preservation of safety certification). It shall identify all items that have any limited or restricted warranty, data rights or licensing agreements, including any other limitation on the delivery or support of the item (by reference to the TDSR Schedule, where applicable). It shall describe all provisions, which ensure the Commonwealth’s rights concerning the delivered Software and associated data, and describe the plans for transferring any required licenses, warranties and data rights to the Commonwealth or its nominated representatives. It shall identify and describe those items of the development Software engineering environment that will be transitioned into the Software support environment including those items used for integration and test of the Software and any special test equipment. Where a Transition Plan, covering transition planning for Software as indicated above, is separately available to the Commonwealth Representative, this section may reference that source. |
| 1. 3.8.u1 Risk management | 1. Add: This paragraph shall detail the techniques used for identifying Software related risks and mitigation strategies. Where this information is available to the Commonwealth Representative in the Risk Register or equivalent then this section should provide a reference to the information. |
| 1. 3.8u2 Software management indicators | 1. Add: This paragraph shall detail the use of measurement as a management tool. It should identify how the Contractor intends using measurement to manage the development and acquisition of Software for the Contract. Where this information is available to the Commonwealth Representative elsewhere this section should reference the relevant information and provide a summary of the measures used for Software management. |
| 1. 3.8u.4 Subcontractor management | 1. Add: This paragraph shall detail the Contractor’s plans for managing the Software engineering activities performed by Subcontractors. It shall identify and describe the scope of the Software activities to be undertaken by the Contractor and each of its Subcontractors performing Software engineering activities. It shall describe the Contractor’s plans for review and approval of Subcontractor plan and processes. It shall describe the Contractor’s plans for monitoring the progress of Subcontractor activities and how significant deviations from Subcontractor plans will be identified and addressed. |
| 1. 3.8u6 Coordination with associate developers | 1. Add: This paragraph shall describe the plans for coordination of Software engineering efforts with associated developers. Such coordination may include interface definition and control, the use of integrated product teams, as well as the support to be provided during integration and verification activities. |
| 1. 3.8u7 Improvement of project processes | 1. Add: This paragraph shall provide details of the Contractor’s and associated organisations Software engineering process improvement activities specific to this Contract. Where this information is available to the Commonwealth Representative in a Process Improvement Plan or equivalent then this section should provide a reference to the information. |
| 1. 3.7u9 Software rights management | 1. Add new requirement 3.7u9 Software rights management: This paragraph shall document the approach, plans and procedures for managing Software rights (including Intellectual Property rights) for the Software acquired, supplied or developed under the Contract. This paragraph shall cross-reference the Technical Data and Software Rights Schedule for details of rights and limitations. |
| 1. 3.8v Schedules and activity network | 1. Add: This paragraph shall present and describe a stand-alone summary of the Software schedule and include a clear mapping of the life cycle development phases and major milestones. This paragraph shall include the rationale for the durations given in the schedule and include the basis of estimate, estimating assumptions, and the selection of coordination points and linkages to the Contract Master Schedule. |