DATA ITEM DESCRIPTION

1. DID NUMBER: -V5.3
2. TITLE: SUPPORT SYSTEM DESCRIPTION
3. DESCRIPTION and intended use

The Support System Description (SSDESC) describes the Contractor’s design for the Support System, including each of the Support System Constituent Capabilities (SSCCs), to meet the requirements of the Support System Functional Baseline (SSFBL). The SSDESC is not a substitute for the detailed support plans required by a support contract, but should provide the basis from which these plans would be developed.

The Contractor uses the SSDESC to:

describe the design of the Support System, including the SSCCs;

demonstrate how the Support System will achieve the requirements of the SSFBL and, where applicable, the support-related Australian Industry Activities (AIAs) (including Defence-Required Australian Industrial Capabilities (DRAICs)) set out in Attachment F;

describe the organisations to be involved in the provision of support, including their roles and the scope of work that they will undertake;

record the evolving design of the Support System commensurate with the maturity of the design of the Mission System(s);

assist to demonstrate that the combined solution for the Mission System(s) and Support System will result in a minimised Life Cycle Cost (LCC);

identify and define the requirements for Support Resources, including any major developmental or critical Support System Components; and

provide the basis for the design, development, production and provisioning requirements, as applicable, for the required Support Resources and Training.

The Commonwealth uses the SSDESC to:

understand and evaluate the Contractor’s design for the Support System;

gain a detailed understanding of the Commonwealth’s role in the delivery of support services under the implemented Support System;

understand the Commonwealth’s role in the implementation of the Support System;

assist with the identification of risks that require Commonwealth action; and

inform the development or update of the Contract (Support), as applicable.

1. INTER-RELATIONSHIPS

The SSDESC is subordinate to the Support System Specification (SSSPEC).

The SSDESC is developed in accordance with the Approved Integrated Support Plan (ISP).

The SSDESC inter-relates with all of the Integrated Logistic Support (ILS) data items that define the detailed support requirements, including the following data items, where these data items are required under the Contract:

Task Analysis Report (TAR);

Performance Needs Analysis Report (PNAR);

Logistic Support Analysis Record (LSAR);

Level Of Repair Analysis Report (LORAR);

Facilities Requirements Analysis Report (FRAR);

Support System Technical Data List (SSTDL);

Australia and New Zealand (ANZ) Subcontractor Technical Data List (ASTDL);

recommended provisioning lists for Support Resources (eg, Spares, Packaging, Support and Test Equipment (S&TE), and Training Equipment);

Personnel Resource Requirements List (PRRL);

Software Support Plan (SWSP);

In-Service Security Management Plan (ISSMP); and

Disposal Plan.

The SSDESC inter-relates with the Australian Industry Capability (AIC) Plan, the DRAIC Plan (DRAICP), and the LCC Report and Model (LCCRM), where these data items are required under the Contract. The SSDESC also inter-relates with any support-related AIAs identified in Attachment F.

1. Applicable Documents

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

|  |  |
| --- | --- |
| 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’.

Where the Contract has been awarded with a linked or associated Contract (Support), the SSDESC shall include the scope of work of the Contract (Support) in the description of the Contractor’s design for the Support System.

Where the Contract has not been awarded with a linked or associated Contract (Support), the SSDESC shall identify requirements, including those for support services and related outcomes, to be provided by support contractors to enable support of the Materiel System at a minimised LCC.

The SSDESC shall include detailed design descriptions for each SSCC in annexes, with the body of the SSDESC summarising and cross-referencing those annexes.

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. Mission System and Support System Overview

The SSDESC shall provide an overview of the designs for the Mission System(s) and Support System, highlighting the major elements of each system that will require support.

Where a Mission System is a distributed system or a system that will be deployed, the SSDESC shall highlight each element of the system that will be, or could be, located away from fixed support venues.

* + 1. System-wide Design Decisions

The SSDESC shall explain the system-wide design decisions, including:

Note: Users of the Support System are both external and internal. Mission System operators and operational commanders can be considered as external users, while almost all other users are internal.

decisions about the behavioural design of the Support System (ie, how it will behave from a user’s point of view in meeting the requirements defined in the SSFBL);

decisions that affect the design of the SSCCs; and

decisions that affect the design or selection of Support Resources and Training.

In explaining the system-wide design decisions the SSDESC shall highlight:

if all such decisions are explicit in the specified requirements or are deferred to the design of the Support System Components;

how the key system functionality will be met;

those design decisions that are dependent upon specific states or modes (as defined in the SSSPEC / SSFBL);

the key design drivers;

any assumptions underpinning the design decisions;

any constraints or limitations, including design and implementation constraints defined in the SSFBL;

how the design addresses the support-related AIAs identified in Attachment F;

how the design minimises LCC, with appropriate cross-references to the LCCRM;

how the design addresses any Stock Items with critical and extended turn-around-times and order-response times / long lead-times;

how the design addresses ongoing security concerns, such as those arising out of cyber security and Cyberworthiness;

the life cycles of Support System Components and Mission System components that are shorter than the Life-of-Type (LOT) of the Mission System (ie, due to Obsolescence), and the Contractor’s assessment of replacement schedules; and

how the Support System design will change (if applicable) over the LOT of the Mission System, particularly focussing on any in‑country elements of support.

* + 1. System Architectural Design
       1. Support Locations

The SSDESC shall describe the sites from which support will be provided, including:

an overview of the support services that will be provided at each site;

a description of the organisational entities that will be located at each site, including a brief overview of their responsibilities at each site;

a brief description as to whether the support capability required at each site currently exists or requires development, modification and/or expansion; and

a brief description of the extent of the development or modification for those sites where development or modification is required.

The SSDESC shall describe those elements of the Mission System that provide Support System functionality (eg, storage and maintenance facilities on a ship, or a maintenance-management system integrated into a combat system). If this information is provided in other data items (eg, in the Mission System design documents), the SSDESC shall include a summary of the function and associated design details, and cross-reference these other documents.

* + - 1. Support Services Management

The SSDESC shall describe the proposed organisational relationships and the division of responsibilities between organisations that will provide support services, specifically identifying:

the envisaged roles and responsibilities of the Commonwealth;

the roles and responsibilities of the Original Equipment Manufacturers (OEMs) for the Mission Systems, major subsystems, and significant Support System Components;

the roles and responsibilities of the Contractor and support contractors including, where applicable, the Contractor (Support) and Subcontractors (Support);

the integration of any applicable DRAICs into the organisational arrangements;

constraints on the allocation of roles and responsibilities including any caused by limits to Technical Data and Software rights, foreign government export controls, or the sustainability of workforce expertise in bespoke skills; and

the organisational arrangements needed to integrate the SSCCs to enable the provision of the required support services.

* + - 1. Support Resources

The SSDESC shall identify any Support Resources that are affected by, or needed in order to meet, special requirements (eg, unique physical conditions) associated with the Support System, including:

deployability;

environmental conditions (including natural conditions and radiological, biological and chemically harsh environmental conditions, if applicable);

transportability;

safety (eg, from hazards present in specific deployed environments);

environmental (protection) considerations;

useability and human factors;

security and privacy, including in relation to physical security, Emanation Security (EMSEC), Information and Communications Technology (ICT) security and cyber security); and

adaptation for variations in role and/or changes to the support environment.

The SSDESC shall describe how the Support System will address the special requirements, including those listed in clause 6.2.3.3.1, through the selection and/or design of the Support Resources that are identified in response to clause 6.2.3.3.1.

If not otherwise identified in response to clause 6.2.3.3.1, the SSDESC shall identify the significant Support System Components, including those items that:

interface to a Mission System;

are high cost (ie, greater than A$200,000 per item);

form part of a DRAIC;

are items of S&TE and Training Equipment critical to the Support System meeting its performance objectives;

will be, or are likely to be, strategically significant to the Commonwealth (eg, for Sovereignty reasons and/or to ensure LOT support); and

are only available from a limited number of suppliers due to their specialist nature.

Where the significant Support System Components already exist in the Commonwealth inventory, the SSDESC shall identify those components and, if the components have been mandated by the Commonwealth, the SSDESC shall highlight whether or not the components represent a significant constraint on the design of the Support System.

The SSDESC shall describe and quantify the energy resource(s) (eg, fuel and electrical power) needed to sustain Mission System operations and, where applicable, items of S&TE and Training Equipment with significant energy demands, including:

the ‘business as usual’ demand and peak demands for the different missions, states, modes and scenarios described in the OCD;

any expected changes to the source and/or delivery method applicable to different missions, states, modes and scenarios; and

any assumptions or specific actions needed to ensure energy efficiency.

* + 1. Concept of Execution

The SSDESC shall describe the concept of execution for the Support System, demonstrating how the Contractor’s design will enable the required support services to be provided. The SSDESC shall include diagrams (eg, flow charts, data flow diagrams and enhanced functional flow block diagrams) and descriptions that show the dynamic relationships and processes to integrate the SSCCs to enable the provision of the required support services (with appropriate cross-references to the more detailed descriptions in the annexes).

Where either a Mission System or the Support System is required to operate in differing states or modes, the concept of execution shall include a description that shows how the design for the Support System will meet the unique requirements associated with the different states and modes, including any requirements associated with transitioning between the different states and modes. The concept of execution should primarily address those states and modes that are major drivers of the Support System design or LCC (or both), including (for example):

peacetime operations versus contingency operations;

normal operations versus training operations; and

significant failure modes (eg, failure of a node in a distributed system).

If the deployed operation of the Mission System(s) requires part of the Support System to be located ‘in-theatre’, or near the area of operations, then the SSDESC shall describe the expected scope of that deployed support (also known as the ‘logistics footprint’) based on the applicable scenarios in the OCD, including the following:

the numbers and skill categories of Personnel, including Defence and support contractor Personnel (as applicable);

the approximate volume (eg, length, height and width) and weight of Spares, S&TE, ordnance, Packaging and other items of the Materiel System to be:

deployed to and recovered from the area of operations; and

transferred to / from the area of operations on a periodic basis (eg, monthly);

Facilities;

information management systems;

any equipment or procedures that are specific to deployed support; and

applicable transport modes for significant Support Resources.

* + 1. Support System Performance

Where the Contract specifies performance requirements for Mission System availability (eg, for a Mission System, from a fleet of Mission Systems, or for nodes in a network), sustainment, response times (eg, for standby systems) or any other system-level performance measure, the SSDESC shall:

document how the Support System will provide the necessary capability and capacity to meet those performance requirements;

include cross-references to one or more annexes, as appropriate, that set out the associated analysis, performance parameters, calculations and/or modelling; and

identify any dependency on redundancies within the Mission System and the Support System, necessary to achieve the stated performance measures,

If the Contract specifies performance requirements (eg, availability) for a significant Support System Component or a support function, the SSDESC shall document the analysis, calculations and/or modelling needed to demonstrate that the Supportability of the applicable Support System Component’s design and the Support System solution have the capability and capacity to meet those requirements.

Where a performance measure identified in response to clause 6.2.5.1 or 6.2.5.2 inter-relates to a Key Performance Indicator (KPI) in a Contract (Support), the SSDESC shall document how the Contract (Support), as part of the Support System, can provide a level of service that will achieve the KPI (with annexes and cross-references, as appropriate, to the associated analysis, calculations and/or modelling).

The SSDESC shall describe how the Support System is designed to enable changes in capacity and capability to address major changes in the demand for support.

* + 1. System Interface Design

The SSDESC shall describe the interfaces associated with the Support System design, including, as applicable:

interfaces between the Mission System and the Support System;

command, control, and communications interfaces, including those interfaces both within and between the Commonwealth and support contractors, including the Contractor (Support) and Subcontractors (Support);

maintenance pipeline and supply-chain interfaces, including those interfaces between the Commonwealth and support contractors, including the Contractor (Support) and Subcontractors (Support);

organisational, process, and information-system interfaces between SSCCs; and

data and information flows between the Commonwealth and support contractors, including the Contractor (Support) and Subcontractors (Support).

* 1. Requirements Traceability

The SSDESC shall provide the following traceability:

from each SSCC to the Support System requirements allocated to it;

from each significant Support System Component identified in clause 6.2.3.3.1 to the Support System requirements allocated to it;

from each Support System requirement to the SSCCs to which it is allocated; and

from each Support System requirement to the significant Support System Components identified in clause 6.2.3.3.1.

* 1. Annexes
     1. General

The SSDESC shall include separate Annexes to describe the Contractor’s design for each of the SSCCs.

* + 1. Operating Support

The SSDESC shall describe the design of the Support System to enable the Mission System to be operated in its intended roles and environments over the LOT at a minimised LCC, including, where applicable:

the provision of Operating Support services by Defence and, where applicable, support contractors including the Contractor (Support) and Subcontractors (Support);

the identification of any applicable DRAICs or other support-related AIAs, and how these integrate into the design of this SSCC;

the required Support System Components to enable the Mission System to be operated, including the identification of any Support System Components that need to be developed or modified (eg, Facilities, Technical Data and operational support equipment, including personal protective equipment);

the use of Commonwealth-provided equipment, Facilities, and services in the provision of Operating Support services; and

the provision of consumables, such as power / fuel and munitions, that are required for the operation of the Mission System.

* + 1. Engineering Support

The SSDESC shall describe the design of the Support System to enable the required engineering and design-management services (including Software support services) to be provided over the LOT at a minimised LCC, including, where applicable:

the identification of each organisation that will be involved in the provision of engineering and design-management services, including:

the nature of the services to be provided by each organisation; and

any limitations on the services provided by these organisations, including any caused by limits on design authority, Technical Data and Software rights, expertise, workforce sustainability and the envisaged scope of work;

the identification of any applicable DRAICs or other support-related AIAs, and how these integrate into the design of this SSCC;

how the applicable in‑service regulatory / assurance requirements will be met, including in relation to ICT security and cyber security;

how Configuration Management will be performed;

how Software support will be undertaken, including a description of the Software support environment and Software engineering environment, including Software development environment and Software test environment;

how Technical Data management will be undertaken including the standards, practices and technologies to be used that embody an integrated, open-system approach to the creation, management, exchange and use of Technical Data;

the key Support System Components for each organisation to enable engineering and design-management services to be provided, including the identification of any Support System Components that need to be developed or modified (eg, Facilities and S&TE);

the use of Logistic Information Management Systems (LIMS) by the organisations involved in the provision of engineering and design-management services, including the exchange of data between these systems;

the use of Commonwealth-provided equipment, Facilities, and services in the provision of engineering and design-management services; and

the Personnel numbers and the key competencies required by each of the organisations to enable engineering and design-management services to be provided.

* + 1. Maintenance Support

The SSDESC shall describe the design of the Support System to enable the required Maintenance services to be provided over the LOT at a minimised LCC, including, where applicable:

the identification of each organisation that will be involved in the provision of Maintenance services, including:

the nature of the services to be provided by each organisation; and

any limitations on the services provided by these organisations, including any caused by limits on authority, Technical Data and Software rights, expertise, workforce sustainability and the envisaged scope of work;

the identification of any applicable DRAICs or other support-related AIAs, and how these integrate into the design of this SSCC;

how applicable in‑service regulatory / assurance requirements will be met, including in relation to ICT security and cyber security;

how health and usage monitoring data will be collected, analysed, and used;

the key Support System Components for each organisation to enable Maintenance services to be provided, including the identification of any Support System Components that need to be developed or modified (eg, Facilities and S&TE);

the use of LIMS by the organisations involved in the provision of Maintenance services, including the exchange of data between these systems;

the use of Commonwealth-provided equipment, Facilities, and services in the provision of Maintenance services; and

the personnel numbers and the key competencies required by each of the organisations to enable Maintenance services to be provided.

Where the Mission System(s) will be subject to programmed Maintenance cycles (eg, a fleet availability plan, annual works plan, or similar), the SSDESC shall:

include an outline schedule of sufficient duration to illustrate a full Maintenance cycle of the Materiel System, when in a mature state; and

describe the main parameters and assumptions underpinning the schedule, such as maintaining Mission System availability and phasing work to enable resource levelling.

* + 1. Supply Support

The SSDESC shall describe the design of the Support System to enable the required supply services to be provided over the LOT at a minimised LCC, including, where applicable:

the identification of each organisation that will be involved in the provision of supply services, including:

the nature of the services to be provided by each organisation; and

any limitations on the services provided by these organisations, including any caused by limits on authority, Technical Data and Software rights, expertise, workforce sustainability and the envisaged scope of work;

the identification of any applicable DRAICs or other support-related AIAs, and how these integrate into the design of this SSCC;

how any applicable in‑service regulatory / assurance requirements will be met, including in relation to ICT security and cyber security;

the identification of any special requirements for packaging, handling, storage and transportation, including how these requirements will be met;

the key Support System Components for each organisation to enable supply services to be provided, including the identification of any Support System Components that need to be developed or modified (eg, Facilities and S&TE);

the use of LIMS by the organisations involved in the provision of supply services, including the exchange of data between these systems;

the use of Commonwealth-provided equipment, Facilities, and services in the provision of supply services; and

the Personnel numbers and the key competencies required by each of the organisations to enable supply services to be provided.

The SSDESC shall include a description of the supply chain, including (as applicable):

the nodes in the supply chain, including Defence units, the Contractor (Support), Subcontractors (Support), other Defence contractors and OEMs;

the relevant roles and capacity of each node, including any special requirements (eg, climate controlled storage or Hazardous Chemicals stored in bulk quantities);

the applicable transport and distribution modes between various nodes and any special handling and transport requirements (eg, dangerous cargo);

the identification of critical and extended turn-around-times and order-response times / long lead-times;

how the supply chain changes for the different states, modes and operational scenarios identified in the OCD and/or SSSPEC; and

how considerations around supply chain security have been addressed and how the Support System will operate to continually monitor and manage supply chain security.

* + 1. Training Support

The SSDESC shall describe the design of the Support System to enable the required Training services to be provided over the LOT at a minimised LCC, including, where applicable:

the identification of each organisation that will be involved in the provision of Training services, including:

the nature of the services to be provided by each organisation; and

any limitations on the services provided by these organisations, including any caused by limits on authority, Technical Data and Software rights, expertise, workforce sustainability and the envisaged scope of work;

the identification of any applicable DRAICs or other support-related AIAs, and how these integrate into the design of this SSCC;

the key Support System Components for each organisation to enable Training services to be provided, including the identification of any Support System Components that need to be developed or modified (eg, Facilities, S&TE and Training Equipment);

the use of LIMS by the organisations involved in the provision of Training services, including the exchange of data between these systems;

the use of Commonwealth-provided equipment, Facilities, or services in the provision of Training services; and

the Personnel numbers and the key competencies required by each of the organisations to enable Training services to be provided.

The SSDESC shall document how the design of the Support System will provide the Training capacity (ie, student throughput) sufficient to operate and sustain the Materiel System (with cross-references to one or more annexes, where appropriate, that set out the associated analysis, calculations and/or modelling).