GUIDANCE PAGES TO BE DELETED WHEN PUBLISHED

ASDEFCON (SUPPORT)

SECTION 1: GUIDANCE FOR DSD-eng-serv

(ROUTINE ENGINEERING SERVICES)

Status: Core (for all contracts including Engineering Support)

Purpose: To identify requirements for a range of Services that establish a framework for Engineering Support, including investigations, analysis of change requests, developing Major Changes, the development of Technical Instructions, undertaking a system safety program[[1]](#footnote-1), and conducting supportability analysis and Life Cycle Costing Analysis (LCCA) for the enhancement of the Materiel System.

Policy: Refer to Applicable Documents at clause 5 of this DSD.

Guidance: This DSD covers some of the primary roles of Engineering Support and becomes the head or lead DSD for any other Engineering Support DSDs included in the Contract, such as DSD-ENG-CM for Configuration Management, DSD-ENG-SW for Software Support Services, DSD-ENG-SEC for System Security Services, and DSD-ENG-CSC from the Contractor Standing Capability (CSC) Module[[2]](#footnote-2). Different activities within this DSD are also linked: for example, initial engineering investigations under this DSD may lead to further analyses of supportability, including reliability, availability and maintainability analysis and LCCA; configuration changes; Software or hardware modifications under Engineering Change Proposals (ECPs); or more substantial upgrades requiring a mid-life update or other Major Change programs.

DSD-ENG-SERV addresses engineering investigations, including investigations into parts substitution to find either more economical sources of supply or viable solutions to overcome Obsolescence. Investigations of Defects address problems that cannot be dealt with through normal Maintenance Services. The types of engineering investigations are to be tailored to Contract requirements.

This DSD is also used to manage upgrades, improvements, and other changes in functionality and configuration. The more significant enhancements and Software development programs need to be managed through the ECP process, defined in this DSD and Approved work plans and, for Software, the integration of Software change processes defined under DSD-ENG-SW. Mid-life upgrades and similar major modifications (which are major capital equipment programs) can be managed as acquisitions under the umbrella of the Contract; for example, by using the *ASDEFCON (Complex Materiel) Volume 2* SOW templates to define the work scope. This is a significant undertaking and advice should be sought to integrate the change program under the conditions of the Contract (Support).

Deciding on payment methods for Engineering Services can be challenging due to the unpredictability of future engineering requirements, configuration changes, and other unscheduled work. Engineering Services may be undertaken as S&Q Services or as Recurring Services if the nature of work and level of effort is predictable. An alternative is to use a CSC to perform activities identified as S&Q Services (refer to the optional CSC Module for more information). Drafters will need to carefully consider the approach taken when drafting Attachment B and allocating work to Recurring Services, S&Q Services, and Task-Priced Services. Additionally, if payment for Recurring Services is used to cover a range of small, discrete tasks and to sustain expertise, the Commonwealth Representative will need to monitor the on-going and effective utilisation of Contractor personnel to ensure that value for money is being achieved.

Related Clauses/Documents:

Refer to guidance for individual clauses

Optional Clauses: None

# 5 Applicable Documents

Status: Core

Purpose: To identify the authoritative documents applicable to the Engineering Services.

Policy: TBD

Guidance: Drafters are to list the applicable documents for the provision of Engineering Services. The documents here need only be identified by their number and title, such as the ADF regulatory / assurance framework documents that will also be listed in draft SOW clause 5.4. Drafters should not include references to Defence policy under this clause (unless the policy explicitly states its application by contractors) because these are open to interpretation within a contract and their applicability is often limited to Defence personnel.

Drafters should note that the references identified in this clause are only applicable to the extent specified in the DSD. Clause 6.2.1.1 pulls these applicable documents into the DSD, which may need to be tailored to identify the portion of the applicable documents that are relevant to the Engineering Services.

Related Clauses/Documents:

Draft SOW clause 5.4, Engineering Organisation and System Compliance

Optional Clauses: None

# 6.1.1 Scope

Status: Core

Purpose: To identify the scope of Engineering Services to be provided under this DSD.

Policy: TBD

Guidance: Clause 6.1.1.1 defines the scope of Engineering Services required under this DSD by summarising the range of Products for which Engineering Services are to be provided. This clause refers to SOW Annex A, where the individual Products are listed and annotated where the Contractor has engineering responsibility for them. Accordingly, drafters need to develop Annex A with an appropriate list of Products and annotations, and then amend the list under clause 6.1.1.1, if necessary.

Related Clauses/Documents:

Draft SOW clause 2.1, Scope of Work

Draft SOW clause 5.4, Engineering Organisation and System Compliance

SOW Annex A, Products Being Supported

All other clauses in DSD-ENG-SERV

All other Engineering DSDs

DID-ENG-CEMP and DID-SSM-SSMP

Optional Clauses: None

# 6.2.1 Engineering Management, Administration and Reporting

Status: Core

Purpose: To identify the basic engineering management, administration, and reporting requirements for the Contract.

Policy: TBD

Guidance: Drafters should, as the first step in tailoring this clause, insert references to the relevant publications / orders / instructions describing the detailed administrative processes that must be followed for Engineering Services to be performed.

This clause may list the applicable sections from ADF regulatory / assurance framework documents identified under clause 5, plus any additional SPO engineering manuals or procedures that will be directly applicable to the Engineering Services. This list should not include a detailed list of technical manuals for the Products Being Supported because these are referenced by clause 6.2.1.1b and listed elsewhere in the SOW (including Annexes A and D).

Drafters should also consider, from the list of documents, those that will need to be provided as GFI or GFD and listed in Attachment E.

Related Clauses/Documents:

Attachment E, GFM and GFS

Clause 5, Applicable Documents

Draft SOW clause 5.4, Engineering Organisation and System Compliance

SOW Annex A, Products Being Supported

SOW Annex D, List of Referenced Manuals

DID-ENG-CEMP, DID-SSM-SSMP, DID-SSM-CWBS, DID-SSM-CSSR and DID‑SSM-SSMS

Optional Clauses: None

# 6.2.2 Engineering Information System

Status: Optional

Purpose: To identify the requirement for an in-service engineering information system and, in particular, whether on-line access to a Defence engineering information system will be provided.

Policy: TBD

Guidance: An engineering information system is an optional requirement that may not be necessary for contracts supporting simple equipment, contracts not operating under an ADF regulatory / assurance framework, or when engineering advice is only sought to supplement Commonwealth engineering decision making. This clause should be used when there is a need to manage a number of engineering delegations / authorisations and to record key decisions arising from engineering processes. If such a system is not required, the clauses under clause 6.2.2 should be deleted and replaced with a single ‘Not used’.

If required, drafters should select from the optional clauses listed under clause 6.2.2 for the type of engineering information system to be used. Option A should be selected when the Contractor will be provided on-line access to a Commonwealth-owned engineering information system, such as EMERALD or the applicable function of the Defence Enterprise Resource Planning (ERP) System. Option B should be chosen when the Contractor is to have their own engineering information system.

Option A would often be applicable where the Contractor is working on Commonwealth Premises or the Commonwealth will provide system access to the Contractor when operating from their own premises. If the applicable functions of the Defence ERP System are still to be delivered, and work will initially be undertaken using a legacy system, a note to tenderers is to be included to advise tenderers of the expected change. There are also two sub-options whereby the Contractor will be given exclusive access (Option A-1) or shared access (Option A-2). Shared access may occur where the facility is shared with Defence staff or another contractor. Details of the GFE and GFS to be provided need to be included in Attachment E, when applicable.

Drafters should note that training in Commonwealth-provided information systems is covered under clause 3.17 of the SOW, and additional clauses are not required here.

Smaller engineering contracts may not warrant the complexity of on-line access to a Commonwealth system. In these instances, the requirements for reporting of engineering information, if required, will need to be identified and an appropriate DID developed by the drafter, added to the CDRL, and referred to from Option B.

Note that it is possible for the Contractor to have both on-line access, while located at Commonwealth Premises, and to not have access at another location where Services are being performed. If this is expected when drafting the RFT, drafters will need to include and tailor both Options A and B to suit the situation.

Related Clauses/Documents:

Attachment E, GFE and GFS

Attachment O, Government Furnished Facilities License, as applicable

Draft SOW clause 3.14.4, Information Systems Security

Draft SOW clause 3.17, Training in Defence Information Systems

Draft SOW clause 9.2, Technical Data

Draft SOW clause 9.7, Computer Support

DID-ENG-CEMP and DID-SSM-SSMP

DSD-ENG-CM and DSD-ENG-SW

Optional Clauses: None

# 6.2.3 Engineering Investigations

Status: Core

Purpose: To identify the requirement for conducting engineering investigations into a range of issues / areas including Defects, parts substitution, changes in manufacturer Technical Data and maintenance procedures, and draft publication amendments.

Policy: TBD

Guidance: Conducting engineering investigations, either in their entirety or complementary to those undertaken by the Commonwealth or an Associated Party, is a core activity of Engineering Support.

For complex systems, engineering investigations may need to re-visit Failure Mode, Effects and Criticality Analysis (FMECA), Reliability Centred Maintenance (RCM) and/or the system safety engineering program conducted during the acquisition phase, or during previous in-service support activities. Access to Technical Data is essential, and in many cases must be available (either as GFI / GFD or direct from the OEM) for successful investigations.

While listing types of engineering investigations may be relatively straight forward, structuring the methods of payment may not be. Drafters should first note that clause 6.2.3 has been structured to divide the types of investigations into three groups: (a) those undertaken routinely, (b) those initiated by the Commonwealth, and (c) those initiated by a request from the Contractor. The first group are undertaken as Recurring Services (clause 6.2.3.1), while the latter two (in clauses 6.2.3.2 and 6.2.3.3) are undertaken as S&Q Services (and may be undertaken by a CSC if included in the Contract). Where it makes sense to do so, types of investigations can be moved from one group to another. For example “analyse fault-reporting and corrective-action data” could be changed to a Commonwealth initiated task by relocating it from the first group to the second group, which also changes it from a Recurring Service to an S&Q Service.

Drafters should consider whether payments for Recurring Services, differing types of Ad Hoc Service payments, a CSC, or a combination of methods will be best suited, and establish these in Annex D to Attachment A of the COT (for subsequent inclusion in Attachment B, Price and Payments). When only a small number of Products are supported by Engineering Services, S&Q Services may be more appropriate. If establishing an in-country Engineering Support capability for foreign sourced equipment, then a more predictable payment regime, such as a CSC or Recurring Service, may be essential to retain specific skills and expertise. This area of Engineering Support is hard to quantify, as predicting the work requirements and balancing an expectation of the work covered by warranties from the Acquisition Phase may prove difficult.

Related Clauses/Documents:

Draft SOW clause 11.4, Non-Conforming Services

Draft SOW clause 9.2, Technical Data

DSD-ENG-CM, Configuration Management Services

DSD-ENG-SEC, System Security Services

DSD-ENG-SW, Software Support Services

DSD-MNT-MGT, Maintenance Management Services

DSD-SUP-SERV, Routine Supply Services

DID-ENG-CEMP and DID-SSM-SSMP

DID-PM-MGT-AFD, Application for a Deviation

Optional Clauses: None

# 6.2.4 Analysis of Change Requests

Status: Optional

Purpose: To require the analysis of proposed engineering changes in order to determine if the change is feasible and if it is likely to be cost-effective.

Policy: TBD

Guidance: This clause sets out a range of considerations that should be taken into account when assessing whether or not a requested change is feasible, in terms of achieving the required outcomes and implementation, and the likely scope of effort and cost. Even when a change is fully developed by an OEM, there may be a need to conduct an analysis of the change to determine the implications of either accepting or not accepting it, any impact on interfacing systems, or to determine the likely costs of implementing it.

If the requirement to analyse change requests is not envisaged under the Contract, drafters should delete the clauses under the heading clause 6.2.4 and replace them with a single ‘Not used’.

If the analysis of change requests is anticipated, drafters should review the list of considerations under clause 6.2.4.2 and amend this list to incorporate any Product-specific or SPO-specific requirements.

Analysis of a change request should include considerations for supportability related engineering analyses and life-cycle cost / Total Cost of Ownership (TCO). This analysis may be conducted in conjunction with clause 6.2.9, while specific requirements may be included in the S&Q Order, when applicable.

In analysing a change request, the Contractor is required to provide a report on its findings. Depending upon the management arrangements for the Products Being Supported, the Commonwealth’s Configuration Change Board (CCB) would normally consider the results and, if appropriate, approve the preparation of the subsequent ECP. The CCB would also assign a priority to the ECP. Alternatively, the CCB may elect to not proceed with a change, alter the recommended approach to address the CCB’s priorities, or introduce an alternative method of resolution.

The last two clauses define the payment method applicable to the change request and related analyses. Under clause 6.2.4.4, the analysis of change requests will be undertaken as a S&Q Service when requested by the Commonwealth (typically for capability enhancements / upgrades and high cost changes), unless the change fits into a category covered by clause 6.2.4.5. Clause 6.2.4.5 identifies that it is the Contractor’s responsibility to include, within the Recurring Services Fee, the analysis of changes required to simply sustain the Products Being Supported.

Related Clauses/Documents:

Clause 6.2.8, Supportability and Engineering Analyses

Clause 6.2.9, Life Cycle Costing Analysis

Draft SOW clause 13.4, Cost Modelling

DSD-ENG-CM, Configuration Management Services

DSD-ENG-SW, for analysing Software change requests

DID-ENG-CEMP, which defines requirements for the CEMP

DID-ILS-SW-SWSP, for on-going Software support

DID-SSM-SSMP, for when engineering management is rolled up into the SSMP

DID-CM-MGT-ECP, which defines requirements for engineering change proposals and Software change proposals

Optional Clauses: None

# 6.2.5 Developmental Activities for Major Changes

Status: Optional

Purpose: To set out the minimum requirements for the development of ECPs for Major Changes, including requirements for applicable work plans.

Policy: TBD

Guidance: The clause sets out the minimum requirements that the Commonwealth Representative expects in the development of every Major Change. If Major Changes are not envisaged under the Contract or a separate DSD has been developed specifically for this activity, the subclauses should be deleted and replaced with a single ‘Not used’.

Clause 6.2.5 requires the Contractor to develop, deliver and update two standing / permanent management plans, a Systems Engineering Management Plan (SEMP) and an Integrated Support Plan (ISP), to govern all Mission System / primary Products and Support System Component change programs. Specific planning activities for each Major Change are then conducted under the umbrella of these two plans, and documented in specific work plans. The DIDs for these two plans, which are identified in the CDRL, are sourced from the *ASDEFCON (Complex Materiel) Volume 2* templates. Drafters should also be aware that other Contract plans, such as the In-Service Materiel Safety Plan (IMSP), have applicability to each Major Change.

When undertaken as an S&Q Service the Contractor’s work plans would also include the specific requirements identified under clause 3.3 of the SOW, ‘Quoting for S&Q Services’, which includes (among other things) a resource-loaded schedule, the required number of people, and the trades / skills of those personnel. The Commonwealth may also request specific management plans as part of its request for S&Q Services (eg, change-specific supplements to the SEMP and ISP). Drafters may add other standing plans (in addition to the SEMP and ISP) that are then tailored for individual changes, but care should be taken to avoid asking for standing plans that have limited use. Drafters need to consider whether it is more cost-effective to have standing plans that need to be subsequently tailored to the specific requirements of each change, or to only require these additional plans for each specific change that requires them.

Where the Contractor engages Subcontractors to work on a Major Change, clauses 6.2.5.3 and 6.2.5.4 require that Subcontractors follow the Approved management plans (SEMP and ISP) and Approved work plans, and that they develop consistent plans for their portion of the work. Noting that Subcontractors involved in design will generally be Approved Subcontractors, and listed in Attachment H, this flow-down of planning is an example of the broader requirements placed on Approved Subcontractors.

Clause 6.2.5.5 requires the Contractor to conduct the Major Change program, including V&V activities to support Acceptance. Clause 6.2.5.6 lists the subjects to be included in each Major Change work plan, which must be followed once Approved. The scope of the work plan covers a full design and development cycle. However, drafters should also modify the clause to address any Product-specific, SPO-specific or ADF regulatory / assurance framework-specific requirements, although care should be taken not to dilute any of the Commonwealth Representative’s rights over the developmental program that are currently identified in this clause.

Major Change programs are conducted as either a Recurring Service, for those on-going changes needed to sustain the Products, or as S&Q Services, for more significant changes in terms of complexity and cost, and those undertaken to enhance Product functions and capabilities. Note that the cost of conducting Major Changes as a Recurring Service will be built into the Recurring Services Fee, and it may not be in the Commonwealth’s interests for this to include a high level of contingency to cover the possibility of future change programs of significant size.

Clause 6.2.5.5 cross-refers to clause 6.2.5.7, where clause 6.2.5.7 identifies the types of Major Changes that are to be performed as Recurring Services unless identified, in clause 6.2.5.8, as one of the exceptional cases that would be better conducted as S&Q Services. These areas of exception may include those that require significant involvement by the Commonwealth and/or Associated Parties (ie, for interfacing systems). Drafters need to review clauses 6.2.5.7 and 6.2.5.8 and further develop these clauses, as applicable.

Drafters should appreciate that, when enacted through an S&Q process, the Commonwealth’s requirements would be spelt out in its S&Q Services Request (part 1 of DID-SSM-S&Q), which in many cases will be supported by documents developed from work conducted under clause 6.2.4, Analysis of Change Requests. Alternatively, when a CSC is included in the Contract, the task could be performed under an Approved CSC Task Plan and require the use of CSC Additional Resources to address the full scope of a larger development task. The associated work plans for the Major Change would amend and/or supplement the specific requirements identified in this clause as well as any change-related requirements in other DSDs (eg, Software change through DSD-ENG-SW, Stock Assessment through DSD-SUP-SACC, and Training Materials update through DSD-TNG-TMS).

Drafters should review the CDRL Line Numbers for the ECP and related data items, and update requirements to be consistent with the type of potential design changes and SPO processes (eg, by default ECP delivery is ‘as required’ and Commonwealth Action by the end of the next CCB). DID-CM-MGT-ECP consists of a cover page that requires drafters to insert the SPO’s ECP template or form into the DID, prior to release of the RFT. DID-CM-MGT-ECP may include both ECPs and Software Change Proposals (SWCPs), as applicable to the Services.

Drafters should also note the default timing for delivery of the Design Certificate (eg, Certificate of Conformance) in the CDRL (refer to DID-ENG-SOL-DCERT, sourced from *ASDEFCON (Strategic Materiel)*). This timing may be modified through the Commonwealth Representative’s requests for S&Q Services (eg, to accommodate conditional or provisional Acceptance of a Mission System prior to full Acceptance under the Contract).

Related Clauses/Documents:

Clause 6.2.4, Analysis of Change Requests

Clause 6.2.10, Conduct of System Reviews

DSD-ENG-CM, Configuration Management Services

DSD-ENG-SEC, System Security Services

DSD-ENG-SW, Software Support Services

DSD-MNT-SERV, for the installation of Major Changes under modification orders, modification instructions or change orders, as applicable.

DSD-SUP-SACC, Stock Assessment Codification and Cataloguing

DSD-TNG-TMS, Training Materials Support Services

DID-ENG-IMSP, DID-ENG-CEMP and DID-SSM-SSMP

DID-CM-MGT-ECP, which specifies requirements for an ECP and SWCP

DID-ENG-SOL-DCERT, which specifies requirements for a Design Certificate

DID-ENG-MGT-SEMP-2 and DID-ILS-MGT-ISP-2 (sourced from *ASDEFCON (Complex Materiel) Volume 2*)

Optional Clauses: None

# 6.2.6 Technical Instruction Development

Status: Optional

Purpose: To require the development and preparation of draft Technical Instructions.

Policy: TBD

Guidance: Technical Instructions may have different names under the differing ADF regulatory / assurance frameworks. For example, Technical Instructions can embrace Special Technical Instructions (Aerospace environment), N4 Library Advice Notes (Maritime environment), and Electrical and Mechanical Engineering Instructions (Land environment).

These Services are optional and may not be necessary for contracts supporting simple equipment, for which Technical Instructions are unlikely to need to be developed, or if the Commonwealth has an internal or alternate source of expertise for this kind of development.

If the Technical Instructions are not developed by the Contractor but the Contractor is responsible for maintaining Configuration Control, then appropriate Contractor action will be undertaken through the CM requirements of DSD-ENG-CM.

Due to their undefined scope, the development of Technical Instructions will often need to be performed as S&Q Services or by a CSC team, unless closely managed as part of the Recurring Services to ensure efficient utilisation of the personnel involved.

Related Clauses/Documents:

Draft SOW clause 9.2, Technical Data

DID-ENG-CEMP, DID-ENG-CMP and DID-SSM-SSMP

DSD-ENG-CM, Configuration Management Services

Optional Clauses: None

# 6.2.7 System Safety Engineering

Status: Optional

Purpose: To identify the system-safety program requirements for the hardware and Software Products Being Supported.

Policy: *Work Health and Safety Regulations 2011 (Cth)*

MIL-STD-882E, *System Safety*

AAP 7001.054, *electronic* *Airworthiness Design Requirements Manual*

ANP 2200, *Navy Safety Management System*

ANP 3411-0101, *Naval Materiel Assurance Publication*

LMSM, *Land Materiel Safety Manual*

Guidance: If the Contractor will not have system-level responsibilities, or will not otherwise be responsible for an ongoing system-safety program, then the clauses under clause 6.2.7 may be replaced with a single ‘Not used’. Note that if this clause is not used the Contractor, through clause 3.6 of the SOW, is still required to cooperate and coordinate with, and provide safety-related information to, the Commonwealth or other Associated Party responsible for Materiel Safety.

Contractors are often not responsible for the management of Materiel Safety for every Product Being Supported (eg, S&TE provided as GFE). Clause 6.2.7.1 limits the system-safety activities to a subset of the Products covered by clause 6.1.1. Drafters will need to ensure that Annex A is also annotated accordingly.

**Plans.** Drafters may select Option A or Option B, from clauses 6.2.7.2 and 6.2.7.3, to identify the governing plan to be used for the ongoing system-safety program. Depending on program requirements, the management of Materiel Safety may be included within a stand-alone In-Service Materiel Safety Plan (IMSP) or rolled up into the CEMP. Drafters should review each DID and select the optional clause for the required plan.

Note that a SEMP, SWSP and an SWMP may also include details for Materiel Safety management that is specific to their scope. A dedicated system safety program plan for a Major Change (and subordinate to the SEMP) may also be requested as part of the ECP, through clause 6.2.5.

Clause 6.2.7.4 may be used to mandate or recommend particular safety standards to be tailored by the Contractor’s plans for the conduct of the system-safety program, such as:

1. MIL-STD-882E – *System Safety*;
2. SAE ARP4754 *– Certification Considerations for Highly Integrated or Complex Aircraft Systems; or*
3. DEF (AUST) 5679 *– Procurement of Computer-Based Safety Critical Systems.*

System certification requirements, for the applicable ADF regulatory / assurance framework, also provide direction and may be included in the subclause list.

Note that for work conducted in Australia, the Contractor must comply with the *Work Health and Safety Regulations 2011* (Cth), which effectively include system-safety through the legal obligation associated with the safety of Products. The *Work Health and Safety Act 2011* (Cth) is referenced through COC clause 12.4.

For aerospace contracts, the Defence Aviation Safety Regulations (DASR) provides direction for on-going airworthiness and certification requirements.

Consideration should be given to aligning the choice of general and Software specific safety standards with the Contractor's work practices. Software safety, including addressing the required integrity levels of Software, should be considered as part of an overall safety program. In the case of aircraft, the preferred Commonwealth standard is *RTCA/DO-178B (Software considerations in Airborne Systems and Equipment Certification)*. Assuring the required levels of Software integrity should be addressed in the SWSP and SWMP (for development).

Tenderers should also consider safety standards proposed in response to the Software support and system safety program requirements of TDR-F.

Clause 6.2.7.4 is used to list applicable documents for the management of Materiel Safety, including ADF regulatory / assurance framework documents. Application of these documents will be described in the Approved governing plan, and DID-ENG-IMSP requires the IMSP to refer to the documents listed in this clause.

**Program.** Clause 6.2.7.5 requires that Material Safety data be managed within the Contractor’s engineering information system, which in most cases will incorporate the CM database when CM Services are required under the Contract. Unless an alternative / bespoke system is required, this clause should not require amendment.

Clause 6.2.7.6 requires the Contractor coordinate the system-safety program activities with other activities under the Contract, such as design activities for Major Changes. Clause 6.2.7.7 identifies the activities of the on-going system-safety program. The subclause list may be tailored and expanded, as necessary.

**Safety Case Report / Materiel Safety Assessment.** Clauses 6.2.7.8 to 6.2.7.11 provide options for the development and provision of either a Safety Case Report (SCR) or a Materiel Safety Assessment (MSA). A safety case is a structured, comprehensive argument, supported by a body of evidence that demonstrates how safety risks have been identified, assessed, and eliminated or controlled for the life-cycle of the Materiel System. The evidence usually includes design, analysis and test data, hazard logs, and certification and compliance details – evidence which must be available to the Contractor if they are to prepare an SCR or MSA. This evidence is summarised and the Materiel Safety ‘argument’ is justified by the SCR. An MSA performs a similar function, but does not need to include details of the original system safety program that was undertaken during the development of the Products (and, therefore, may be prepared for off-the-shelf products where the history of the design program is not available).

An SCR may be prepared for complex Materiel Systems, whereas an MSA is more suited to less complex systems, equipment, or for subsystems installed onto larger systems (where the MSA adds information to the SCR for that larger system). An SCR may have already been prepared under a contract based on *ASDEFCON (Strategic Materiel)*, while an SCR or MSA may have been prepared under a contract based on *ASDEFCON (Complex Materiel) Volume 2*. In a support context, an SCR may be developed if the Contractor has system-level responsibilities, in which case Option A would be chosen (and Option B deleted). If an MSA would be more appropriate, because the Contract scope only applies to subsystems or other equipment, then Option B would be chosen (and Option A deleted).

An Authorised Engineering Organisation (AEO), Continuing Airworthiness Management Organisation (CAMO), or equivalent for a Materiel System, normally has responsibility for managing Materiel Safety in-service, but a Contractor (with related engineering responsibilities) may be tasked to provide the effort needed to develop the SCR or MSA (if one wasn’t provided by the acquisition project). Once prepared, or if one already existed, the SCR or MSA can be maintained as part of the Materiel Safety information in the applicable Configuration Baseline. If the Contractor is to maintain this CM information (including the SCR or MSA) drafters should ensure that the relevant Materiel Safety baseline is listed in DSD-ENG-CM.

If the SCR or MSA exists but DSD-ENG-CM is not included in the Contract, and/or the baseline is maintained by Defence (or an Associated Party), then Option A or Option B may still be retained and amended to “further develop, deliver and update” the SCR or MSA, as applicable, if the level of effort is expected to be significant (eg, major modification programs are anticipated within the Term). If work to update the SCR or MSA will not be significant, and all necessary updates are obtainable through the Major Change requirements, then both options may be deleted.

The optional clauses recognise that the initial development of an SCR or MSA is a large activity that generally requires discrete funding, and is therefore managed as an S&Q Service. Alternatively, if the Contract includes a CSC, this could be undertaken as a CSC Task.

System-safety engineering should be undertaken as part of the Recurring Services to ensure that there is an ongoing commitment to this program. Nevertheless, specific safety-related activities identified, such as preparing the SCR or MSA, may be better managed as S&Q Services.

Related Clauses/Documents:

COC clause 12.4, Work Health and Safety

Draft SOW clause 3.6, Co-ordination and Co-operation

Draft SOW clause 12.3, Work Health and Safety

DSD-ENG-CM may specify the Configuration Baseline(s) to be used to manage Materiel Safety.

DSD-ENG-SEC, System Security Services, for security risks related to safety-critical systems.

DID-ENG-IMSP, DID-ENG-CEMP, DID-SSM-SSMP and DID-ILS-SW-SWSP

DID-SSM-HSMP for a Health and Safety Management Plan, or DID-SSM-SSMP, include requirements for WHS management of work performed under the Contract.

DID-ENG-CEMP, DID-ENG-MGT-SEMP-2, DID-ILS-SW-SWSP and DID-ENG-SW-SWMP, which may include aspects of the systems-safety program related to ECPs.

DID-ENG-SOL-SCR, which specifies requirements for a Safety Case Report. This DID is sourced from the *ASDEFCON (Strategic Materiel)* templates.

DID-ENG-SOL-MSA, which specifies requirements for a Materiel Safety Assessment. This DID is sourced from the *ASDEFCON (Complex Materiel) Volume 2* templates.

Optional Clauses: None

# 6.2.8 Supportability and Engineering Analyses

Status: Optional

Purpose: To require the data collection needed to enable Supportability and engineering analyses and, optionally, to task the Contractor to undertake the Supportability and engineering analyses.

Policy: DEF(AUST) 5691, *Logistic Support Analysis*

DEF(AUST) 5692, *ADO Requirements for a Logistic Support Analysis Record*

MIL-STD-1390D, *Repair Level Analysis*

MIL-STD-1629, *Failure Mode Effects and Criticality Analysis*

MIL-STD-2173, *Reliability Centered Maintenance*

Guidance: This clause allows the Contractor to be tasked with the collection of data needed to support various Supportability and specialty engineering analyses; and / or to then be tasked to perform the analyses. The need for these Services and suitability for the Contractor to provide them will need to be considered carefully before including these clauses. Analysis tasks may include monitoring component Reliability and Maintainability characteristics, ongoing updates to the LSAR, re-assessing RCM for changes to servicing schedules, cost modelling (which requires input of Commonwealth costs), and other trade studies or trade-off analyses. If the Contractor is to maintain the Logistic Support Analysis Record (LSAR), perform maintenance analyses, or update the cost model for TCO (refer SOW clause 13.4), then the Contractor will either need to be responsible for all aspects of the Products Being Supported (eg, the whole Mission System) and / or have additional information provided to address Defence activities and their costs. Sometimes the SPO will need to receive the relevant data from the Contractor, and then perform these analyses itself.

If sufficient data cannot be collected by the SPO through standard engineering, maintenance, and supply reporting systems, and if not requested as Other Performance Measures (OPMs) in Attachment Q, then additional data will need to be collected and provided by the Contractor. If there is no need to collect additional data, then the first subclause may be deleted and CDRL Line Number ENG-200 should also be deleted. If additional data needs to be collected, drafters and / or SPO staff will need to define the data elements to be collected, and create a DID to request that data through CDRL Line Number ENG-200.

If drafters / SPO staff also require the Contractor to undertake applicable analyses using that data, then the optional clauses should be considered. If the SPO will undertake all of the applicable analyses, then neither option may be required.

If required, drafters will need to select whether analysis will be conducted as a Recurring Service or as an S&Q Service, or a combination of both. If a Recurring Service, drafters will need to prepare an annex defining the analysis requirements and applicable references. If an S&Q Service, these requirements will need to be prepared during the Term and managed under S&Q Orders. The applicable approach, including the possibility of using both options, will need to be selected. The ‘Supportability Trade Study Request’ annex of *ASDEFCON (Strategic Materiel)* may be of some use to drafters developing annexes to describe analysis requirements.

If neither data collection nor analyses are required, then all subclauses may be deleted and replaced with a single ‘Not used’.

Related Clauses/Documents:

Clause 6.2.9, Life Cycle Costing Analysis

Draft SOW 13.3, Identifying, Analysing and Implementing Efficiencies

Draft SOW clause 13.4, Cost Modelling

DSD-SUP-SERV, Support System Supportability Analysis clause

DSD-SUP-SACC, Stock Assessment clause

Optional Clauses: None

# 6.2.9 Life Cycle Costing Analysis

Status: Optional

Purpose: To identify the requirement to task the Contractor to undertake specific LCCA activities.

Policy: DEFLOGMAN Part 2, Volume 10, Chapter 16*, Life Cycle Costing Analysis*

Guidance: This optional clause allows the Commonwealth to task the Contractor to undertake LCCA in conjunction with other activities (eg, development of a Major Change or undertaking supportability analyses). Drafters should note that the Cost Modelling clause in the SOW (clause 13.4) requires the Contractor to maintain the baseline LCC/TCO model, and to prepare cost estimates when analysing Efficiencies.

The need for the Contractor to perform these tasks will need to be considered carefully. If the Contractor is to undertake LCCA, then the Contractor will need to be responsible for the whole Mission System or have additional data provided to it regarding Defence activities and costs. Sometimes a SPO will just need the relevant data collected by the Contractor, and then perform the analyses itself.

This clause contains an option to specify that the information to be provided to the Commonwealth (as a report or both a report and the LCC model data) be prepared in accordance with a DID and the CDRL. Drafters will need to develop the DID to define the report and if it is to include a copy of the LCC model data files. DID-PM-LCC-LCCRM, from *ASDEFCON (Strategic Materiel)*, may provide ideas but as there is a considerable difference between developing an LCC model during acquisition and maintaining one in-service, this DID is generally not suitable here. Drafters must also insert delivery details into the CDRL, as this LCCA is conducted to evaluate a particular change or modification the delivery of the data item would be event-based (ie, ‘as per the S&Q Order’). If this option for LCCA is not required, the optional clause should be deleted.

The standard clauses included in the template have been established so that LCCA activities are conducted as S&Q Services; however, if continuous work is expected (separate to SOW clause 13.4), then a Recurring Services or the use of a CSC should be considered in order to sustain expertise. Drafters will need to carefully consider the approach when developing the pricing schedules and allocating work between Recurring Services, Task-Priced Services and S&Q Services.

If LCCA is not required, the clauses may be replaced with a single ‘Not used’.

Related Clauses/Documents:

Clause 6.2.8, Supportability and Engineering Analyses

Draft SOW clause 13.4, Cost Modelling

Optional Clauses: None

# 6.2.10 Conduct of System Reviews

Status: Optional

Purpose: To provide the framework within which System Reviews, including Mandated System Reviews and Internal System Reviews, will be conducted.

Policy: DMH(ENG) 12-2-001, *Defence Materiel System Review Guide*

Guidance: This clause is optional but should be considered for all support contracts where significant developmental activities could occur. The clause is generally included or deleted based on the inclusion of clause 6.2.5, Developmental Activities for Major Changes, DSD-ENG-CM clause 6.2.7, Configuration Audits, and DSD-TNG-TMS clause 6.2.5, Mandated System Reviews for Training Development.

A System Review is defined as ‘an event at which the progress of the technical effort (including that of engineering and integrated logistics support) is assessed relative to its governing plans and technical and contractual requirements’.

A Mandated System Review means a System Review that is mandated by the Commonwealth – the individual reviews required for each Major Change are determined and Approved in the applicable work plans for that Major Change.

An Internal System Review means a System Review, other than a Mandated System Review, that the Contractor or Subcontractor conducts as part of the program of activities for the Contract.

Optional clauses are included for the Commonwealth to attend the Contractor’s Internal System Reviews and / or to receive copies of the outcomes (eg, Minutes including action items and decisions, the issues register and other documents). Drafters should include these optional clauses as required, noting that scoping an S&Q Services request, or approving a work plan, can remove these requirements from an individual development task when they are not required.

No payment framework is included with these clauses because they do not come into effect unless a System Review is required for a Major Change or through another DSD (eg, Functional and Physical Configuration Audits in DSD-ENG-CM or Training-development reviews in DSD-TNG-TMS). When these System Reviews are required to occur under the Contract, the associated payment provisions would be enacted along with the specific reviews.

Related Clauses/Documents:

Clause 6.2.5, Developmental Activities for Major Changes

DSD-ENG-CM, Configuration Management Services

DSD-ENG-SEC, System Security Services

DSD-ENG-SW, Software Support Services

DSD-TNG-TMS, Training Materials Support Services

DID-ENG-CEMP

DID-ENG-CMP

DID-PM-MEET-AGENDA and DID-PM-MEET-MINUTES

DID-ENG-MGT-SEMP-2 and DID-ILS-MGT-ISP-2 (from *ASDEFCON (Complex Materiel) Volume 2*)

Optional Clauses: None

# 6.2.11 Use of Commonwealth Engineering Support Facility

Status: Optional

Purpose: To require the Contractor to use a Commonwealth provided Engineering Support facility.

Policy: Nil

Guidance: For security or strategic reasons such as the ownership of Intellectual Property, knowledge retention for unique technologies, the ability to re-compete Services, or for development control over bespoke Software, the Contractor and Subcontractors may be required to use a Commonwealth Engineering Support facility when performing the Services. In different circumstances, this kind of facility may be called the ‘[…Mission System…] engineering facility’, ‘integrated hardware and Software development and test facility’, ‘Software support facility’, or by another name.

The Commonwealth’s Engineering Support facility(ies), may have been established under the Contract (Acquisition) or a preceding Contract (Support) that included significant hardware and/or Software design and development – this Contract does not include the establishment of such facility(ies).

If a Commonwealth Engineering Support facility is not applicable then clauses below the heading clause 6.2.11 may be replaced with a single ‘Not used’.

When a Commonwealth Engineering Support facility is to be used, clause 6.2.11 is to be further developed by the drafter and identify the specific facility(ies). The clauses refer to GFE, which must be identified in Attachment E, and GFF detailed at Attachment O. GFS may also be applicable to the facility(ies).

Considerations for the further development of this clause include:

1. further definition of the Services to be undertaken in the facility (eg, if used for all hardware and Software Products or only a subset thereof, and/or will it be used for all Engineering Services or only a subset such as integration testing and some Verification and Validation), and if Annex A to the SOW is tailored to group Software Products for different Services;
2. if there is more than one facility, how each facility is identified (clause 6.2.11.1) and the scope of Services in each (clause 6.2.11.2);
3. any constraints or conditions (not covered by the GFF Licence) associated with access to the facility (eg, use of access passes and the hours of operation);
4. requirements for Commonwealth access to the GFF when occupied by the Contractor (if not covered by the GFF Licence);
5. whether or not the Commonwealth wishes to embed staff within the facility for the purposes of training and technical mastery (ie, MRU);
6. whether the facility is to be shared with Commonwealth Personnel or other Associated Parties performing other tasks related to the Products; and
7. whether the Contractor will be responsible for updating the GFE (eg, update the development environment equipment to maintain configuration with the modified Products), consistent with the tailoring of SOW clause 9.3.

Drafters are to further develop this clause based on the above considerations and ensure that related parts of the Contract are updated accordingly.

Related Clauses/ Documents:

Attachment E, GFM and GFS

Attachment O, Government Furnished Facilities Licence

Draft SOW Clause 9, Support Resources

SOW Annex A, Products Being Supported

Optional Clauses: None

# 6.2.12 Research and Development

Status: Optional

Purpose: To require the Contractor to undertake or sponsor research and development (R&D) activities in relation to the Capability or Capabilities to which the Products Being Supported relate.

Policy: This R&D program is an extension of the Australian Industry Capability (AIC) program. Refer to the AIC policy references in respect of clause 10 of the SOW.

Guidance: R&D is an optional clause, implemented in order to promote and develop R&D capabilities within Australian Industry that will enable the enhancement and on-going capabilities of the Products Being Supported and the Capability or Capabilities to which these Products relate, while also contributing to the achievement of the AIC Objectives. Clause 6.2.12.1 provides a generic set of objectives for this requirement, which may need to be modified to address the specific R&D objectives for the Contract.

The clause has two separate aspects to it, namely:

1. those R&D activities that the Commonwealth wishes to pursue from the commencement of the Contract; and
2. a framework to promote and pursue R&D opportunities that may arise during the Term.

The R&D activities included in Contract scope are defined in Annex A to this DSD (to be developed by the drafter), which would include (for example):

1. the identification of the specific outcomes being sought;
2. any background information or parallel activities being undertaken by, for example, Defence Science and Technology Group (DSTG) that help set the scene and define the scope for the activity;
3. any planning or reporting requirements (eg, a standalone plan for the specific R&D activity);
4. requirements for the involvement of other parties, such as academia, DSTG, Commonwealth Scientific and Industrial Research Organisation (CSIRO), other Commonwealth agencies, and state governments;
5. any specific work requirements, such as for the development of prototypes or for trialling and testing on or with Defence systems;
6. (optionally) any off-ramps, so that it is clear, for example, the conditions under which the Commonwealth would no longer wish to pursue the R&D activity; and
7. any other matters to ensure that the nature and scope of the R&D activity is clear.

If there are R&D activities that the Capability Manager wishes to address from the commencement of the Contract, drafters need to develop separate annexes for each specific R&D activity so that these requirements can be included in the tendered price. These R&D activities would be undertaken as Recurring Services.

Drafters should also include specific requirements in the applicable annex to the COT to ensure that the nature and scope of each tenderer’s proposal against these requirements is clear, including any limitations or constraints (eg, arising out of Intellectual Property (IP) considerations).

Drafters should also include the optional clauses if the Capability Manager wishes to pursue R&D opportunities under the Contract, which could occur, for example, when there is a need to pursue some form of technology evolution program or Navy’s “evergreening” concepts. These R&D opportunities may be undertaken either through a CCP or as an S&Q Service (noting that S&Q Services can be performed by a CSC when that module is included in the draft Contract).

Implementation of R&D outcomes, when a potential design solution has been developed to a sufficient level of definition and maturity, is managed via existing DSD clauses for implementing engineering changes.

R&D activities are likely to have commercial sensitivities, and commercial advice should be sought when including these clauses, particularly in relation to IP rights and arrangements, possible Commonwealth TD and Commonwealth Software, licences to commercialise, and any requirements for third party agreements / deeds.

Related Clauses/ Documents:

Attachment F, Australian Industry Capability

Draft COC clause 5, Technical Data, Software and Contract Material

Draft SOW clauses 5.2 and 5.3, for reporting and reviews

Draft SOW clause 10, Australian Industry Capability

DID-ENG-CEMP

DID-SSM-AICP

DID-SSM-CSSR

Optional Clauses: None

**Reliability Program and Updates to Maintenance Requirements**

Status: Optional. Applicable to aircraft (Mission System level) support contracts where the Contractor will be required to perform on-going reliability and Maintenance analyses.

Purpose: To require the Contractor to conduct reliability and Maintenance Requirements Determination programs in order to support continuing airworthiness and to provide the information required for improvement of the Maintenance program.

Policy: DEFLOGMAN Part 2 Volume 10 Chapter 14, *Materiel Reliability, Availability and Maintainability Policy*

*ADO Reliability, Availability and Maintainability Manual* (RAMMAN)

Guidance: Optional clauses (below) have been drafted for contracts providing Mission System level support for an aircraft fleet. These clauses may be adapted to maritime vessels, land vehicles, and other systems where whole-of-system reliability and maintenance are to be analysed.

If required, the heading (above) and optional clauses (below) may be copied to the DSD and tailored (note: add the clauses to the end of the DSD to avoid cross-reference errors).

The optional clauses describe a four-part process, resulting in the update of the Aircraft Maintenance Programme, to improve the effectiveness (including Materiel Safety outcomes) and efficiency of Maintenance. All four steps may be included in the draft Contract or, after a particular point in the process, the work may transfer to the SPO (to Defence personnel or a specialist Commonwealth Service Provider). The four-part process includes the:

1. **Reliability Program**, to monitor and review the on-going reliability of the system, Defect investigations and system safety program inputs;
2. **Maintenance Requirements Determination** (MRD), to review and undertake Failure Mode Effects and Criticality Analysis (FMECA) when required, Reliability Centred Maintenance (RCM) analysis, and to report the findings;
3. **Analyse and Review the Maintenance Program**, using FMECA and RCM results and any inputs from the system safety program, to assess the effectiveness (and efficiency) of the current Maintenance program plan (eg, an Aircraft Maintenance Programme (AMP)), and to report the findings, including any proposed changes; and
4. **Update the** **Maintenance Program**, by drafting updates to the Maintenance program plan (eg, the AMP) for approval by the applicable authority (eg, the DASA), and implementing approved changes to the Maintenance program plan, the Maintenance Management System, and related Technical Data.

If these optional clauses are included, drafters should delete ‘Maintenance interval extension’ and ‘Maintenance Requirements Determination’ from clause 6.2.3.2, Engineering Investigations, or limit these to non-Mission System investigations, in order to avoid overlap with this clause.

The Mission System’s Maintenance program would have been defined as an outcome of the system development program and Logistic Support Analysis (LSA) activities. Due to the need to use comparative techniques to predict system and component reliability, and potential changes in use and environment once in-service, reliability factors and resulting Maintenance programs are revisited using in-service data. Most of this activity is focused on scheduled Maintenance, for safety and efficiency, with intervals determined using RCM. FMECA is also used to analyse more frequent defects and unanticipated failure modes, which can result in new Preventive Maintenance activities being scheduled in order to avoid failures with an adverse effect on safety, system availability, or high Corrective Maintenance costs. Once determined, improvements to the Maintenance program are incorporated through the system-level Maintenance plans, Maintenance Management Systems, and related Technical Data.

**Reliability Program**. Drafters are to insert references to a standard or regulatory / assurance document, as applicable. Drafters also need to insert the name of the Mission System / fleet and identify which subsystems are to be covered by the reliability program (eg, just airframes, all subsystems, or some of the engines, airframe structures, hydraulics, power and avionics systems, etc).

If the Mission System has a ‘health and usage monitoring system’ or other condition based monitoring system, then the clauses should be amended to include this system as a source of analysis data.

**Maintenance Requirements Determination.** Drafters are to insert the name of the Mission System / fleet, and references to a regulatory / assurance document, a SPO QMS or other procedure, and military / commercial standards, as applicable.

Different standards may have been applied to the FMECA and RCM analysis for the development of the system. For aircraft, a Maintenance Steering Group III (MSG3) logic is usually applied. The analysis of updates for Maintenance should follow the same or a compatible standard, noting that different standards (eg, for RCM) include specific logic / decision trees and there can be benefits in a consistent approach.

Drafters need to consider how the results of the analysis are to be provided to the Commonwealth. Option A or B (in the option boxes) may be selected depending on whether data entry directly into the Commonwealth’s LSAR or other systems is required, or if a separate report is to be prepared.

Option A requires the Contractor to update the LSAR, or similar system, with analysis results. This can usually be achieved with a compatible LSAR data transfer file or by providing the Contractor with access to a Defence system. The optional clause should be expanded to identify the method for providing the data. For example: ‘by providing a DEF(AUST)5692 compatible transfer file’ or ‘by data entry into the Commonwealth […INSERT NAME OF LSAR…] system’.

Option B requires a DID to be developed to define the contents and required delivery details for the analysis results (with a matching clause and CDRL entry). Note that requirements for an RCM report are included in Appendix I to DASR AMC M.A.302.

**Analyse and Review the Maintenance Program.** Drafters are to insert the name of the Mission System / fleet, and references to a regulatory / assurance document, a SPO QMS or other procedure, as applicable.

Drafters should also review, and amend if applicable, the reporting requirements at draft clause 1.1.3.2. Option A or B (in the option boxes) may be selected depending on whether a specific DID for the report will be developed by the drafter. If a DID is developed, a matching CDRL entry will be required.

**Update the Maintenance Program.** An update to the Maintenance program requires the approval of the applicable authority (eg, the Defence Aviation Safety Authority (DASA)). This clause may be included when the Contractor is to prepare and subsequently action changes to the Maintenance program planning documents.

Where the actions under this clause require access to a Commonwealth ICT system, the drafter needs to ensure that the required system is included under clause 6.2.2.

**Other considerations.** As an on-going program with a consistent level of effort, or when included with other Engineering Services, it is expected that the work required by the clauses can be included in the draft Contract as a Recurring Service. If the work is only expected to occur on an intermittent basis (eg, a review every few years) then these may need to be identified as S&Q Services (noting that S&Q Services can be performed by a CSC when that module is included in the draft Contract).

For this level of engineering analyses, a CEMP should be required by the draft Contract, rather than have engineering planning ‘rolled-up’ into the SSMP.

Related Clauses:

Clause 6.2.2, Engineering Information System

Clause 6.2.3, Engineering Investigations

DSD-MNT-MGT, Requirements for the management of Maintenance Services

Optional Clauses:

Note to drafters: Amend the following clauses to match the scope of activities to be allocated to the Contractor versus those performed by the SPO.

* + 1. Reliability Program

The Contractor shall conduct a reliability program in accordance with the Approved CEMP, meeting the requirements of […EG, SPO / CAMO PROCEDURE OR DASR M.A.302(f)…], for the […INSERT MISSION SYSTEM…], which includes the […INSERT APPLICABLE SUB-SYSTEMS…].

The Contractor shall conduct a reliability program for the […INSERT MISSION SYSTEM…] that:

collects and analyses reliability and maintainability data including; failure rates, Defect investigation results, structural fatigue and ageing systems data, use and monitoring systems data, unscheduled shut downs, unscheduled removals, no-fault-found rates, as applicable to the system being analysed;

analyses manufacturer bulletins, directives from regulators and other notices which may include updates to reliability data and/or Maintenance requirements;

integrates applicable results from the System Safety Engineering program under clause 6.2.7 and Engineering Investigations under clause 6.2.3; and

analyses the effects of proposed changes to the configuration, ROE and operating environment, as applicable.

* + 1. Maintenance Requirements Determination

The Contractor shall use outputs of the reliability program under clause 1.1.1.2 to inform the Maintenance Requirements Determination (MRD) program (including Failure Mode Effects and Criticality Analysis (FMECA) and Reliability Centred Maintenance (RCM) analyses), in order to analyse the Maintenance requirements for the […INSERT MISSION SYSTEM…] in accordance with:

[…INSERT REFERENCE TO APPLICABLE STANDARD (EG. FOR RCM)…]; and

[…INSERT SPO / CAMO PROCEDURE / INSTRUCTION...].

The Contractor shall report its findings from the MRD analyses program under clause 1.1.2.1 as part of the Engineering Services reporting required by SOW clause 5.2.

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| Option A: For when the Contractor is maintaining in-service reliability data in a Logistic Support Analysis Record (LSAR) or similar. Add to the clause if required to specify a data transfer standard or data entry method.  The Contractor shall update the […INSERT NAME FOR SYSTEM DATABASE / LSAR / OTHER…] with applicable results from the reliability program. |

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| Option B: Include and amend this clause if a DID will be developed to specify the contents of the required report.  The Contractor shall develop, deliver and update a […INSERT NAME, EG, ‘MRD Report’…] in accordance with CDRL Line Number ENG-[...INSERT NUMBER...]. |

* + 1. Analyse and Review the Maintenance Program

The Contractor shall use the results of the reliability program and MRD analyses to review the effectiveness and efficiency of the […INSERT MISSION SYSTEM…] Maintenance program in accordance with:

[…INSERT APPLICABLE REGULATION / ASSURANCE REFERENCE EG: DASR M.A.302(g)…]; and

[…INSERT SPO / CAMO PROCEDURE / INSTRUCTION...].

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| --- |
| Option A: Include this clause to define reporting requirements when a specific DID will not be developed. Amend the clause as necessary to capture the broad scope of the report.  The Contractor shall develop and deliver to the Commonwealth Representative, for Approval, a report on the review of the […INSERT MISSION SYSTEM…] MRD program analysis undertaken in accordance with clause 1.1.2, that includes:  a summary of the analysis and review activities undertaken;  details of any recommended changes to scheduled Maintenance activities and also for those Maintenance activities analysed where no change is recommended;  a risk assessment for each ‘change’ and ‘no change’ recommendation, as applicable, for the scheduled Maintenance activities analysed;  draft updates to the […INSERT MISSION SYSTEM…] Maintenance program for each recommended change; and  if applicable, draft updates for affected Maintenance manuals (eg, for new or changed inspection procedures). |

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| Option B: Include and amend this clause if a DID will be developed to specify the contents of the required report.  The Contractor shall develop, deliver and update a […INSERT NAME, EG, ‘Maintenance Program Review Report’…] in accordance with CDRL Line Number ENG-[...INSERT NUMBER...]. |

* + 1. Update the Maintenance Program

The Contractor shall, when requested by the Commonwealth Representative and using the results of the analysis required by clause 1.1.3, develop and deliver to the […CAM / CLEO / Other…] proposed updates to the […INSERT MISSION SYSTEM…] Maintenance program, for submission to the [...DASA / NMSwAA / DTR-A / other authority…].

When requested by the Commonwealth Representative, following approval by the [...DASA / NMSwAA / DTR-A / other authority…] of changes to the […INSERT MISSION SYSTEM…] Maintenance program, the Contractor shall, as applicable:

Note to drafters: Amend the following list of activities as applicable to the update requirements.

update the Electronic Planned Servicing Schedule within the […INSERT NAME OF MAINTENANANCE MANAGEMENT SYSTEM…];

update the […INSERT NAME OF SYSTEM DATABASE / LSAR / OTHER…];

update affected Maintenance manuals, in accordance with clause 9.2 of the SOW;

deliver proposed updates, for Approval, for changes to the schedule of planned Maintenance servicings required by clause 6.2.3 of DSD-MNT-MGT; and

prepare a CCP to address changes to the Contract that result from changes to the planned Maintenance servicings and any other Maintenance Services affected.

Detailed Service Description

1. DSD NUMBER: DSD-ENG-SERV-V5.2
2. TITLE: ROUTINE ENGINEERING SERVICES
3. DESCRIPTION AND INTENDED USE

This DSD identifies the routine Engineering Services required to be provided by the Contractor to support the Products identified at Annex A to the SOW.

Note to drafters: If Engineering Services are not subject to an ADF regulatory / assurance framework then the following clause may be deleted or amended. Otherwise, amend as appropriate for the ADF regulatory / assurance framework.

The requirements of this DSD, including as applicable to related DSDs, require an exact and well-ordered approach to the management and provision of all Engineering Services, which is intended to:

ensure the Materiel Safety of the Products Being Supported;

for Contractor responsibilities commensurate with the Engineering Services, demonstrate compliance with applicable legislative requirements and the [… INSERT ADF REGULATORY / ASSURANCE FRAMEWORK …];

contribute to the governance of the Mission System, by prioritising the achievement of life-of-type outcomes for safety and capability; and

ensure the integrity and accountability of engineering decision-making processes.

Note to drafters: Amend the following subclauses to align with the DSD’s scope of work.

This DSD is intended to be the head or lead DSD for Engineering Support, and is applicable where the Contractor is required to provide routine Engineering Services, such as:

engineering management, administration and reporting;

use of an engineering information system;

conducting engineering investigations;

analysing change requests;

conducting developmental activities for Major Changes;

developing Technical Instructions;

conducting system-safety engineering;

conducting supportability and engineering analyses;

conducting Life Cycle Costing Analyses; and

conducting System Reviews.

1. INTER-RELATIONSHIPS

This DSD forms part of the SOW.

This DSD must be applied in conjunction with the Engineering Services defined in the Engineering Support requirements of the SOW and the related DSDs.

1. APPLICABLE DOCUMENTS

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

Note to drafters: Edit the list of documents in the table below to suit the requirements of this DSD (ie, include the relevant references that are applicable to routine Engineering Services). Do not include reference to Defence policy (eg, DEFLOGMAN) unless the obligations for contractors are explicitly set out in the referenced policy; otherwise, these types of documents can be open to interpretation within a contract.

|  |  |
| --- | --- |
| 1. AAP 6734.001 | 1. *Defence Aviation Safety Manual* |
| 1. AAP 7001.054 | 1. *electronic Airworthiness Design Requirements Manual* |
| 1. AAP 8000.011 | 1. *Defence Aviation Safety Regulation*s (DASR) |
| 1. LMSM | *Land Materiel Safety Manual* |
| 1. ANP 2200 | 1. *Navy Safety Management System* |
| 1. ANP 3411-0101 | 1. *Naval Materiel Assurance Publication* |

1. SERVICE DESCRIPTION
   1. Introduction
      1. Scope

Note to drafters: Amend the following clause to align with the Products that will be supported by the scope of Engineering Services required under the Contract.

The Contractor shall provide routine Engineering Services, as described in this DSD, for the following types of Products listed in Annex A to the SOW for which the Contractor is annotated as having engineering responsibilities:

Mission System(s);

Repairable Items;

Non‑Repairable Items;

Software; and

Technical Data.

* 1. Services
     1. Engineering Management, Administration and Reporting

Note to drafters: If only a portion of the Applicable Documents listed in clause 5 are applicable then the following clause would need to be modified to ensure that only the applicable portion of each of the documents is mandated on the Contractor.

The Contractor shall provide Engineering Services in accordance with:

the applicable documents listed in clause 5 of this DSD; and

the technical manuals for the Products specified at clause 6.1.1.1 of this DSD.

The Contractor shall undertake all engineering administrative actions necessary to ensure that the correct engineering-related recording and reporting processes have been followed in accordance with the Approved […INSERT 'CEMP' OR 'SSMP'…] and […INSERT REFERENCES TO THE RELEVANT DOCUMENT(S)…].

The Contractor shall maintain a schedule of known Engineering Services, projecting work effort for a period of not less than one year in advance, or until the end of the Term where that period is less than one year.

The Contractor shall provide a copy of the Contractor’s Engineering schedule in the format requested and within five Working Days (or other timeframe agreed between both parties) of a request for a copy of this schedule from the Commonwealth Representative.

* + 1. Engineering Information System

Note to drafters: Omit clause if not required, and mark as ‘Not used’. If included, amend clause 6.2.2.1 to scope the applicable functions. Add references to Defence procedures if applicable.

The Contractor shall use an engineering information system, in accordance with the Approved […INSERT 'CEMP' OR 'SSMP'…], for the Products specified in clause 6.1.1.1 to:

manage inputs and outputs of process tasks;

record and provide traceability to engineering decisions;

record details of engineering authority and delegations; and

store or record the reference to engineering documents, drawings, and reports.

The Contractor shall ensure that Engineering Services undertaken by Subcontractors, for the Products specified in clause 6.1.1.1, are entered into the Defence or Contractor engineering information system, as applicable, for those functions identified in clause 6.2.2.1.

Note to drafters: Select from the following optional clauses A (including A-1 and A-2) or B, based on whether or not the Contractor will be provided with on-line access to a Defence engineering information system. If a Contractor will be provided access, select clause A-1 and update the Attachment E if the system is provided for their exclusive use, or clause A-2 for shared use (shared with Defence staff or another contractor).

The note to tenderers below is included to advise tenderers of the forthcoming change to the Defence ERP System. If, as part of the Defence ERP System, the engineering information system function will be available before OD, then the note to tenderers can be deleted and a reference to the Defence ERP System inserted where indicated.

Note to tenderers:  The Defence Enterprise Resource Planning (ERP) System will replace existing Defence information systems over a number of years.  References to the […INSERT NAME OF SYSTEM…] below should be considered as references to the Defence ERP System, used to perform the relevant functions.

Changes to the draft Contract, for the Defence ERP System, will be included in negotiations for any resultant Contract.  If the relevant Defence ERP System functions have not been implemented by ED, then one or more CCPs will be required once the relevant functions in the Defence ERP System become available.

Refer to SOW clause 3.16 for training in the use of Defence information systems.

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| Option A: For when the Contractor will be provided on-line access to a Defence engineering information system, the name of the system is to be inserted into the clauses below.  The Commonwealth shall provide the Contractor with on-line access to the Defence engineering information system, […INSERT NAME OF SYSTEM…], for the purposes of undertaking clause 6.2.2.1 for this Contract.  Option A-1: For when the Contractor will be provided with hardware and Software for a Defence engineering information system.  The Commonwealth shall provide the Contractor with terminals and/or interfaces and GFS to support the use of […INSERT NAME OF SYSTEM…], as detailed in Attachment E.  Option A-2: For when the Contractor will share access to a Defence engineering information system.  The Commonwealth shall provide the Contractor with access to […INSERT NUMBER…] of shared […INSERT NAME OF SYSTEM…] terminals at […INSERT LOCATION/TIME DETAILS…]. |

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| Option B: For when the Contractor will NOT be provided on-line access to a Defence engineering information system but will be required to implement a system with similar functionality. If applicable, a DID describing data and data transfer requirements may need to be developed and clause 6.2.2.8 modified to incorporate the appropriate CDRL reference.  The Contractor shall implement an engineering information system to meet the requirements of clause 6.2.2.1.  The Contractor shall provide all facilities and assistance reasonably required by the Commonwealth in order for the Commonwealth to access to the Contractor’s engineering information system for the duration of the Contract.  The Contractor shall develop, deliver and update engineering management, administration and reporting data, for entry into the Defence engineering information system, in accordance with CDRL Line Number ENG-[…INSERT CDRL LINE NUMBER…]. |

* + 1. Engineering Investigations

Note to drafters: Initial Defect investigations, Maintenance incident investigations and Maintenance research are included in DSD-MNT-MGT. This clause provides for engineering investigations, which may include follow-up activities from those Maintenance investigations. Drafters should tailor the clause to meet the specific requirements of the Contract.

The following clauses assume that the engineering investigations under clause 6.2.3.1 are included as part of the Recurring Services, while the engineering investigations under clauses 6.2.3.2 and 6.2.3.3 are undertaken as S&Q Services. Drafters may need to amend the following clauses to take into account any required changes to these arrangements, including in this clause and elsewhere in this and related DSDs.

The Contractor shall conduct engineering investigations and related technical research, which are required or appropriate to:

maintain the function and performance of the Products Being Supported and the Product-related Other Performance Measures;

Note to drafters: ADF regulatory / assurance framework requirements are defined under SOW clause 5.4. Drafters may amend the following subclause to ensure that it integrates with that clause.

perform its responsibilities under the ADF regulatory / assurance framework, as specified under clause 5.4 of the SOW;

maintain Materiel Safety in relation to the Products Being Supported;

address security vulnerabilities identified in the Products Being Supported;

support the provision of Maintenance Services;

support the provision of Configuration Management Services;

support the analysis and rectification of Defects (including Latent Defects) requiring rectification under the Contract; and

analyse fault-reporting and corrective-action data, availability data, and reliability and failure trends to identify candidate Products and processes for improvement.

When requested by the Commonwealth in writing, the Contractor shall undertake engineering investigations and related technical research into various issues for which the Contractor has technical capability and expertise, including:

Note to drafters: The following list may need to be amended, where there are other tasks are expected to be outside the scope of the Contractor’s responsibilities. Additionally, the list may also need to be amended if any of the identified tasks are included within Recurring Services.

detailed investigation of Defects, where the Commonwealth requires more detailed investigation than would otherwise be required to support the rectification of the Defects under clause 6.2.3.1g;

parts substitution;

Maintenance interval extension;

Maintenance Requirements Determination;

development of alternate or supplementary operating, Maintenance, and supply procedures;

development of Deviations; and

development of publication amendment proposals.

The Contractor shall raise requests for engineering investigations, which would not otherwise be required under clause 6.2.3.1, based on its engineering judgement of the results of:

Technical Data reviews;

Obsolescence issues;

Configuration Management Services;

publications management; and

Maintenance analyses.

An engineering investigation request raised by either party shall detail:

the scope and objectives of the engineering investigation;

the estimated duration;

Note to drafters: The following reference to a format may be amended to refer to a CDRL Line Number, if a DID has been developed for this type of reporting.

the reporting requirements, including report format;

any deliverables in addition to the reporting requirements; and

any other requirements applicable to the type of engineering investigation.

Subject to clause 6.2.3.1 and the funding arrangements under the Capability Innovations and Efficiencies Program, the Contractor shall undertake engineering investigations conducted in accordance with clauses 6.2.3.2 and 6.2.3.3 as S&Q Services.

The Contractor shall promptly undertake each engineering investigation, commensurate with the impact of the issue being investigated on Defence operations, other Contract work, the health and safety of personnel, and the environment.

On completion of an engineering investigation, the Contractor shall report its findings to the Commonwealth Representative within 10 Working Days (or other timeframe agreed between both parties), using the agreed report format from clause 6.2.3.4c.

Within 10 Working Days of receiving the engineering investigation report from the Contractor (or other timeframe advised by the Commonwealth Representative), the Commonwealth shall advise, in writing, whether or not:

the report meets the requirements of clause 6.2.3.4; and

any further action is required to be taken by the Contractor in relation to the engineering investigation.

The Contractor shall conduct all engineering investigations in accordance with the Approved […INSERT 'CEMP' OR 'SSMP'…].

* + 1. Analysis of Change Requests

Note to drafters: Different ADF regulatory / assurance frameworks may use particular terminology for the analysis activity proposed under this clause 6.2.4. Tailor if required.

When requested by the Commonwealth Representative, in writing, the Contractor shall:

analyse a request for an engineering change to determine whether or not the proposed change has merit before committing to the full developmental processes required under clause 6.2.5 of this DSD and DSD-ENG-CM; and

provide a report to the Commonwealth within 20 Working Days of receiving the request (or other timeframe agreed between both parties commensurate with the implications for Defence operations, other Contract work, WHS and the environment) that provides the analysis of the costs, benefits and risks associated with the requested engineering change.

Unless otherwise specified by the Commonwealth Representative, the Contractor’s analysis of an engineering change request shall provide sufficient detail for initial assessment of feasibility and importance and to ascertain the resources required for further development, including:

the function and/or performance characteristic to be changed, improved, eliminated or added;

the reason for and/or benefit to be achieved;

the scope of the development task;

alternative solutions/implementation strategies;

risks to development, implementation and support;

estimated costs and resource requirements, both for the implementation and net impact on ongoing support, including the tolerances associated with the cost and resource estimates;

assessed criticality in relation to the impact on operations, safety and security (eg, does the requested change impact upon a Mission Critical Capability?);

whether or not the requested change is assessed as a Major Change or a Minor Change in accordance with clause 6.2.5 of DSD-ENG-CM;

assessed priority; and

operational impact of either proceeding or not proceeding with the development of the change.

Note to drafters: Omit the following clause if not required.

The Contractor shall present the findings of its analysis activities to the Commonwealth’s Configuration Control Board (CCB).

Subject to clause 6.2.4.5, the Contractor shall conduct analysis of change requests, which are requested by the Commonwealth Representative under this clause 6.2.4, as S&Q Services.

The Contractor shall undertake the analyses and provide the report required for the change request, even when analysis of a change request has been requested by the Commonwealth Representative under clause 6.2.4.1:

if the change request relates to maintaining serviceability of Mission Systems and/or equipment, parts shortages, safety and/or regulatory requirements, including on-going ADF regulatory / assurance framework requirements; and

within the Recurring Services Fee.

* + 1. Developmental Activities for Major Changes

Note to drafters: Omit this clause if not required, and mark as ‘Not used’ (eg, if a separate DSD has been developed for the development of Major Changes).

Amend the following clauses to add any standing plans required for the development of Major Changes (eg, Software Management Plan (SWMP)). Alternatively, if all development activities can be adequately covered by the SSMP, the following clauses can be replaced with ‘Not used’.

Drafters should be aware that other DSDs contain requirements related to Major Changes; refer to the clause guidance for details.

The Contractor shall develop, deliver and update the following plans to address the developmental activities for Major Changes:

Systems Engineering Management Plan (SEMP) in accordance with CDRL Line Number ENG-650; and

Integrated Support Plan (ISP) in accordance with CDRL Line Number ENG-660.

The Contractor shall conduct its activities for each Major Change in accordance with the:

requirements of ANSI/EIA-632, ‘Processes for Engineering a System’, as tailored by the Approved SEMP and Approved ISP; and

Approved SEMP, Approved ISP, and other applicable Approved plans for the Contract, as tailored by the Approved work plan (including any Approved supplementary management plans) for each Major Change.

The Contractor shall ensure that all Contractor and Subcontractor activities are consistent with the Approved work plan and Approved management plans for each Major Change.

The Contractor shall ensure that all Subcontractors develop, update and implement appropriate technical plans, commensurate with the scope of work for each Subcontractor, which results in an integrated and cost-effective technical effort in accordance with the Approved work plan and Approved management plans for the Major Change.

Subject to clause 6.2.5.7, the Contractor shall undertake the following activities for a Major Change as S&Q Services:

except where otherwise specified in the Contract, all activities associated with the development of an Engineering Change Proposal (ECP) for a Major Change, including obtaining the necessary Commonwealth Approvals for the ECP; and

implementation, Verification and Validation (V&V), and Configuration Audits of an Approved Major Change, including obtaining Acceptance from the Commonwealth Representative.

Note to drafters: Amend the following clause, as required to suit the general nature, scope and Product-specific or SPO-specific work requirements envisaged under the Contract.

The Contractor shall include in its work plan(s) for each Major Change, except where otherwise agreed in advance and in writing by the Commonwealth Representative:

supplementary management plans, which are to be Approved by the Commonwealth Representative, that tailor the Approved SEMP, Approved ISP and other applicable Contract plans (eg, Software Management Plan (SWMP)) to suit the particular requirements of the Major Change;

a formalised systems-engineering program that is commensurate with the nature and scope of the Major Change, including, as applicable, requirements determination, design, development or modification, construction, V&V, delivery, installation, and Acceptance of the Product(s) to be changed;

the identification, design, development or modification, construction, V&V, delivery, installation, and Acceptance for, as applicable, all Support Resources and Training required to operate and support the changed Product;

the development, delivery and update of an ECP in accordance with CDRL Line Number ENG-760;

the requirement for the Commonwealth Representative to Approve the specification and V&V requirements for the Major Change before any design work is undertaken;

the requirement for the Contractor to present particular outcomes of its developmental activities to the Commonwealth’s Configuration Control Board (CCB) at key points in the process (eg, after the Detailed Design Review), with the required outcomes to be defined by the Commonwealth Representative at least 10 Working Days prior to the CCB (or other timeframe agreed between both parties);

the requirement for the Commonwealth Representative to Approve the requisite documentation for the Major Change before any Product is modified;

all Mandated System Reviews (eg, Preliminary Design Review and Test Readiness Reviews) required by the Commonwealth Representative (which are to be conducted in accordance with clause 6.2.10);

in relation to V&V for the Product(s), Support Resources and Training affected by the Major Change, the requirement for the Commonwealth Representative to:

Approve the test plans and test procedures associated with all Acceptance V&V activities;

be invited to witness all Acceptance V&V activities;

witness all Acceptance V&V activities;

Approve the disposition of all failures that are assessed as significant by the Commonwealth Representative;

Approve any regression testing; and

Approve all test reports from Acceptance V&V activities;

in relation to implementation, the requirement for the Contractor to incorporate the Major Change into all affected Products and to implement all required changes to the Support System;

the conduct of Configuration Audits in accordance with clause 6.2.7 of DSD-ENG-CM;

Note to drafters: Amend the following clause, as required. For example, appropriate wording might be, ‘the processes and activities for Design (including design approval) and Certification, as specified in […INSERT REFERENCE…]’.

the processes and activities for […INSERT APPLICABLE PROCESSES FROM THE RELEVANT MANUAL(S)…];

Note to drafters: Amend the following clause, as required by the applicable ADF regulatory / assurance framework requirements. Drafters should note that ‘Modification Order’ is a defined term and if using alternate wording in the following clause, the Glossary will require update.

the development, delivery and update of one or more […INSERT APPLICABLE DOCUMENT (EG, 'Modification Instruction', 'Modification Order' OR 'Change Directive'…] (as required) in accordance with […INSERT APPLICABLE REFERENCE…];

the development, delivery and update of a Design Certificate in accordance with CDRL Line Number ENG-130; and

the updating of the CSA records for the Product(s) affected by the Major Change.

Subject to clause 6.2.5.8, the Contractor shall undertake the Major Change in accordance with clause 6.2.5.6 within the Recurring Services Fee if the Major Change:

is required to be undertaken due to legislation (other than new legislation or a change to legislation after the Effective Date which was not reasonably foreseeable as at the Effective Date);

is required to enable the Contractor to comply with the other provisions of the Contract, including provisions for Defects and Latent Defects;

is already provided for through a Subcontract, product licensing or supplier support agreement;

involves the replacement of a Stock Item with one that is form, fit and function compatible;

is required to ensure that an RI is able to be made Serviceable;

is required to maintain the availability of one or more of the major Products (ie, those Products that form the basis of the Capability);

is required to ensure that the availability of one or more Products, to enable the ROE to be achieved;

is required to address a safety or other issue that is assessed as mandatory by the OEM or for compliance with the ADF regulatory / assurance framework requirements for the system, subsystem or interface; or

is required to address a security vulnerability identified in the Products Being Supported.

The Contractor shall undertake a Major Change to the major Products, which meets one or more of the criteria set out in clause 6.2.5.7, as an S&Q Service, if:

the Commonwealth Representative (in its absolute discretion) agrees in writing to undertake the Major Change as an S&Q Service (eg, due to the significance of the proposed Major Change or the likely cost);

the requirement for the Major Change arises due to a negligent act or omission of the Commonwealth;

Note to drafters: Add further exclusions to identify the types of Major Changes to be performed as S&Q Services. If unable able to identify all applicable exclusions, it may be appropriate to include a note to tenderers (here) requesting input on potential exclusions as part of tender responses.

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| Option: Consider including the following clause if the Contractor has a significant involvement in ensuring the availability of major Products (eg, Mission Systems).  the Major Change involves […INSERT APPLICABLE EXCLUSIONS (EG,'structural changes to a Mission System'…], which, for clarity, does not include Deviations; or  […INSERT APPLICABLE EXCLUSIONS…]. |

* + 1. Technical Instruction Development

Note to drafters: Omit clause if not required, and mark as ‘Not used’. If required, insert technical references and add these to the applicable documents also. Note that Technical Instructions may have different names under the differing domains. For example, Technical Instructions can embrace Special Technical Instructions (Aerospace), N4 Library Advice Notes (Maritime), and Electrical and Mechanical Engineering Instructions (Land). Under these circumstances, the following clause may be amended or the Glossary definitions for these terms could be amended (and the following clauses left as is).

Timescales for activities under this clause 6.2.6 have not been included. Drafters are to consider specifying timescales for the delivery in Clause 6.2.6.1 requirements or specify this level of detail when requesting clause 6.2.6.1 outcomes. If no timescales are to be included, clause 6.2.6.1 is to remain as stated.

When requested by the Commonwealth, in writing, the Contractor shall undertake the analysis, design, development and preparation effort required for draft Technical Instructions in accordance with the Approved […INSERT 'CEMP' OR 'SSMP'…] and the […INSERT TECHNICAL REFERENCE…].

On completion of each draft Technical Instruction, the Contractor shall deliver to the Commonwealth Representative the draft Technical Instruction and (as applicable):

all associated engineering drawings;

draft publication amendments;

parts and other cost estimates; and

other applicable information.

Note to drafters: Amend the following clause to specify the particular document types that support the development of Technical Instructions, and insert the applicable references.

When applicable to the preparation of Technical Instructions, the Contractor shall produce the following document types in accordance with:

for Technical Instructions, […INSERT TECHNICAL REFERENCE…];

for publication amendments, […INSERT TECHNICAL REFERENCE…];

for installation orders, […INSERT TECHNICAL REFERENCE…]; and

[…DRAFTER TO INSERT…].

Subject to clause 6.2.6.5, the Contractor shall develop Technical Instructions and other related documents under this clause 6.2.6 as S&Q Services.

The Contractor shall undertake the activities under this clause 6.2.6 for a Technical Instruction (including related documents) within the Recurring Services Fee, if the Technical Instruction is required:

due to legislation (other than new legislation or a change to legislation after the Effective Date which was not reasonably foreseeable as at the Effective Date);

to prevent injury to Personnel or the premature Failure of equipment associated with the operation and/or sustainment of the Products Being Supported;

to prevent or minimise the likelihood of damage to the Products Being Supported or other equipment or facilities that has arisen or could arise due to deficient Technical Data provided by the Contractor (eg, Maintenance instructions);

to prevent the improper operation of equipment due to a security vulnerability identified in the Products Being Supported; and

to ensure that the Contractor complies with the Defect provisions of the Contract.

* + 1. System Safety Engineering (Optional)

Note to drafters: Refer to the tailoring guidance for this clause. Drafters must consult with their ADF regulatory / assurance authority to determine specific requirements for this clause.

For this clause to function, drafters must ensure that the Products in Annex A to the SOW are appropriately annotated. Refer to the tailoring guidance for details.

The Contractor shall provide system-safety Engineering Services for the Products listed in Annex A to the SOW for which the Contractor is annotated as having a system-safety responsibility.

Note to drafters: Select from the following optional clauses for the governing plan for the system-safety program. Refer to tailoring guidance for further information.

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| Option A: For when a stand-alone In-Service Materiel Safety Plan (IMSP) is required:  The Contractor shall develop, deliver and update an In-service Materiel Safety Plan (IMSP) in accordance with CDRL Line Number ENG-700.  Option B: For when system-safety program planning is to be rolled up into the CEMP:  The Contractor shall address the system-safety program requirements within the CEMP. |

Note to drafters: Select the applicable plan from the clause below to match the option selected above. References may include design and safety standards, ADF regulatory / assurance framework documents, related Defence system-safety program plans and the applicable Materiel Safety certification basis.

The Contractor shall conduct all ongoing system-safety program and related activities for the Contract, in accordance with the Approved […INSERT 'IMSP' OR 'CEMP'…] and the following references:

[... INSERT APPLICABLE STANDARD OR OTHER REFERENCE ...]; and

[... INSERT APPLICABLE STANDARD OR OTHER REFERENCE ...].

The Contractor shall manage Materiel Safety data using the Engineering Information System required by clause 6.2.2.

Note to drafters: The following subclause list should be amended for the tailoring of the SOW and related DSDs for the scope of the applicable Services.

The Contractor shall ensure that system safety engineering activities under this clause 6.2.7 are conducted consistent with the:

consultation, co-ordination and co-operation obligations of clause 3.6 of the SOW, including in relation to sharing information that is related to the Materiel Safety of the Products and any interfaces with other systems;

maintenance of Materiel Safety-related baselines, including applicable hazard logs and supporting hazard analyses, in accordance with DSD-ENG-CM; and

system-safety programs associated with Major Changes and Minor Changes.

The Contractor shall undertake ongoing system-safety program activities including:

hazard risk analyses in relation to faults, Defects, Deviations and parts substitution;

the review of proposed changes to Technical Data for safety issues; and

hazard risk analyses in relation to changes in Support Resources and procedures.

Note to drafters: The following optional clauses apply if a Safety Case Report (SCR) / Materiel Safety Assessment (MSA) does not already exist and the Contractor is required to develop one under this Contract. Refer to the tailoring guidance in section 1 of this DSD.

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| Option A: For when the Contractor will be required to develop a Safety Case Report.  When requested by the Commonwealth Representative, the Contractor shall develop, deliver and update a Safety Case Report (SCR) in accordance with CDRL Line Number ENG-710.  Except where otherwise required by the Contract, the Contractor shall develop the SCR in accordance with clause 6.2.7.8 as an S&Q Service.  Option B: For when the Contractor will be required to prepare a Materiel Safety Assessment.  When requested by the Commonwealth Representative, the Contractor shall develop, deliver and update a Materiel Safety Assessment in accordance with CDRL Line Number ENG-710.  Except where otherwise required by the Contract, the Contractor shall develop the Materiel Safety Assessment in accordance with clause 6.2.7.10 as an S&Q Service. |

* + 1. Supportability and Engineering Analyses

Note to drafters: If on-going system supportability and related engineering analyses are not required, the following clauses may be replaced with a single ‘Not used’.

Delete the following clause if the Contractor is not required to collect data for supportability and related engineering analyses. If the clause is required a DID will need to be created. Refer to the tailoring guidance at the start of this DSD for further information.

The Contractor shall undertake the collection of data, to aid supportability and related engineering analyses, in accordance with CDRL Line Number ENG-200.

Note to drafters: Delete both of the following options if neither is required. Alternatively, the drafter may wish to include one or both of, noting that option A requires development of an annex to this DSD. Refer to the tailoring guidance for additional information.

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| Option A: For when routine supportability and engineering analysis services will be required:  The Contractor shall undertake supportability and related engineering analyses, evaluation and reporting, as defined in Annex […INSERT ANNEX…] to this DSD.  Option B: For when supportability and engineering analysis services will be requested on an S&Q basis:  Subject to the funding arrangements for any potential or Approved Innovation / Efficiency under the CIE Program, the Contractor shall undertake supportability and related engineering analyses, evaluation and reporting, as requested in writing by the Commonwealth Representative, as S&Q Services. |

* + 1. Life Cycle Costing Analysis

Note to drafters: Omit clause if not required, and mark as ‘Not used’. Drafters are to ensure consistency between this clause and SOW clause 13.4, noting that SOW clause 13.4 is not a necessary prerequisite for the inclusion of this clause.

When requested by the Commonwealth, in writing, the Contractor shall undertake Life Cycle Costing Analysis (LCCA).

The Commonwealth’s request for the conduct of LCCA shall detail:

the scope and objectives of the analysis activity;

the estimated duration;

the model to be used, where a pre-defined model is applicable;

the reporting requirements;

any deliverables in addition to the reporting requirements; and

any other requirements, including necessary assumptions, applicable to the analysis activity.

Note to drafters: The following option may be included if a DID (developed by the Drafter) will be used to describe the report and model to be delivered. If using this option, drafters must add the data item to the CDRL.

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| Option: For when the Contractor results are to be provided in accordance with formally structured reports and LCC models, scoped to the request in the above clauses.  The Contractor shall develop, deliver and update, consistent with the request details at clauses 6.2.9.1 and 6.2.9.2, a Life Cycle Cost Analysis Report, in accordance with CDRL Line Number ENG-[...INSERT CDRL LINE NUMBER...].  Subject to the funding arrangements for any potential or Approved Innovation / Efficiency under the CIE Program, the Contractor shall undertake the LCCA activities requested by the Commonwealth under clause 6.2.9.1 as S&Q Services. |

* + 1. Conduct of System Reviews

Note to drafters: Mandated System Reviews are conducted as part of a Major Change program – refer to the tailoring guidance for details. These clauses provide the standard framework for these reviews wherever they are be called up within the Contract (eg, as part of an S&Q Service to develop an ECP or as part of a Training-development program under DSD-TNG-TMS).

The Contractor shall conduct all Mandated System Reviews and all Internal System Reviews in accordance with the Approved […INSERT THE APPLICABLE PLANS: 'CEMP', 'SEMP', 'CMP', 'TSP', ETC…], as applicable for the subject and objectives of the System Review.

The Contractor shall hold all Mandated System Reviews at the Contractor’s premises unless otherwise agreed by the Commonwealth Representative.

Note to drafters: If work on the Contract is being undertaken at a number of locations, consideration should be given to the most suitable location to meet the review objectives (eg, Contractor or Subcontractor premises).

Unless otherwise agreed by the Commonwealth Representative, the Contractor shall not enter any Mandated System Review until:

all data items or other documents required to be delivered before the review have been delivered, and the Commonwealth Representative considers the data items and other documents to be acceptable for the purposes of conducting the review;

all entry criteria defined in the governing plans for the review have been achieved;

all action items from any previous reviews affecting this review have been successfully addressed or action plans agreed with the Commonwealth Representative; and

any prerequisite activities defined in the Contract or order for S&Q Services have been successfully conducted.

Prior to each Mandated System Review, the Contractor shall deliver the Agenda for that review in accordance with CDRL Line Number ENG-210.

Prior to each Mandated System Review, the Contractor shall deliver the Review Package for that review in accordance with CDRL Line Number ENG-220.

The Contractor shall ensure that Contractor representatives and Subcontractors' representatives participate in each Mandated System Review as appropriate to the subject and objectives of that Mandated System Review.

The Contractor and the Commonwealth Representative shall co-chair each Mandated System Review.

Following each Mandated System Review, the Contractor shall deliver Minutes of that System Review in accordance with CDRL Line Number ENG-230.

Unless otherwise agreed by the Commonwealth Representative, the Contractor shall not exit any Mandated System Review until:

all exit criteria defined in the governing plans for the review have been achieved;

the Minutes of the Mandated System Review have been Approved by the Commonwealth Representative;

all plans, schedules, and activities for future phases of the development program, as required under the Contract or the order for S&Q Services, have been reviewed and confirmed as appropriate, realistic and achievable with acceptable risk;

all major action items have been closed;

all minor action items have agreed action plans; and

the Mandated System Review has achieved its objectives, as defined in the clause and the governing plans relating to that review.

The Contractor shall not claim completion for a System Review until both the Commonwealth Representative and the Contractor are satisfied that all the exit criteria have been met.

Note to drafters: The following options may be selected if the Commonwealth Representative will require additional visibility of the design process.

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| Option: For use when the Commonwealth may wish to attend the Contractor’s Internal System Reviews.  The Contractor shall invite the Commonwealth to all Internal System Reviews. |

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| Option: For use when the Commonwealth will require visibility of the outcomes of the Contractor’s Internal Reviews.  The Contractor shall provide the Commonwealth with visibility of the outcomes of the Internal System Reviews.  When requested by the Commonwealth Representative, the Contractor shall promptly provide copies of any records associated with the reviews, including Minutes of meetings, presentation materials, and documents discussed. |

* + 1. Use of Commonwealth Engineering Support Facility

Note to drafters: This clause is optional, depending upon whether or not the Commonwealth has an Engineering Support facility that the Contractor will be required to use. Refer to the guidance section for an explanation. If not required, the following clauses should be replaced with a single ‘Not used’.

If required, the following clauses should be amended to set out particular requirements and/or constraints associated with the use of the Engineering Support facility. Refer to the guidance section for a list of typical considerations.

For the purposes of providing the Engineering Services identified in clause 6.2.11.2, the Commonwealth shall provide to the Contractor:

[…DRAFTER TO INSERT FACILITY DETAILS / NAME…] as Government Furnished Facilities (GFF);

certain items of Government Furnished Material (GFM); and

Government Furnished Services (GFS) associated with the operation of the facility and equipment,

(‘Commonwealth Engineering Support Facility’).

The Contractor shall use the Commonwealth Engineering Support Facility to undertake:

[... INSERT DESCRIPTION OF SERVICES, EG, 'Software change development Services' ...], in accordance with [... INSERT REFERENCE EG, 'DSD-ENG-SW' ...]; and

[... INSERT DESCRIPTION OF SERVICES, EG, 'Verification and Validation of all hardware and Software changes' ...] in accordance with clause [... INSERT REFERENCE EG, '6.2.5' ...].

The Contractor shall provide all Items required to undertake the activities identified under clause 6.2.11.2, with the exception of the GFM and GFS detailed at Attachment E and GFF detailed at Attachment O.

* + 1. Research and Development (Optional)

Note to drafters: This clause is included when the Commonwealth wishes to include (sponsor) on-going R&D activities, particularly in Australia (eg, to promote the AIC Objectives). R&D outcomes, if achieved, may be incorporated as a Major Change activity under clauses 6.2.4 and 6.2.5.

As R&D may involve more complex IP rights, non-standard commercial considerations, and involve third parties, commercial / legal advice should be sought when including this clause.

If the Commonwealth is seeking specific R&D activities these should be scoped as an annex to the DSD and referenced in clause 6.2.12.1. If there are no envisaged requirements for R&D, the clauses should be deleted and replaced with ‘Not used’. If unsure about the need for an R&D clause, a note to tenderers may be inserted to include the clause pending a review of tender responses.

The parties acknowledge that the objectives of the research and development (R&D) program are to conduct and promote Capability-related R&D activities with the Commonwealth and third parties within Australia to:

drive capability improvements over the life of the Capability to:

address emergent threats;

exploit emergent technology and other innovations as appropriate; and

[…DRAFTER TO INSERT…];

enable the Commonwealth to continue to meet operational needs over the life of the Capability; and

as part of the AIC program:

establish or expand ANZ Industrial Capabilities that enhance Sovereignty in relation to the evolution and support of the Materiel System; and

involve Australian Industry in innovation and R&D, particularly to enhance and expand the products available from the Australian industrial base, which can then be used to meet the objectives identified at subclauses a and b above, and support other Defence and international programs.

The Contractor shall implement and manage the R&D program in accordance with the Approved CEMP, this clause 6.2.12, and the Approved AIC Plan.

Note to drafters: The following clause provides the framework for setting out any known R&D opportunities (at Annex A to this DSD), which the Commonwealth wishes to pursue under the Contract. The description of each R&D opportunity should be sufficient to enable both parties to understand the scope of the activity and the outcomes being sought, including tasks to be undertaken, reports to be delivered, and stakeholders to be engaged, including, where required, a specification. By its nature, R&D opportunities may not produce any tangible outcomes of utility to Defence. If there are no known R&D opportunities when the RFT is being drafted, but the Capability Manager wishes to retain the R&D framework in the Contract, drafters should either delete the following clause or amend it accordingly.

The Contractor shall:

undertake the R&D opportunities identified at Annex A to this DSD; and

investigate and pursue other potential R&D opportunities, as may be identified from time-to-time in accordance with clause 6.2.12.4 or otherwise by the Commonwealth.

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| Option: Include the following clauses if the Capability Manager wishes the Contractor to identify and pursue additional R&D opportunities during the Term.  The Contractor shall use its best endeavours to identify potential R&D opportunities and shall actively consult with the Commonwealth, its Approved Subcontractors and third parties (including industry, academia and other Commonwealth organisations) to identify potential R&D opportunities for consideration.  For each of the potential R&D opportunities identified by either party and, except where otherwise notified in writing by the Commonwealth in relation to a potential R&D opportunity identified by the Contractor pursuant to clause 6.2.12.4, the Contractor shall prepare and submit to the Commonwealth Representative an initial assessment of each potential R&D opportunity in accordance with clause 6.2.12.6.  An initial assessment of a potential R&D opportunity shall include the following:  an outline of the nature and scope of the potential R&D opportunity;  an indication of the effort required to implement the potential R&D opportunity, including the implications for the Commonwealth, Contractor, Subcontractors and third parties (as applicable);  an outline of the costs, benefits and risks of implementing the potential R&D opportunity; and  any other information that assists with understanding the potential R&D opportunity and its implications for the Commonwealth, the Products Being Supported, or the Capability or Capabilities to which those Products relate.  The Commonwealth shall, as applicable:  advise the Contractor of its priorities in relation to any potential R&D opportunities;  provide Approval or otherwise of any potential R&D opportunities using the information provided by the Contractor under clauses 6.2.12.5 and 6.2.12.6; and  where additional funding is required to continue to pursue a potential R&D opportunity, or to change an Approved R&D opportunity, advise the Contractor as to the likely timeframes when this funding may be available.  In those circumstances where the Commonwealth is required to provide additional funding under the Contract to pursue or amend an R&D opportunity:  the Commonwealth will notify the Contractor whether it wishes to undertake the R&D opportunity under a CCP to the Contract or as an S&Q Service; and  the Contractor shall, within 20 Working Days (or such longer period agreed between the parties) after the Contractor has been notified of the Commonwealth’s Approval under clause 6.2.12.7b, either prepare and submit to the Commonwealth (as applicable):  a CCP in accordance with clause 11.1 of the COC; or  an S&Q Quote in accordance with clause 3.15 of the COC.  The Contractor shall not commence the implementation of an Approved R&D opportunity and neither party will be under an obligation to agree to implement an Approved R&D opportunity until either (as applicable):  the CCP to implement the Approved R&D opportunity under clause 6.2.12.8 is signed by both parties; or  the S&Q Order to implement the Approved R&D opportunity under clause 6.2.12.8 is executed by the Commonwealth.  Subject to clause 6.2.12.9, the Contractor shall implement each Approved R&D opportunity in accordance with the Contract (as amended by the CCP or the S&Q Order (as applicable)). |

The Contractor shall report on the R&D program and each R&D opportunity at Annex A to this DSD and each subsequently Approved R&D opportunity:

in accordance with the implementation plan for the R&D opportunity (if applicable);

as part of the Engineering Support reporting required under clause 5.2 of the SOW;

as part of the Engineering Support reviews required under clause 5.3 of the SOW; and

within the CSR.

Where an R&D opportunity has achieved a potential design solution, developed to a level of maturity that is considered by the parties of being capable of implementation, then, when requested in writing by the Commonwealth, the Contractor shall undertake the further development of the potential design solution as an engineering change in accordance with clauses 6.2.4 and 6.2.5, as applicable.

The Contractor:

acknowledges that the Commonwealth may decide to discontinue the R&D program or require the work on a particular R&D opportunity to be changed or ceased either permanently or temporarily;

shall immediately comply with any notice provided to the Contractor by the Commonwealth pursuant to subclause a above; and

where the Commonwealth’s notice results in a change to the Contract, shall raise a CCP in accordance with clause 11.1 of the COC.

1. The system safety program is a management and engineering program that ensures the Materiel Safety of Products. [↑](#footnote-ref-1)
2. Unlike the other DSDs, DSD-ENG-CSC provides a pool of Contractor staff to perform the Services that are designated as S&Q Services within other DSDs (including engineering and other Services), without suffering from the poor continuity that is often consequential to S&Q Services. The CSC pool can also undertake other work that is not identified elsewhere in the Contract provided that the work is consistent with the scope of the Contract. [↑](#footnote-ref-2)