The Demonstration, Manufacture and In-service support of the Combat Water Supply System (CWSS) Prime Contract for Provision and Support of Expeditionary Water Services

Integrated Logistic Support Plan (ILSP)

Annex B to

DEFFORM 47

INTEGRATED LOGISTIC SUPPORT PLAN FOR

For
Combat Water Supply System (CWSS)

RA18-CWSS-3003

Issued by

CWSS MOD Integrated Logistics Support Manager (MILSM)
WO2 NEIL BOLTON

On

[Mar 2016]

FOREWORD

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DOCUMENT CONFIGURATION CONTROL

This document is managed by CWSS MILSM; it shall be amended by issue of complete main section, annex or appendix. Amendment status shall be recorded in the footer information of affected pages.

Version No	Date	Affected Pages	Description of Change	Amendment Incorporated By
(a)	(b)	(c)	(d)	(e)
1.	Sept 10	0.5	DI Internal Circulation	DI Water-ILS Off
2	Dec 10	1.0	Formal Issue	DI Water-ILS Off
3	May 11	1.1	Minor updates following SDSR review	DI Water-2b WO2 Hogben
4	Feb 12	2.0	Update for AP	DI Water-2b WO2 Hogben
5	Oct 12	3.0	Update for AP	DI Water-ILSM SSgt Taylor
6	Jun 14	4.0	Update for CP	DES LE OSP-PgMO-TLS-Sp2
7	Jan 15		Update	DES LE OSP-PgMO-TLSM
8	Oct 15		Update	DES LE OSP-PgMO-Sp1
9	Feb 16		Update	
9.1	Mar 16		Cross-ref check against PD's/CDRL's	DES LE OSP-PgMO-TLS-Mgr3
9.2	Mar 16		Minor Updates	DES LE OSP-PgMO-ILSM1
9.3	May 16	Annex Q	Annex Added	DES LE OSP-PgMO-TLS-SnrMgr2
9.4	Jun 16		Re-numbering of Appendices	DES LE OSP-OIP-Water-SnrMgr

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LIST OF FIGURES AND TABLES

REFERENCE DOCUMENTATION

Reference	Document Identify	Document Title
1.	20111012-CWSS SSDTv0.3-U_(RA18-CWSS-3046)	CWSS Support Solution Development Tool
2	DEFSTAN 00-600	Def Stan 00-600 - Integrated Logistic Support requirements for MOD Projects
3	JSP886	JSP 886 - The Defence Logistics Support Chain Manual, Volume 7 Supportability Engineering
4	20141212-CWSS URD-RMU	CWSS User Requirement Document
5	20141122-CWSS Procurement Strategy	CWSS Procurement Strategy

STANDARDS & POLICY

Defence Standards (DEFSTAN)

Def Stan 00-040 Management Responsibilities and Requirements for Programmes and Plans Pt. 1

Def Stan 00-042 R&M Assurance Activity

Def Stan 00-044 Reliability and Maintainability Data Collection and Classification

Def Stan 00-251 Human Factors Integration for Defence Systems

Def Stan 00-600 Integrated Logistic Support Requirements for MoD Projects

Def Stan 05-010 Product Definition Information

Def Stan 05-057 Configuration Management of Defence Materiel

Def Stan 23-013 Generic Base Architecture

Def Stan 81-041 Packaging of Defence Materiel

Def Stan 61-017 The Selection and Introduction of Batteries and Fuel Cells for Service Use

Defence Conditions (DEFCON)

DEFCON 82 Special Procedures for Initial Spares

DEFCON 129 Packaging

Joint Service Publications (JSPs)

JSP 800 Defence Movement and Transport Regulations

JSP 822 Defence Systems Approach to Training – Direction and Guidance for Individual and Collective Training

JSP 886 The Defence Logistics Support Chain Manual

JSP 912 Human Factors Integration for Defence Systems

PREFACE

ILS PLAN

1. The MOD Logistic Support strategy focuses on the supportability of the design of the product/system and its integrated equipment and services, particularly those which are mission essential. The Integrated Logistic Support Plan is based on the ILS and SA Strategy documents.

Aim

2. The aim of this ILSP is to:

a. Identify and document the logistic requirements and constraints

b. Describe the required logistic actions, tasks and milestones

c. Ensure that all relevant ILS elements and tasks are considered

d. Establish responsibilities for ILS programme participants.

3. The scope of this ILSP applies to support for all mission essential products, systems, associated peripherals, software, support and test equipment, standard and special tools, training, documentation, handbooks, manuals and GFE/GFI/GFS/GFF as defined in JSP 886 and Def Stan 00-600 for the Concept and Assessment phase of the contract.

ILS Objectives

4. The Logistic Support effort for the product/system has the following objectives:

a. To ensure logistic support considerations are included in the product/system design proposals on an equal weighting with design, performance and cost.

b. To ensure the programme plans are in place to achieve optimum logistic support for the product/system at minimum TLF.

c. To identify and integrate the various support element plans that provide a co-ordinated approach which integrates with the existing MOD procedures.

d. It is MOD intention that the system and its associated product will be maintained and that the support infrastructure will be determined by SA, to ensure that supportability requirements influence the design where possible.

Scope

5. This ILS plan applies to CWSS. It is the intent of this plan to demonstrate that adequate provision has been made for Integrated Logistic Support. This includes plans and structures for the ILS team and the customising of the ILS functions for the product/system. The plan will ultimately demonstrate the Logistic Support content of this phase of the contract.

6. The ILS programme is not a standalone activity, it must be closely tied to the design process to assure relevancy of the proposed support structure to the proposed system. The ILS analysis will mirror this development identifying the logistic effect of design and provide guidance on the support of alternative design options. To achieve this aim a co-ordinated approach to the planning and management of the specified ILS tasks is required.

Content

7. ILS process provides through the SA activities an easy reference document for the SA requirements as it passes through the various design phases of the Project. A general knowledge of the MOD acquisition procedure is necessary to understand the application of SA within the MOD.

8. This ILSP is to provide information about the requirements of the CWSS project during the Concept Phase and Assesment phase.

Iteration

9. Figure 3 shows how the ILSP is produced and revised as the project progresses through the development life cycle. Figure 4 identifies the different objectives applicable to the ILS process at different stages in the development life cycle and the repetitive nature of ILS.

10. It will be necessary to update this document at least at every phase. The MILSM is responsible for configuration management of this document.

ILS Requirements

11. The Contractor shall employ ILS techniques that are compliant with the version of Defence Standard (Def Stan) 00-600, the SSE, Joint Services Publication (JSP) 886 at contract award, the ILS SoR and this document, appropriately tailored to the project. As a response to this ILSP the Contractor shall provide an Integrated Support Plan (ISP) in accordance with Product Description (PD) 0001-01, which shall describe its approach to ILS/SA activities and its support proposals for the equipment to be provided under contract. These plans shall explain the Contractors understanding of ILS/SA and its integration into the overall programme.

12. It is a requirement that the Authority is able to ascertain the whole-life costs (WLC) of the various support solutions proposed for the CWSS project and to this end a Through-life Finance (TLF) Plan and report shall be provided.

Support Strategy

13. The aim of the Support Strategy is to support CWSS in the most efficient manner whilst reducing Whole Life Cost (WLC) and increasing Value for Money (VFM) to Defence. The MoD Support Options Matrix (SOM) has been used to design support options that can offer effectiveness and efficiency gains. The SOM is explained in detail in JSP 886. Finding the right solution for any equipment is a combination of understanding which cost and performance drivers are the most important for that equipment and understanding who is best placed to manage those drivers. The Authority expects to fully utilise industry's capabilities to make gains in effectiveness, efficiency and flexibility with no additional risk to operations or increase in overall whole life costs.

14. The ITN shall be based on Spares Inclusive Upkeep with costed options for further CLS support leaning towards an availability service which may be called off during this Contract where required for surge capability. This strategy maintains the maximum flexibility for this Capability allowing a Combined Operational Effectiveness & Investment Appraisal (COEIA) to be undertaken comparing current support costs with projected CWSS support costs. From this information an informed decision can be taken and the appropriate support strategy adopted.

15. The aim of the ILS element of the Feasibility Study is to define, analyse and cost the supportability requirements for the product/system.

INTRODUCTION

16. The Combat Water Supply System (CWSS) concept was created in 1998 to support the transition of operations from a Cold War footing to that of expeditionary warfare. The present day CWSS capability is composed of 3 water purification equipment's supported by a general service pump and a suite of storage media. This capability has been built incrementally over the course of operations in Kosovo, and on Op TELIC and HERRICK. The system aims to project a water supply capability to first, second and third lines in order to enable self-sufficiency in the land environment. While the concept has been a success on operations, it has never achieved a high level of self-sufficiency for deployed troops and an increasing reliance on bottled water sourced out of theatre has been observed.

17. Replacing the CWSS capability was first proposed in 2004 and has been postponed and reinitiated twice previously. The current suite of equipment OSD is 2017 although support under the WET contract will continue into 2018. The equipment itself has returned from Op HERRICK in a generally poor state of repair as a result of heavy use over the course of the campaign. Due to its age, obtaining spares is becoming increasingly difficult resulting in an increasing maintenance cost.

18. The existing equipment is not optimised for support to the future fighting force. It is overly complex to operate which has, over the years, eroded its capability to be operated by All Arms personnel. It is also heavily reliant on residual chlorination to secure stored volumes of water resulting in generally unpalatable water. These two factors are the primary causes of an increased dependence on bottled water over the last 20 years.

INTEGRATED LOGISTICS SUPPORT

19. The cost of supporting defence equipment during its in-service life is generally many times the cost of its procurement. This cost is a significant factor in procurement decisions and needs to be managed in a disciplined way. Integrated Logistics Support (ILS) influences the product design and develops the Support Solution to optimise supportability and Through Life Finance (TLF) costs. These important, decision-shaping factors are relevant for all procurement strategies, especially where the maintenance and support functions may be shared between Industry and Tri-Service organisations in the form of Contractor Support and Contractor Logistic Support.

20. ILS is the accepted discipline for managing that cost, facilitating support considerations to influence the design or selection of equipment and for delivering the optimal support solution for the fielded equipment. It is Authority policy that ILS is applied to all product acquisition.

21. The 4 key objectives of ILS are to:

a. Influence the design

b. Develop the support resources requirement

c. Acquire the appropriate support resources

d. Provide the required in-service support at optimum whole life cost.

22. ILS is a tailored approach to define the total support requirement for the CWSS project. This support will be managed by Defence Equipment and Support (DE&S), however some or all

aspects of support solutions may be contracted to industry. All support options have been evaluated by the Project Team (PT) as part of the Support Development process.

23. The Support Solutions Development Tool (SSDT) (Ref 1) provides guidance on the factors that must be taken into account when designing support solutions to ensure that these do not cause unacceptable operational risk and are coherent with the Defence Logistic Vision.

PROJECT

Product/System Description

24. CWSS must be able to support future UK forces (deployed within the land environment), configured and equipped to conduct high tempo, expeditionary operations. CWSS will deliver an end-to-end solution spanning the provision of water from its source to the point of issue.

25. CWSS is a tri service programme that seeks to provide potable, palatable and packaged water to all components deployed on operations in the land environment. CWSS will sit at the heart of water provision within the land environment. It will include the capability to cover the full spectrum of operations in diverse climatic conditions for extended periods. In order to ensure security of supply and to reduce the logistic supply chain CWSS will source as close to the point of need as possible and will have an optimised logistic footprint, minimising the resources required to operate and support it at the availability levels required.

26. The Single Statement of User Need is defined as:

a. "The Combat Water Supply System (CWSS) will support the force operating in the land environment, wherever it may be deployed worldwide, by providing the capability to ensure self-sufficiency for water. This includes the capability to manage water from its raw source (sea, surface or ground water or that provided by a host nation) to the point at which potable and palatable water is required by the user. It must also provide the ability to collect, hold and distribute water within the unit but will not include distribution by specialised logistic units using the in-service Close Support Tanker (Water) or Water Dispensing Rack."

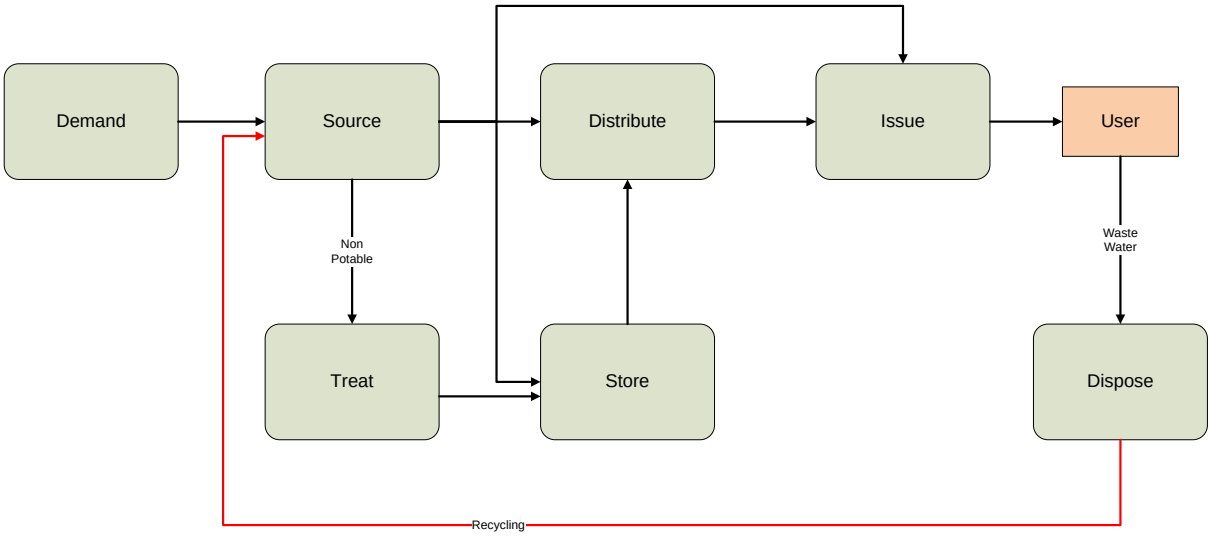

Figure 1 - Water Management Framework

27. CWSS is at the heart of the provision of water within the LE and as such has many interfaces and boundaries with the overarching capability which includes, but is not limited to Operational

Accommodation, Catering, Construction, Fire-fighting, Waste Water Reuse and Bore Hole Development.

28. CWSS has been created from the amalgamation of individual equipment projects and its success will be ensured through achieving an overarching capability which will interface and bring together all of the elements of battlefield water capability in a coherent manner in order to deliver an effective end to end water supply system.

CWSS OBJECTIVES

29. Project Aim and Scope. The CWSS programme must seek to provide a solution to fill the boundaries detailed above. It must be able to support future UK forces (deployed within the land environment), configured and equipped to conduct high tempo, expeditionary operations. CWSS should deliver an end-to-end solution spanning the provision of water from its source to the point of issue, specifically the ability to:

a. Purify water from several sources including, but not limited to, sea water, surface water, ground water and Host Nation supplied water.

b. Test and assure water quality within the CWSS.

c. Store and distribute doctrinally mandated volumes of water at first line.

d. Issue mandated volumes of packaged palatable water.

e. Interface with all relevant combat water capabilities, including the in-service water bottle, jerry can, 'Camelbak', WDR and CST (W).

30. Key Tenets. The key tenets that will underpin the project are:

a. The ability to produce and store quantities of potable and palatable water as directed by doctrine and demand, and issue palatable and potable water for the person at point of consumption and potable water for all other uses.

b. Drive down the dependency on commercially packaged water.

c. Reduce the deployed logistic footprint and minimise manpower burden.

d. Optimise the training burden.

e. Minimise reliance on the skill of the operator to effectively operate the equipment.

f. Introduce simple to use, high reliability equipment.

PROJECT HISTORY

31. The project has been initiated previously in 2006, 2008 and 2010; in the latter case it received Initial Gate approval but was subsequently deferred. The Project was restarted in Nov 2013 and has a current planned MG date for May 2017.

32. The Water Management Framework Document 2013 – The water management framework underpins the research and provides a common frame of reference for discussions about the "human" water lifecycle. It contains relevant data from Civil and Military case studies that have been conducted.

33. Market Survey conducted in April 2014 – highlighted the existence of a mature market and a follow up briefing to industry was delivered at the University of West England (UWE) Bristol.

PROCUREMENT STRATEGY

34. Procurement Approach – Competitive Procurement – Prime Contractor.

35. Procurement Procedure – Negotiated Procedure - inviting a tender for the supply of equipment and options for traditional (spares plus) and Contracting for Availability (CFA) support packages. The Project Team (PT) will define a coherent requirement (both technical and support aspects) that meets the needs of the user, and identifies the optimal Value for Money (VFM) solution through an open and fair competitive tendering process.

36. Support Strategy - A Support Options Matrix assessment supported by additional qualitative analysis work identified potential CWSS support solutions, ranging from Traditional Support through to CFA. This exercise excluded only the Contracting for Capability (CFC) option. The Private Finance Initiative (PFI) has also been discounted as an option by the Private Finance Unit (PFU) [1]. The remaining viable options will receive more detailed consideration following the receipt of tenders.

37. Risk Reduction – To ensure the proposed equipment meets the needs of the user, the Authority will conduct a technical assessment of the proposed systems against a set of pre-defined criteria. The results from this trial will be used in conjunction with the Invitation to Negotiate (ITN) return assessments to select a contractor to take forward into the Demonstration and Manufacture phases of the project. To reduce the level of solution technical risk, the draft CWSS System Requirements Document (SRD) has been issued to all organisations (at the Prime Contractor level), for comment on the proposed requirement, allowing Industry to offer amendments, propose alternative approaches and confirm both clarity and viability of requirements prior to inclusion in the ITN.

ILS STRATEGY

38. Def Stan 00-600 Integrated Logistic Support Requirements for MOD Projects (Ref 2) identifies the MOD requirements for the application of Integrated Logistic Support to the procurement of products. All ILS activities undertaken as part of this procurement process must meet the tailored requirements of Def Stan 00-600 as laid out in the Contract.

39. ILS Element plans and in particular SA activities must be co-ordinated across the breadth of the Project to prevent duplication and ensure the optimum support arrangements are identified.

40. The use of COTS equipment limits the opportunity for support considerations to influence design. Where design freedom exists, ILS will be used to ensure support is considered during the design process. Where no design freedom exists ILS will be used to evaluate the supportability of the systems proposed.

41. As a response to this ILSP the Contractor shall provide an Integrated Support Plan (ISP) in accordance with Product Description (PD) detailed in the ILS Statement of Requirement (SoR) which shall describe its approach to ILS/Supportability Analysis (SA) activities and its support proposals for the equipment to be provided under contract. These plans shall explain the Contractor understanding of ILS/SA and its integration into the overall programme.

42. It is likely that there will be different ILS and SA requirements for different acquisition solutions. It is recognised that, for example, a COTS solution that is mature with an accurate documented support history may require little SA activity, whereas a full development solution will

be subject to more rigorous SA activities. The following ILS elements as a minimum shall be considered in line with the Joint Service Publication (JSP) 886 Vol. 7 (Ref 3) requirements:

a. ILS Planning (Appendix 14)

b. Supportability Analysis

c. Maintenance Planning (Appendix 2)

d. Availability, Reliability, Maintainability & Testing (ARM&T) (Appendix 1)

e. Supply Support (Appendix 3)

f. Support and Test Equipment (S&TE) (Appendix 4)

g. Facilities (Appendix 5)

h. Manpower and Human Factors (Appendix 6)

i. Training and Training Equipment (Appendix 7)

j. Technical Information (Appendix 8)

k. Packaging, Handling, Storage and Transportation (PHS&T).(Appendix 9)

l. Codification (Appendix 3)

m. In Service Support / CLS (Appendix 15)

n. Software Support (Appendix 11)

o. Obsolescence (Appendix 12)

p. Configuration Management (Appendix 13)

q. Disposal (Appendix 10)

43. However, without prejudicing innovative solutions, it is generally expected, from the market research conducted that the solution to the CWSS project will be highly reliable COTS equipment and the support solution should reflect this high level of reliability and availability for modern COTS equipment. In this instance there may be little scope for ILS activities to influence the design of the solution but the opportunity exists to design the support requirements to best meet the customer needs. The new capability support solution shall include those logistic elements and resources necessary to ensure the sustained through-life operational functional effectiveness of the system and provides value for money.

BACKGROUND

Integration with Existing Support Strategies

44. CWSS will be required to integrate with the MODs ES policy and traditional support strategy which is dictated by the Battlefield Equipment Support Doctrine (BESD). This support strategy will be applied to equipment which is deployed on operations or on exercise in remote areas.

45. The future support strategy for CWSS may require the inclusion of selected in service water capability equipment. Depending on time, cost and performance parameters, the inclusion of the Water Distribution Rack (WDR), the Gilkes de watering pump and potentially the Water Carriage Packs (WCP) has been identified as beneficial to the project. This area is still yet to be fully defined and a number of outcomes, but not limited to, are listed below

a. The inclusion of all current in service water capability ancillary equipment.

b. The inclusion of selected current in service water capability ancillary equipment within the support solution, and the remainder being replaced by a VFM alternatives supplied by the contractor.

c. The full replacement of all existing in service water capability ancillary equipment.

Logistic Research

46. The CWSS project team have investigated the current marketplace and engaged with industry to explore new technology to establish potential solutions for the problems presented by the current in-service equipment. Logistical support will be tailored to ensure improvement in the performance for the new capability is delivered.

47. The issues below highlight some of the lessons learned from the current CWSS capability:

a. **Skill Fade** - Due to the equipment not being deployed on exercise often, competency on the equipment becomes reduced at unit level.

b. **Equipment Design Ease of Use** - The technology of the equipment is functional but very dated. The equipment has been given a life extension programme keeping it in service until 2019, meaning that modernisation of the CWSS systems are possible.

c. **Increase Usage in Replacement Parts** - Due to the equipment current high failure rate the demand for replacement parts is proportionally high.

d. **Low Availability of Replacement Parts** - The supply chain has struggled to effectively manage stock requirements for this equipment. Long periods of equipment immobility and a lack of trend investigation from the CWSS user community; has resulted in the incorrect quantity of parts being held on the shelf available for issue and obsolescence.

48. This list is not exhaustive for the current issues for CWSS and the current in-service WPU suite. The ILS plan will contain a new robust support solution which has taken into consideration all the major issues highlighted.

49. A learning culture is present in OSP and is actively encouraged by Asst Hd TLS to ensure previous issues are not repeated and best practice is adopted throughout all programmes. Matrix management is also being utilised to ensure that the best skilled personnel are working on the

correct projects to ensure the best possible knowledge application and transfer throughout the projects.

Other Factors

50. A short Political, Economic, Sociological, Technological, Legal and Environmental (PESTLE) analysis has been undertaken to understand what influencing factors could limit or effect the support solution requirements and can be found below. This will be updated throughout the CADMID cycle as the factors will change dependant on the lifecycle position of the project.

a. **Political**. Import rules, Taxation, Legislation, Collaboration, Oil prices and availability, technological requirements of host country.

b. **Economic**. International competition, exchange rate issues.

c. **Sociological**. Cost to local communities and welfare, geographical location, supply chain availability

d. **Technological**. Availability of required technology versus cost, legislation requirements. Obsolescence and rare materials, Supply chain interfaces

e. **Legal**: Discrimination law, consumer law, antitrust law, employment law, and health and safety law. These factors can affect how a company operates, its costs, and the demand for its products.

f. **Environmental**: Impacts of climate change is affecting how companies operate and the products they offer, both creating new markets and diminishing or destroying existing ones.

INPUT INTO PROJECT APPROVAL

51. The CWSS MILSM will be engaged by the CWSS Project Team for all ILS requirements; this will include input into key documents such as the User Requirements Document and System Requirements Document. The CWSS MILSM will also engage with the CWSS Project Team in the maturation of the Whole Life Costs (WLC) Model, attend the project risk reviews, and provide input to project Business Cases. The CWSS MILSM is not the owner of any of the above documents but will hold responsibility for providing advice and guidance regarding the support solution that may be included within.

ILS Documentation

52. The following documents will be used in the management of ILS for this project. Documents may be contractual or for information purposes only. Unless clearly indicated as contractual nothing within these documents should be interpreted as a change to the contractual requirements.

Supportability Analysis Strategy

53. The SA Strategy identifies how the SA tasks will be tailored to meet the needs of project CWSS when analysing and optimising the proposed equipment and its support environment. The SA Strategy will be tailored in conjunction with the procurement strategy to meet the needs of this project; this will be addressed in the SA Plan (SAP).

The Use Study

54. This Use Study is not a contractual document. It details how the MoD currently supports the In-Service equipment and satisfies the requirements of Defence Standard 00-600 and JSP 886. It is provided without commitment or prejudice to external parties including potential bidders and contractors to provide important background information to assist the interpreting the MoD's requirements detailed in the Statement of Requirement (SoR) - however, it should not constrain innovation.

ILS Work Breakdown Structure

55. The ILS Work Breakdown Structure (WBS) is to assist ILS Managers in planning their ILS programmes and provides the mechanism for control both the MOD and Contractor elements of the ILS programme. A sample of the ILS Work Breakdown Structure can be found at Figure 2 for both Concept and Assessment phases. The ILS WBS will be reviewed and updated accordingly.
56.

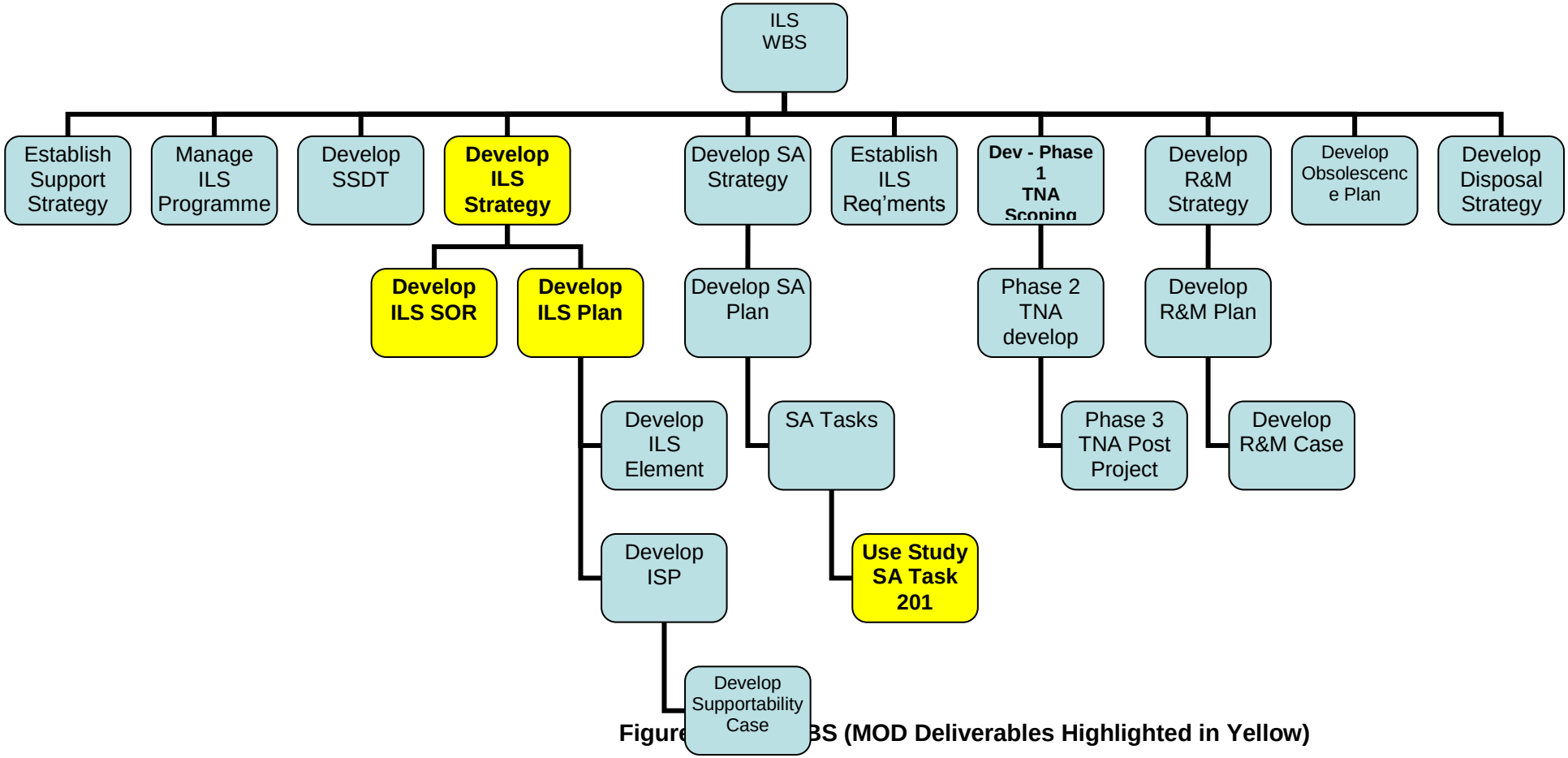

Figure BS (MOD Deliverables Highlighted in Yellow)

The ILS Statement of Requirement

57. The ILS/CLS Statement of Requirement (SoR) is a contractual document. It describes the activities that the contractor is required to complete. It includes the tasks to be undertaken, the reporting requirements and the requirement for and timing of reviews. The SoR is supplemented where required by the Contract Document Requirements List (CDRL) and ILS Product Descriptions (ILS PD).

The Contract Document Requirements List

58. The CDRL is a contractual document. The CDRL specifies the information to be delivered under the terms of the contract. It defines the delivery requirements (including timings) and configuration control for each deliverable. Where the amount of detail requires it, a specific ILS PD can be used to expand the CDRL by providing further details.

ILS Product Descriptions

59. ILS PDs specify the format, content, preparation and delivery requirements of project data.

The SA Plan

60. The SAP will, upon contract award, become contractual. It is to be prepared by the contractor and describes in detail the contractor's SA organisation and the activities planned to fulfil the SA contractual requirements detailed in the SoR.

ILS Element Plans

61. The ILS Element Plans (ILS EPs) are integral to the ILSP and the ISP in turn. They specify how the elements of the support system are to be designed, implemented, operated and validated. ILS EPs will be created where applicable as some ILS elements have been tailored out during the Assessment Phase in agreement at the Logistic Support Committee (LSC).

The Integrated Support Plan

62. The Integrated Support Plan (ISP) is the Capability Support Management Plan and is a contractual document. It shall be prepared by the contractor and describe in detail the Contractor's ILS organisation and the activities planned to provide the contractual deliverables.

63. The ISP is the principal document by which the ILS content of a tender bid will be assessed; as such the inclusion of a comprehensive draft with the tender response is mandatory. The ISP is expected to closely mirror the ILSP for this project. The ISP shall be produced in accordance with Def Stan 00-600 and JSP 886 and the SOR as required and shall detail all the ILS activities that the Contractor proposes to undertake and how those tasks shall be delivered and managed throughout the Contract. The associated element plans shall give greater detail of the relevant activities.

MOD Project Team Reports and Studies

64. To date, the following reports have been commissioned and are available on request where security and information classification allows:

a. Water Management Framework

b. Civilian case study

c. Military case study

d. Training Scoping Study

e. Use Study

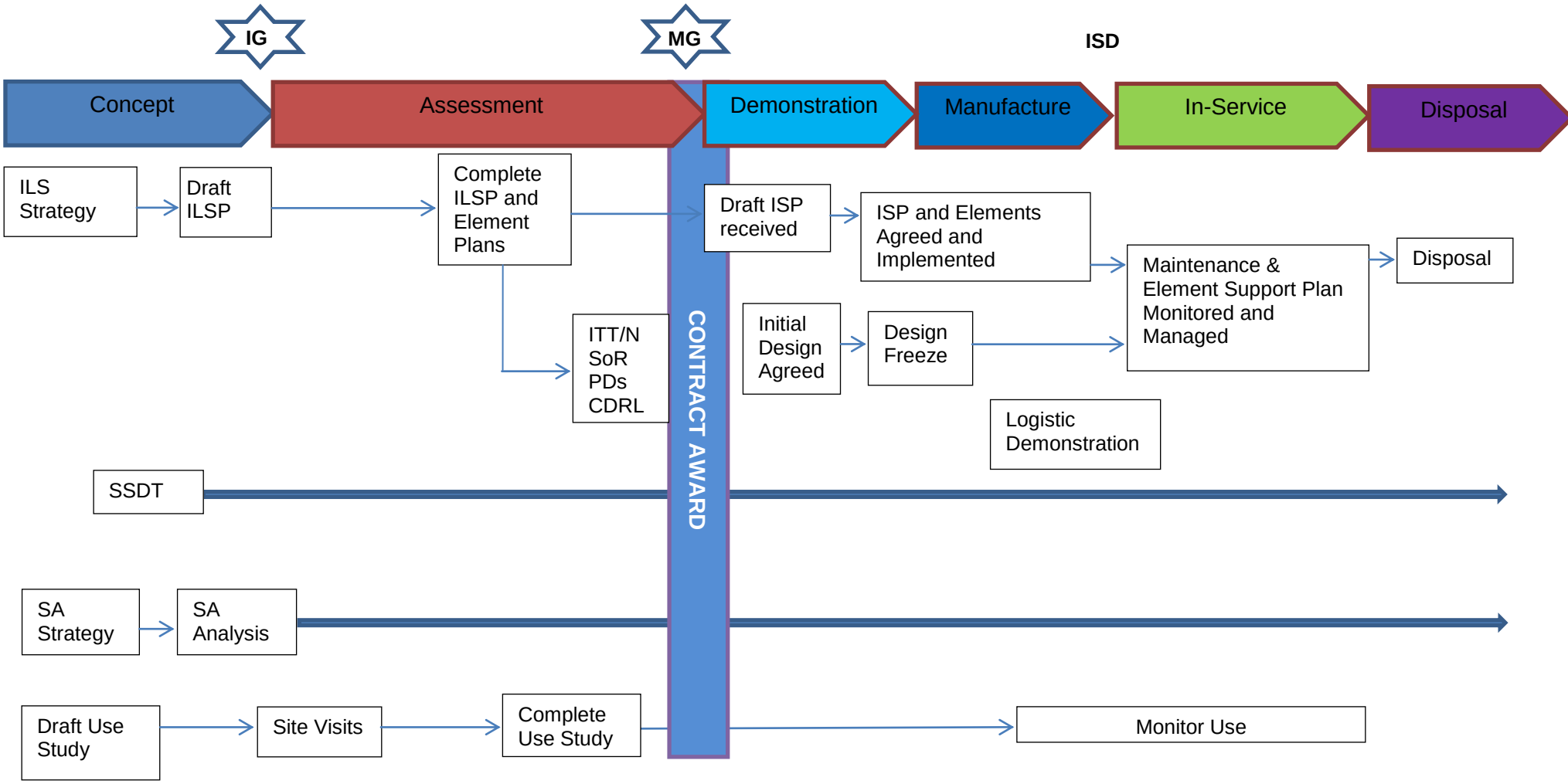

Figure 3 – The ILSP Lifecycle

<table>
<tr><th>Concept Formulation</th><th>Assessment</th><th>Demonstration</th><th>Manufacture & In-service</th><th>Operating & Support</th></tr>
<tr><td>COST</td><td>Develop TLF estimates of alternative solutions
Compare with affordability limits
Implications of major system requirements</td><td>Requirements in light of TLF impacts
Define TLF estimates of alternatives
Refine affordability limits and design to cost targets</td><td>Within selected alternatives
Refinements/update of TLF
Design to cost</td><td>Product improvement in light of TLF impact</td></tr>
<tr><td rowspan="6">ILS</td><td colspan="4">Supportability Analysis (SA)</td></tr>
<tr><td rowspan="5">Draft Integrated Logistic Support Plan (ILSP)
Identify readiness and R&M objectives
Identify manpower constraints
Develop ILS strategies
Investigation of alternative support concepts
Influence design definition
Logistic impact of each alternative
Identify risks</td><td rowspan="5">Update ILSP
Complete design of Logistic Support System
Ensure ILS is part of Design Trade-offs
Resolve support risks</td><td>Update ILSP
Test and evaluate support system
In service Support Plans
Acquire all necessary support items
Implement fall back strategies if necessary</td><td>Implement Support Plans
Operational Support
Support cost studies</td></tr>
<tr><td colspan="2">Delivery of system and all support items</td></tr>
<tr><td colspan="2" rowspan="2">Support cost studies</td><td rowspan="2">Post Design Support</td></tr>
<tr></tr>
<tr><td>TEST & EVALUATION</td><td colspan="2">Test results/Study reports</td><td>Test results/Study reports</td><td>Acceptance document</td><td>In-Service reliability demonstration</td></tr>
</table>

Figure 4 – The Aims of the Integrated Logistic Support Process

ILS ORGANISATION

Capability Manager

65. The Sponsor and User community for CWSS is as follows:

ROLE	RANK	NAME
CIWG Owner	Colonel	Story
CIWG Chair	Lt Colonel	Szabo
CIWG Secretary	Major	Blow
Sponsor	Brigadier	Humphries
Air Cap Lead	Sqn Leader	Parry
NCHQ Cap Lead	Major	Hammond
Training DLOD	Major	Fitzsimon
Equipment DLOD	Major	Ranger
Requirements Manager	Major	Brinkman
Equipment DLOD	Mr	Clarke
Personnel DLOD	Major	Chapman
Information DLOD	Major	Blow
Doctrine DLOD	Major	Nixo
Organisation DLOD	Major	Chapman
Logistics DLOD	Major	Fraser
Fielding	Major	Briggs

Table 1 – Sponsor and User Community Stakeholders[1]

Project Team

(a) 1 CWSS Stakeholder Matrix from Army HQ MOSS Webpage – (08/03/2016)

66. The Project Team for CWSS currently sits within the Operational Infrastructure Programme (OIP) of OSP. The current structure and incumbents are detailed below:

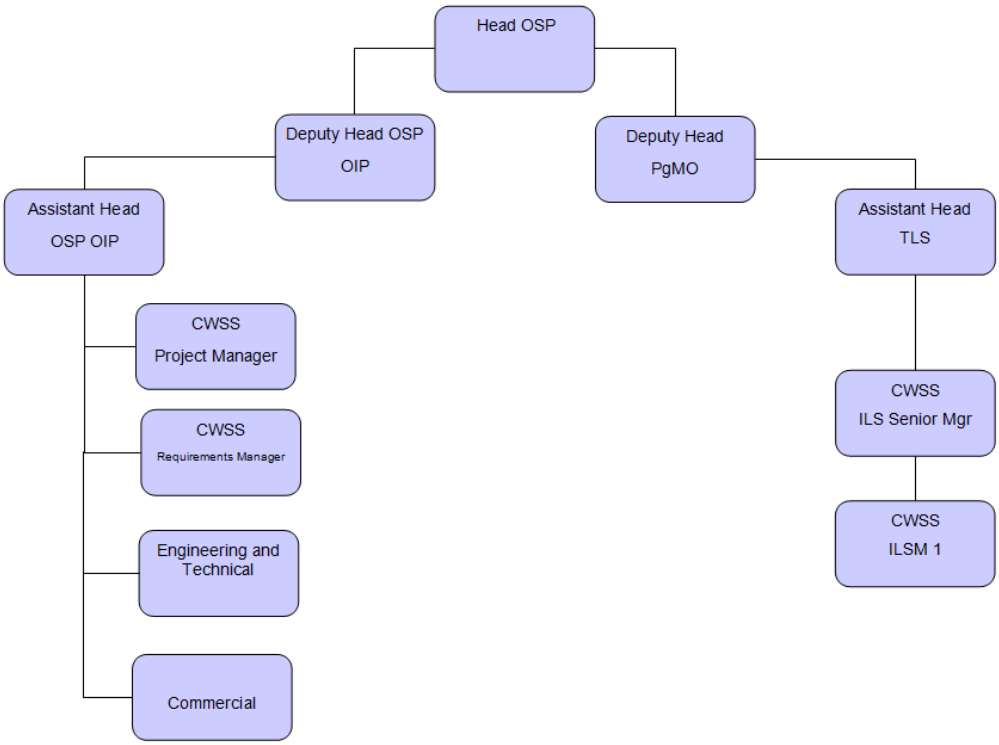

Figure 5 – CWSS Organisational Breakdown Structure

ILS MANAGEMENT

MOD ILS Manager (MILSM)

67. The MILSM is responsible to the Project Manager for the overall planning and execution of all ILS actions related to the acquisition of CWSS. The Senior MILSM for this project is Christopher Heale, whom will be supported by Neil Bolton in the delivery of this ILS project.

68. The MILSM will ensure timely planning and action in a co-ordinated and economic manner. The MILSM will define the actions and activities required to produce a tailored ILS programme composed of the basic elements of ILS. The MILSM provides a focal point for the ILS programme elements, for the Contractor ILS Manager and the various Sub-Contractors.

Key Personnel

69. The MOD ILS Manager is supported by a CWSS team who will assist with all ILS associated tasks and Through Life Support (TLS) elements of the project. The TLS team for CWSS consists of:

a. **Christopher Heale** – TLS (Senior ILSM). Responsible for developing and managing the Support Solution for the CWSS project.

b. **Neil Bolton** – TLS (Support 1).

MONITOR AND REVIEW PROGRESS

70. The main forum for the co-ordination of ILS activities is the Logistic Support Committee (LSC) chaired by the MILSM. The LSC comprises of representatives from each area of the support community, each providing expert advice and guidance from within their area of responsibility of the authority's requirement for logistic support of the project. The LSC composition and TOR's will be agreed at the inaugural meeting, once agreed they will be included in at Appendix 16.

71. The LSC is a formal gathering which is held to discuss support and in-service matters in order to take forward the ILS work. Following Contract Award, the successful Contractor will be represented on the LSC. Once a preferred Contractor has been selected, LSC meetings shall be held at a frequency and location as agreed between the authority and the Contractor. Where possible the meetings shall be programmed to occur in conjunction with project or designs reviews to promote maximum attendance and reduce travel costs. The Chairmanship of the LSC rests with the MILSM or nominated representative, and the contractor ILS manager (CILSM), or nominated representative.

72. ILS plans and deliverables defined within the ILS SoR shall be reviewed by MILSM within a 10 business day period, the Contractor ILSM (CILSM) shall be responsible for making any changes or updates as identified by the MILSM (OIP-ILSM) within 10 business days unless otherwise agreed by the MILSM. All changes shall be resubmitted to the MILSM for review.

73. Other ILS and LSC Working Groups (WG) may be held as required and agreed by the LSC, a minimum of 15 working days' notice (where appropriate) will be given prior to the date of meeting.

ILS Organisation And Interfaces

74. Support will be given to the ILS team by the specialist engineering personnel within OSP. The Engineering team will interface with the project team throughout the project, offering Subject Matter Expert (SME) advice, guidance, and will be instrumental in the safety and quality aspects of the project. The OSP Engineering section is supported by a number of suitably qualified SME staff.

75. The OSP engineering team will be working closely with the ILS team to identify and test the ARM&T, Reliability Centred Maintenance (RCM), and Human Factors Integration (HFI) aspects of the CWSS project, and will be consulted prior to acceptance of any ARM&T or HFI deliverables.

ILS Training

76. All TLS team members within OSP are required to be trained and suitably qualified to carry out their roles with the CWSS support design and delivery. TLS Asst Hd is the nominated professional post holder for OSP/TLS team and holds an ILS certificate of competence. All other ILS staff will be expected to hold as a minimum an ILS licence level 2 and have proven their competence within the field to the head of section.

77. Any industry input to the project will require the individual's credentials assessed by TLS Asst Hd by means of CV scrutiny to ensure that they are Suitably Qualified and Experienced Persons (SQEP) to conduct the task allocated to the satisfaction of the TLS team. The OSP Engineering team is managed by OSP Chief Engineer who is considered by the MOD professionalism standards and Hd OSP to be SQEP to conduct engineering scrutiny and requirements setting on behalf of OSP.

78. Any contractors working on the CWSS project will be expected throughout the contract negotiations and following contract award to prove competency and SQEP to the satisfaction of the OSP project team and as detailed within the contract requirements.

Contractor ILS Organisation

79. The Contractor's ILS organisation is to be clarified further during Demonstration Phase.

ILS PROGRAMME

Programme Outline

80. This document details the ILS programme for the delivery of the CWSS project. Throughout the CADMID phases, the appropriate level of involvement from project stakeholders shall be assured through representation at project meetings. All stakeholders will agree the project organisation and representatives shall be identified for each of the project areas contained within it.

81. This ILSP will be updated regularly as the project progresses and will be re-issued at key points throughout the project lifecycle.

Task Responsibilities

82. ILS task responsibilities are to be identified in the ITN response.

Activity	Date
Draft ILS Strategy	Nov 2015
Draft ILS Programme	Nov 2015
Draft SA Strategy	Nov 2015
Draft SA Programme	Nov 2015
Draft Plan for Generation of the Information Repository	TBC
ITN	MAY 2016
Responses	AUG 2016
ITN Assessment	AUG – DEC 2016
Award of Contract	FEB 2017
Logistics Planning Conference	TBC
Synopsis for Overall Support Plan	TBC
Draft Major Support Task Management Programme	TBC
Installation	TBC
Ready Date	TBC
Ready for Training Date	TBC
Logistic Support Date	TBC
In-Service Date Equipment	2019
In-Service Date for Trainer	TBC
Out of Service Date	2034

ILS Milestone Schedule

83. The ILS programme for the CWSS project aims to establish an effective support regime that will meet the specified support requirements, maximise system availability and optimise the system's Whole Life Costs (WLC).

84. The Contractor shall provide a programme of ILS events & task responsibilities which are to be identified in the Contractor's response.

85. The Contractor is to propose an ILS schedule linked to the project schedule with linked milestones for agreement by the MILSM prior to contract signing. The programme shall take into account, but may not necessarily be limited to, the following:

Table 2 – Table of CWSS ILS Milestones

86. If, at the request of the Contractor, an ILS Guidance Conference is required the Contractor shall be responsible for hosting the conference. This conference will take place at a time that will be most beneficial to the quality and availability of the Contractor's ILS deliverables for the Assessment phase.

87. LSC meetings shall be held at six monthly intervals during the Assessment and subsequent phases. ILS Working Group meetings may be convened on an as-required basis. Meetings shall be chaired by the MILSM, and attended by relevant stakeholders. The Contractor shall host the meetings and provide the calling notices, secretarial services and all minutes of the meetings. An action list and minutes shall be provided to the MILSM for agreement within 5 business days of the meeting taking place and issued to the agreed distribution list within 10 business days of the MILSM's agreement of the minutes. Meetings shall be convened as per PD 0003-01.

Support Strategy

88. The aim of the CWSS support strategy is to support CWSS in the most efficient manner whilst reducing WLC and providing Value for Money (VfM) to Defence. The MOD designed and sponsored Support Options Matrix (SOM) has been used to design support options that can offer effectiveness and efficiency gains. The SOM is explained in JSP 886 Vol. 1 Pt. 4. Finding the right solution for any equipment is a combination of understanding which cost and performance drivers are the most important for that equipment and understanding who is best placed to manage those drivers. The Authority expects to fully utilise industry's capabilities to make gains in effectiveness, efficiency and flexibility with no additional risk to operations or increase in overall WLC.

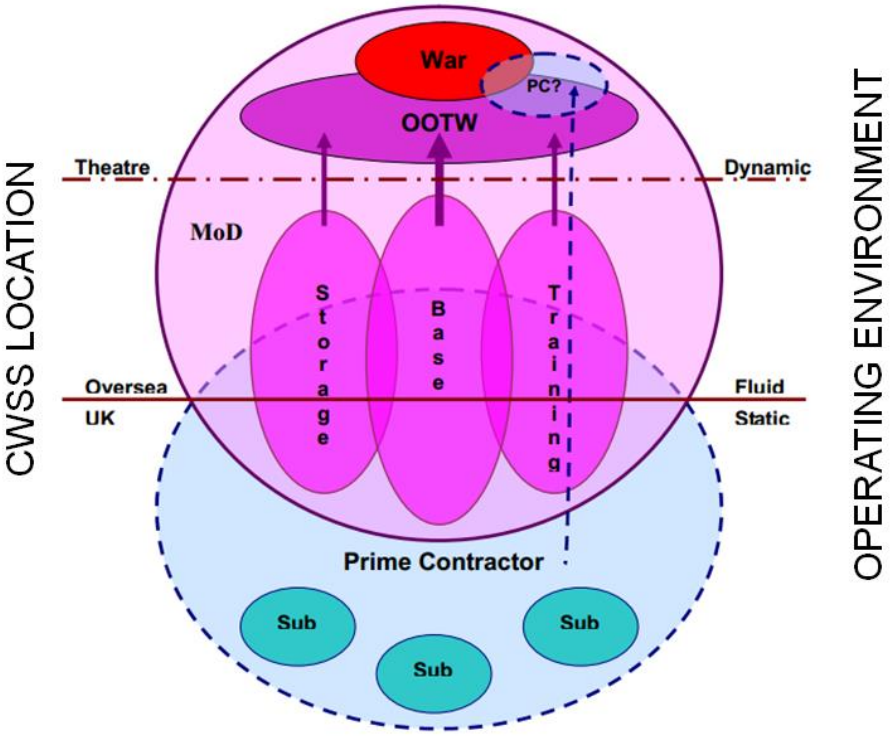

Figure 6 – CWSS Support Boundaries

89. CWSS will be deployed worldwide in support of Military Operations and be used in varying environments. Fig 6 above illustrate the holistic support boundaries which the support solution must take into consideration.

90. For CWSS the support strategy was developed to cater for all the support considerations within boundaries illustrated in Fig 6, therefore a hybrid approach was selected. The mixture of a Contracting for Availability (CfA), and Traditional support with additional Costed Options was deemed the most appropriate path for the project. This approach will ensure that a core level of support will be provided for CWSS which is mapped against the assumed future usage of the equipment. The Authority can tailor the support by including pertinent support solution options available from Industry.

Supportability Case

91. The Supportability Case provides an auditable trail of the logistic engineering considerations from requirements through to evidence of compliance. It provides the traceability of why certain activities have been undertaken and how they can be judged as successful. It is initiated at the concept stage by the MOD and is revised progressively during a system life cycle and will typically be summarised in Supportability Case Reports at predefined milestones. The Contractor shall develop and manage the supportability case, by providing periodic evidence that the product can be supported through-life when in service.

Supportability Analysis (SA)

92. SA is a key principle in delivering an integrated support solution, a structured method of analysing the support implications of products are applied throughout the CADMID cycle. The aim of SA is to identify features of a design that can result in excessive costs In-Service. These features can then be the subject of trade-offs to revise the design of the project, thereby reducing the overall cost.

SA Strategy

93. The elements of the SA Strategy applicable to each stage of the project lifecycle will be summarised in the SAP. It includes the requirements and policies to be adopted for:

a. Identification of SA candidate items

b. Method of implementing logistically significant item configuration control

c. Tailoring and responsibility for SA

d. Scheduling of SA tasks and deliverables

SA Plan (SAP)

94. The SAP shall explain the Contractor’s integrated approach to all SA tasks, SA management responsibilities and activities, and outline the approach toward accomplishing the analysis tasks that are described in this document. Where developmental design processes are used, the Contractor shall describe how front end analysis tools, such as Repair Policy Analysis (RPA) and Level of Repair Analysis (LORA) models, have influenced trade-off and maintenance policy decisions and how Failure Mode Effect and Criticality Analysis (FMECA), Fault Tree Analysis, RCM and HUMS were employed. The SA requirement is for prospective bidders to produce an SA Plan, in accordance with ILS PD 0002-01.

95. The SAP shall include, but may not necessarily be limited to the following:

a. Description of how the SA programme shall be conducted to meet the system and logistic requirements.

b. Description of how SA shall be tailored to the Contractor's proposed solution.

c. Identification of each SA task and extent to which each shall be performed.

d. SA Programme Schedule with estimated start and completion points for each SA programme activity or task.

e. Description of how SA tasks and data shall interface with all other ILS and system oriented tasks and data.

96. ILS plans and SA tasks must be co-ordinated across the breadth of the project to prevent duplication and ensure the optimum support arrangements are identified. Where design freedoms do exist ILS will be used to ensure support is considered during the design process, where no design freedom exists ILS will be used to evaluate the supportability of the systems proposed.

CWSS SA Requirement

97. The SA requirement for CWSS will be tailored for a COTS solution. JSP 886 vol 7 Part 3 lists the tailored SA requirements for COTS capability. Where the solution is a mature COTS product with a documented history of support reliability data, then the Contractor shall focus on providing the evidence for the R&M Case and detailing the ILS Plans in the ISP. In this case it is expected that the SA activities will be minimal. This detail is expected to be provided in the Contractor's response to the ITN.

SA Tasks & Activities

98. The SA tasks shall:

f. Influence the capability solution design to consider supportability requirements

g. Identify cost drivers during the support processes

h. Identify the total resources required to support the capability through life

i. Provide evidence that the support solution is optimised for the mission capability for the through life sustainability with minimum through life cost and minimised support footprint

99. Recent trends have shown that capability solutions are often mature COTS products with a CLS solution. In this instance and provided evidence on the fielded reliability is provided, there is little point in repeating SA activities. However, where evidence is not provided or the COTS equipment is new and untried, then there is a requirement to consider the following tasks, and sub-tasks within, to determine support solutions, and the Contractor can suggest other tasks necessary in the development of the support solution:

100. SA Task 103: Program and Design Reviews and ILS Reviews: The aim of this tailored task will be to ensure that the supportability requirements will be achieved.

101. SA Task 202: Mission Hardware, Software and Support System Standardisation: Within this task support resource requirements and existing resources available to this project will be identified. These include manpower already in place, level of training and ability in post and any support policy considerations. Any requirements remaining will be considered as new resources to be procured.

102. SA Task 301: Functional Requirements Identification: This task is to identify equipment functions and assesses operations, maintenance and support tasks.

103. SA Task 302: Support System Alternatives: Provide evidence of current in-service performance data and documentation, and evidence for discounting alternative support solutions.

104. SA Task 303: Evaluation of Alternatives and Trade-off Analysis: To conduct evaluations and trade-offs between design, operations and training to determine the optimum solution for attaining and maintaining the required proficiency of operations and support personnel.

105. SA Task 401: Task Analysis: Task 401 ensures that the optimum maintenance solutions identified will be analysed to determine the types and quantities of resources required, typically these would include:

a. Maintenance level and periodicity of carrying out the tasks

b. Number of personnel, skills level and speciality requirements

c. Spares, repair parts and consumables required

d. Support equipment including test, measuring and diagnostic equipment

e. Level of training and training material required

f. Facilities required

g. Packaging, handling, storage and transportation requirements.

106. SA Task 402: Early Fielding Analysis: This task will assess the impact of introducing the new equipment within existing systems, determine the level of logistic support required and the risks associated with non-compliance of those requirements.

107. SA Task 403: Post-Production Analysis: This task is to demonstrate that the Contractor or their sub-contractors have processes and procedures in place that analyses potential end-of-life issues or skills based issues that could affect equipment operations during the whole life of the proposed system.

108. SA Task 501: Supportability, Test, Evaluation and Verification: Task 501 is performed to verify that system supportability requirements are being met. Where supportability deficiencies exist, the necessary corrective actions are identified and addressed. Previous corrective actions are assessed to ensure the corrective action had the desired effect with no negative aspects introduced.

109. Justification will be required for not carrying any of the above tasks.

110. Outputs from the SA activities, or evidence, shall be used to determine the following:

a. Equipment ARM&T

b. RCM
c. Equipment maintenance
d. Software maintenance, upgrading and software configuration management
e. Maintenance planning for support equipment
f. Status and control procedures
g. Configuration Management (CM)
h. Computer resources support, firmware, software requirements
i. In-service support
j. Supply Support
k. Tools and test equipment
l. Initial Provisioning
m. Spares and repair
n. Parts management (Line Replacement Units (LRUs) and spares etc.)
o. WLC
p. Design influence
q. Safety requirements
r. Human engineering
s. Personnel
t. Training and training aids
u. TD
v. Deficiency management
w. Government Furnished Assets (GFA) management
x. Packaging requirements
y. Transport and transportability requirements
z. Facilities management
aa. Obsolescence management
bb. Disposal management

111. Where the Contractor considers that a more in-depth SA activity is needed, it shall be justified and agreed with the MILSM.

ILS Element Plans

112. The ISP and Element Plans (EPs) provide the basis for the support strategies and processes to support the equipment during development and introduction to service. All the ILS element plans listed in Appendices 1 - 16 shall be considered for inclusion in the ISP by the Contractor, for submission in the ITN response and for formal update to be carried out as stated in the ILS SoR. If the capability solutions is COTS equipment with a CLS support solution and the SA activity is significantly reduced then the importance of the ILS Element Plans increases. They will provide the essential information for tender assessment and shall provide sufficient detail to enable a measured judgement to be made of the ITN response. Where a response is considered not applicable, justification shall be provided by the Contractor.

DESIGN AND ENGINEERING CONSIDERATIONS

Line Replaceable Units

113. Line Replaceable Units (LRU) shall be discrete physical modules and capable of testing to an approved specification or procedure. It is desirable for all LRUs and LRIs to be replaceable whilst the system is under power. All parts requiring maintenance shall be easily accessible, and shall be removable without the need for specialist tools. Where possible, all LRUs and LRIs shall be designed so that one man can handle them comfortably. Where this is not possible then a two-person lift shall be considered with a maximum lift weight of 40 kg. With equipment parts weighing heavier than 40 kg then mechanical aids shall be considered.

Batteries

114. Where batteries are used it is essential they shall be long-life requiring no, or minimal maintenance with disposal instructions provided. Details such as location and how to access any Lithium batteries are to be provided. Volatile memories, if an essential part of the design, shall be provided with a method of data retention during power interruptions. If their use cannot be avoided, conformal coatings shall be non-toxic.

115. Where emergency power-off switches are used in conjunction with Uninterrupted Power Supplies (UPS), then due consideration must be given to switching off both mains and the UPS.

Discard / Repair

116. Consideration is to be given to discard versus repair of faulty items. This is an SA activity that is to be determined through cost analysis.

Inspections

117. Inspections are prescribed actions undertaken to foretell when corrective maintenance is required. It is desirable that new equipment is sufficiently reliant so that inspections are minimised.

Remote Monitoring

118. Where remote monitoring, technical monitoring control systems or diagnostic computers are to be used, system integrity shall be maintained. Details are to be stated in the Security Plan. Maintenance of such systems (including software) is to be included in the Maintenance Plan.

Contractor Logistics Support

119. The Contractor Logistic Support (CLS) Plan, where used, becomes the single document used by the Support Manager (SM) for day-to-day management of the project during its In-Service period. Where the Contractor is proposing to use CLS then the full maintenance policy details are required within the ISP.

Environment

120. The system shall satisfy all applicable environmental legislation.

System Integration

121. Where the new capability solution is to be integrated into existing equipment systems then the Contractor shall ensure that the integrity and reliability of the existing system is not compromised or degraded in any way. In addition the contractor shall consider the Safety Case issues in this instance.

Risk Management

122. The MILSM will be required to regularly conduct risk assessment on the ILS tasks; this will be undertaken at every LSC. The responsibility and procedures for identifying risks and their risk reduction measures shall be identified. The CWSS project maintains a central risk register controlled by the project Risk Manager.

GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviations

Abbreviation	Definition
AESP	Army Equipment Support Publications
AP	Assessment Phase
ARM&T	Availability, Reliability, Maintainability& Testability
CADMID	Concept, Assessment, Demonstration, Manufacture, In Service & Disposal
CDRL	Contractual Data Requirements List
CfA	Contracting For Availability
CI	Configuration Identification
CILSM	Contractor Integrated Logistic Support Manager
CLS	Contractor Logistics' Support
CM	Configuration Management
CMP	Configuration Management Plan
COEIA	Combined Operational Effectiveness and Investment Appraisal
COSHH	Control of Substances Hazardous to Health
COTS	Commercial off The Shelf
CP	Concept Phase
CWSS	Combat Water Supply System
DE&S	Defence Equipment and Support
DEFCON	Defence Condition
Def Stan	Defence Standard
DLOD	Defence lines Of Development
DM	Data Module
DP	Demonstration Phase
DRACAS	Data recording, Analysis & Corrective Action System
DSAT	Defence Systems Approach to Training
DTSM	Defence Training Support Manuals
ESD	Equipment Supply Depot
FAT	Factory Acceptance Testing
FMECA	Failure Mode Effect and Criticality Analysis
GFA	Government Furnished Assets
GFE	Government Furnished Equipment
GFF	Government Furnished Facilities
GFI	Government Furnished Information

Abbreviation	Definition
HFI	Human Factors Integration
HFIP	Human Factors Integration Plan
IAW	In Accordance With
IETP	Interactive Electronic Technical Publication
IGBC	Initial Gate Business Case
ILS	Integrated Logistic Support
ILSP	Integrated Logistic Support Plan
IOC	Initial Operating Capability
IP	Initial Provisioning
IPC	Illustrated Parts Catalogue
IPR	Intellectual Property Rights
ISD	In Service Date
ISP	Integrated Support Plan
ISRD	In Service Reliability Demonstration
ITEAP	Integrated Test, Evaluation & Acceptance Plan
ITN	Invitation To Negotiate
JSC	Joint Support Chain
JSP	Joint Services Publication
LIR	Logistic Information Repository
LORA	Level Of Repair Analysis
LRI	Line Replaceable Item
LRU	Line Replaceable Unit
LSC	Logistic Support Committee
LSD	Logistic Support Date
MART	Mean Active Repair Time
MILSM	MoD Integrated Logistic Support Manager
MTB Failure	Mean Time Between Failure
MTB Fault	Mean Time Between Fault
MTTR	Mean Time To Repair
OIP	Operational Infrastructure Programme
OMP	Obsolescence Management Plan
OOTW	Operation Other Than War
PD	Product Description
PDS	Post Design Services
PHS&T	Packaging, Handling, Storage & Transportability
PRAT	Production Reliability Acceptance Testing

Abbreviation	Definition
PT	Project Team
R&M	Reliability & Maintainability
RCM	Reliability Centred Maintenance
RGT	Reliability Growth Testing
RTP	Reusable Training Package
QA	Quality Assurance
S&TE	Support and Test Equipment
SA	Supportability Analysis
SAP	Supportability Analysis Plan
SM	Support Manager
SOM	Support Options Matrix
SoR	Statement of Requirement
SRD	System Requirements Document
SSDT	Support Solutions Development Tool
SSE	Support Solutions Envelope
SSO	Support Solutions Officer
SwSP	Software Support Plan
SSP	Supplier Support Plan
SCC	Special to Content Container
STE&V	Supportability, Test, Evaluation and Verification
T&TE	Training and Training Equipment
TDMP	Technical Documentation Management Plan
TDOL	Technical Documents Online
TDP	Technical Documentation Plan
TLF	Through Life Finance
TNA	Training Needs Analysis
TOR	Terms Of Reference
TRT	Turn Round Time
TTD	Technical Transfer Date
UPS	Uninterrupted Power Supply
URD	User Requirements Document
VFM	Value For Money
WBS	Work Breakdown Structure
WG	Working Group
WLC	Whole Life Cost

Distribution

Appointment	Name	Email
Project Manager	Mr Jonathon Clarke	DES LE OSP-OIP-Water-SnrMgr (Clarke, Jonathan C1)
Project Officer	Mr Mario Parola	DES LE OSP-OIP-Water-Mgr1 (Parola, Mario C2)
Project Officer	Mr David Key	DES LE OSP-OIP-Water-Mgr2
Support Solutions Officer	Major John Moy	DES IMOC SCE-Spt-SO2 (Moy, John Maj)
OSP TLS Asst-Hd		DES LE OSP-PgMO-TLS-AsstHd
Requirements Manager	Major Christopher Brinkman	DES LE OSP-OIP-Util-ReqMgr (Brinkman, Christopher Maj)
CWSS Commercial Officer	Miss Cassie Wilkins	DES LE OSP-Comrcl-ND-12 (Wilkins, Cassie Miss)

APPENDICES

Appendix 1 - Reliability and Maintainability Plan
Appendix 2 – Maintenance Plan

Appendix 3 - Supply Support Plan
Appendix 4 – Supply and Test Equipment Plan
Appendix 5 – Facilities and Infrastructure Plan
Appendix 6 - Manpower and Human Factors Plan
Appendix 7 – Training and Training Equipment Plan
Appendix 8 – Technical Documentation Management Plan
Appendix 9 – Packaging, Handling, Storage and Transportation Plan (PHS&T)
Appendix 10 – Disposal Plan
Appendix 11 – Software Support Plan (SwSP)
Appendix 12 – Obsolescence Management Plan
Appendix 13 – Configuration Management Plan (CMP)
Appendix 14 – Logistics Demonstration Plan
Appendix 15 - Contractor Logistics Support Plan
Appendix 16 – Logistic Support Committee (LSC) Terms of Reference (TOR)

Appendix 1 - Reliability and Maintainability Plan

Aim

1. Reliability and Maintainability (R&M) is the recognised heading for the topics of Availability, Reliability, Maintainability and Testability (ARM&T). The ARM&T requirements are stated in the System Requirements Document (SRD) and the equipment Programme ILS SoR's. The principal R&M requirements are for an R&M Programme Plan and Case study to be provided. They can be individual documents or be an Annex to the ISP. It is important that R&M evidence is provided at the same time as the ISP. The R&M case is to provide progressive assurance that the capability solution will provide the necessary confidence that the Authority's reliability requirements will be achieved.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective R&M plan:

a. Def Stan 00-600
b. Def Stan 00-40
c. Def Stan 00-42
d. Def Stan 00-44
e. Def Stan 00-45
f. Def Stan 00-49
g. Def Stan 00-56 (Safety Mgmt)
h. JSP 886 Vol 7 Pt. 8.04
i. Section 3.7 ILS SoR

3. The initial R&M Case to be carried forward was produced in 2009 and remains extant for the CWSS project. The contractor will use this document as a baseline to develop the R&M requirements for CWSS.

Background

4. R&M also encompasses the discipline of Reliability Centred Maintenance (RCM), which is closely related and forms an integral part of Supportability Engineering. Both R&M and RCM can have a profound effect on Availability, especially on operations and during peacetime training. Failure to follow MOD policy in either of these important areas will jeopardise Capability, inflate Through Life Costs (TLC) and undermine Safety and Morale.

5. R&M is a generic term which embraces the qualities of:

(a) Availability.

(b) Reliability.

(c) Maintainability.

(d) Durability.

(e) Reliability Centred Maintenance (RCM).

(f) Testability

6. The CWSS project is envisaged to be a number of systems either integrated within one unit or as a modular design based system, Reliability and Maintainability (R&M) has a major impact upon the operational availability requirements of the system within the SRD.

Policy

7. It is MOD policy that the following process and procedure are applied to all MOD projects.

a. R&M shall be afforded full consideration, along with equipment performance, cost and project timescale, through the life of the equipment.

b. R&M shall be addressed in Initial Gate and Main Gate Business Cases, to the satisfaction of the Investment Appraisal Board.

c. Robust and measurable R&M requirements shall be included in procurement and support contracts.

d. RCM shall be included in procurement contracts, to derive preventive maintenance programmes for new capabilities.

e. Progressive Assurance shall be used to demonstrate that contractual R&M requirements have been met during Demonstration, Manufacture and In-service.

f. RCM shall be used to review and revise preventive maintenance programmes at regular intervals during the In-service phase.

g. Project Team (PT) Leaders shall appoint competent Focal Points (FPs) to manage routine R&M activities through the life of the equipment. FPs should complete specific FP training available through the Defence Academy

h. All equipment users shall be able to report faults, failures and serious incidents to the PT supporting the equipment via an effective Equipment Failure Reporting (EFR) process. The PT or Contractor shall analyse these reports, initiate corrective action where required and provide feedback to the originator. In order to reduce cost and simplify Logistic IS systems, preference is for the use of standard systems rather than bespoke systems.

Process

8. Process, procedure and guidance are provided in the DEFSTAN 00-40 series.

9. Best practice guidance is published by the Safety and Reliability Society (SaRS). Specifically recommended are:

a. Interactive process maps showing which Reliability related activity should be done at specific stages of the CADMID cycle Ministry of Defence PT Reliability & Maintainability Processes seen below at figure 7.

b. Detailed guidance on these activities is published in GR-77: Applied R&M Manual for Defence Systems

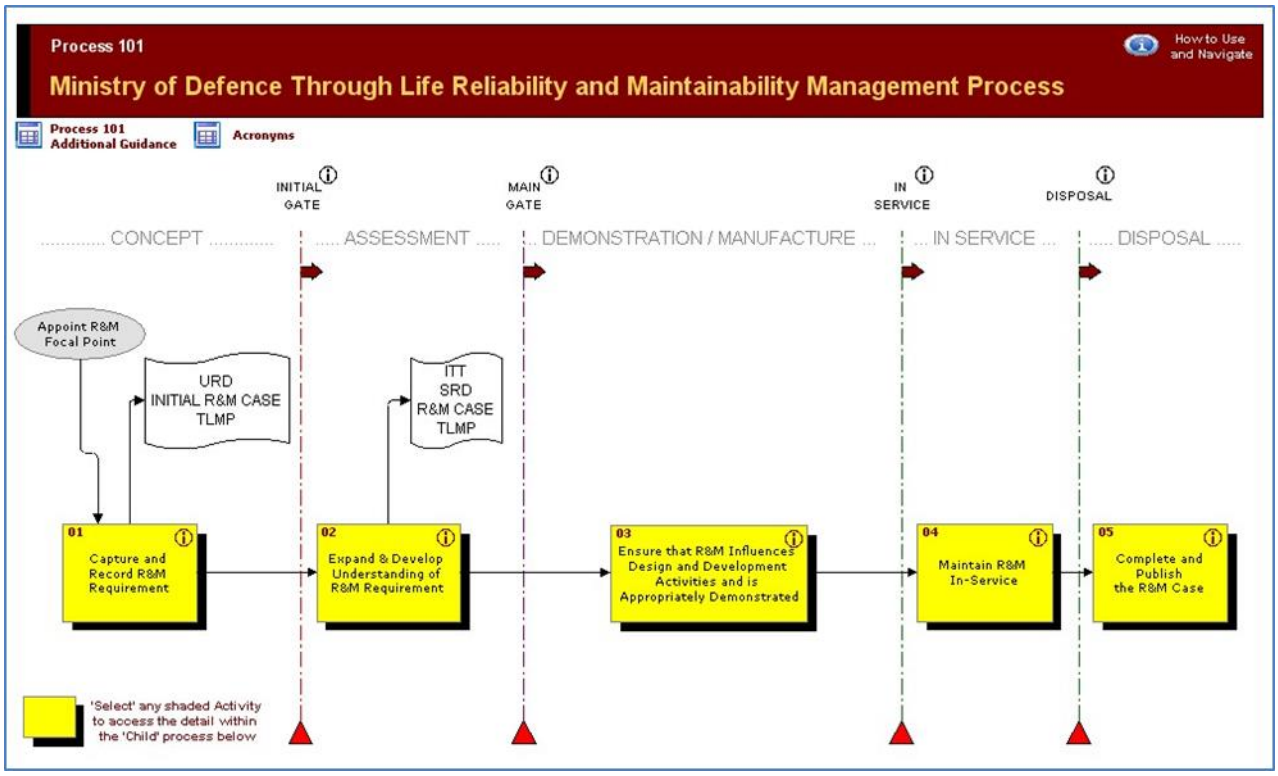

Figure 7 Interactive process maps

Availability

10. The Availability requirement is detailed in the SRD. The bidders/contractors are advised that responses to the ITN document concerning ARM&T matters are required to be detailed and justified. Detailed reliability block diagrams are preferred responses.

11. To give an indication of support needed the system inherent availability (Ai) shall be formally demonstrated and calculated as follows:-

a. Inherent Availability = Ai
b. Mean Time Between Failure = MTBF
c. Mean Active Repair Time = MART
d. Mean Time To Repair = MTTR
e. Ai = MTB Fault / (MTB Fault + MART)
f. Note. No Fault Found (NFF) arising are to be classified as faults.

12. If the system is to be maintained by the contractor then an indication of system operation availability (Ao) will be calculated as follows:-

a. Ao = MTB Fault/(MTB Fault + MTTR)

b. MTB Failure will be used to give an indication of system capability.

13. Where:

Term	Definition
MTB Fault	Total operating time divided by number of applicable faults.
MTB Failure	Total operating time divided by number of applicable failures.
MART	The total active repair time divided by the number of repairs in a system.
MTTR	The same as MART except delay times are included in the active repair time. Ao is to assume the same definition as Achieved Availability and as such all maintenance, corrective and scheduled, will be included.
Active Repair Time	The elapsed time taken to carry out a repair, this includes fault diagnosis, rectification and test but excludes any delay time.
Failure	The termination of the ability of any item to perform its function within the limits as established in its specification. A failure occurs when equipment cannot be used for the designed purpose.
Fault	The non-conformance of an item to any one or more of its required functions or performance parameters within their limits as established in the specification, and which necessitates unscheduled corrective maintenance, irrespective of whether or not a system failure has occurred, the rectification of which requires unscheduled maintenance. Note, that Failures and No Fault Found (NFF) arising are also counted as faults.
Item	Any level of hardware, system, sub-system equipment, components, etc.

Table 3 - R&M Terminology

Reliability

14. The Contractor is expected to provide the logistic reliability he is prepared to underwrite (mean Time between Faults (MTB Faults)). This figure is expected to be greater than that detailed in the BFM. In addition he is expected to underwrite a Mean Active Repair Time (MART) figure. The MART will be demonstrated through the Maintenance Demonstration (M Demo). It is expected that the MART will be approximately 30 minutes with no fault taking longer than what is stated within the SRD.

15. A closed loop Data Reporting, Analysis & Corrective Action System (DRACAS) will be implemented. This system will track failures during the In-Service phase of the CWSS project.

16. A Maintenance Demonstration or, a series of Maintenance Demonstrations, where considered appropriate, should form part of a maintainability demonstration programme (MDP); this would be an integral part of the overall procurement strategy and included in the project Integrated Test Evaluation and Acceptance Plan (ITEAP). The M Demo and MDP must be produced and conducted in accordance with Def Stan 00-42

17. A MDP could be planned to occur during development, production and/or after in-service use but the timing of a MDP affects both the contractor's and purchaser's risk. The closer the MDP is to the in-service date the less likelihood of embodying any proposed changes. Early undertaking of a MDP could be affected by development or production issues, a settling-in period might be required. Projects have to determine when to conduct the MDP and must to align with other contractual statements regarding timing of achievement, such as "maintainability shall be achieved at first entry to Service". Procedures adopted during a settling-in period should be declared; and include identification and embodiment of improvements and modifications. A compromise could be to conduct preliminary MD's during development; this would enable shortfalls to be addressed whilst reducing the likelihood of issues when the system enters service.

18. The logistics needs of MDP will be considerable and may include spare parts, fuel, lubricants, support equipment, specialist facilities and appropriate trained manpower. The quantities and standards of all support equipment (e.g. tools, test equipment, servicing equipment, handling equipment and technical documentation and publications), including Government Furnished Equipment (GFE) needs to be defined. Most importantly, it needs to be representative of the in-service system and not specially prepared or provided. Fully trained personnel with appropriate dress (especially chemical, biological, radiological and nuclear (CBRN) dress and / or arctic dress) will be required. Consideration needs to be given to the potential cost of providing the logistic needs. The assessment of the logistic needs and support should be made at the earliest possible time by the MOD PM since some resources, such as trained manpower, may need to be allocated several years in advance. A MDP may also affect long-term planning of training, military exercises and deployments by the user.

19. Whenever possible the technical publications (e.g. handbooks, operating and maintenance instructions) used to conduct the MDP should be of the same standard, quality and issue as those to be used when the system is in-service. This will allow for the validity of these publications to be demonstrated, but may not always be possible for early MDPs. In these instances interim documents need to be agreed.

20. The requirement for a MDP as part of contractual acceptance needs to be declared within the ITN documentation, which should include sufficient information to determine the user's commitments and enable contractors tendering for the work to assess the financial and technical risks associated with an MDP. Typically, the following information needs to be included:

a. The maintainability parameters to be demonstrated.
b. The level of statistical confidence to which the customer requires the specified maintainability parameters to be demonstrated.
c. The scope of the demonstration (i.e. a definition of the extent of the system or subsystem to be demonstrated, the environment and operational factors) required to assure the MOD / user.
d. The resources to be made available by the customer and the user.
e. The customer's and the contractor's responsibilities during the MDP.
f. Any operational constraints limiting the MDP.
g. Any proposed payment retention until successful completion of the MDP.
h. Start and finish dates.

21. In-Service Reliability Trials / Demonstrations (ISRD), an ISRD is the demonstration of the reliability achievement using production standard equipment under agreed In-Service environmental, operational, usage and support conditions. The ISRD will form part of the R & M Case where in it provides evidence of final test and assurance that the reliability requirements have been met. When adopted, it is an important element of the R&M Programme Plan and does not replace other reliability activities such as reliability growth testing (RGT), reliability qualification testing and production reliability acceptance testing (PRAT) which may be appropriate irrespective of whether an ISRD is planned.

22. During the tender stage, the contractor should assess the ISRD requirements of the ITN and integrate them into an R&M strategy, programme and plan, as part of the R&M Case supplied with the tender. This should include the contractor's ISRD Plan, which will form part of the contract.

23. As the acquisition programme proceeds, the contractor should refine the R&M strategy and plan in the light of increasing knowledge about the product and its environment, usage, support needs, failure modes, and progressive assurance. The practicability and effectiveness of the provisions of the ISRD Plan should be reviewed as the balance of risk changes, and any indicative values contained in the original plan must be made more precise. Consequently, it may be expedient to replace the ISRD with other sources of evidence, quite late in the programme. Therefore, it is essential for the customer and contractor to reserve the opportunity to refine and renegotiate the ISRD plan and contract right up to the Manufacture phase/Provisional Acceptance. The benefit is to minimise the costs and risks of both customer and contractor, whilst still assuring compliance with the R&M requirements. The ISRD Plan and all associated reports and data collection should be produced and conducted in accordance with Def Stan 00-42.

24. The Project Manager (PM) is responsible for overall management of the ISRD and is responsible for the ISRD requirements within the Section 3.7 of the ILS SoR. The PM will normally appoint a Demonstration Coordinator who will be a member of the stakeholder groups. The PM will convene a regular review meeting, perhaps as part of the reliability stakeholder group meetings, to update the planning for, and subsequently monitor progress of, the ISRD.

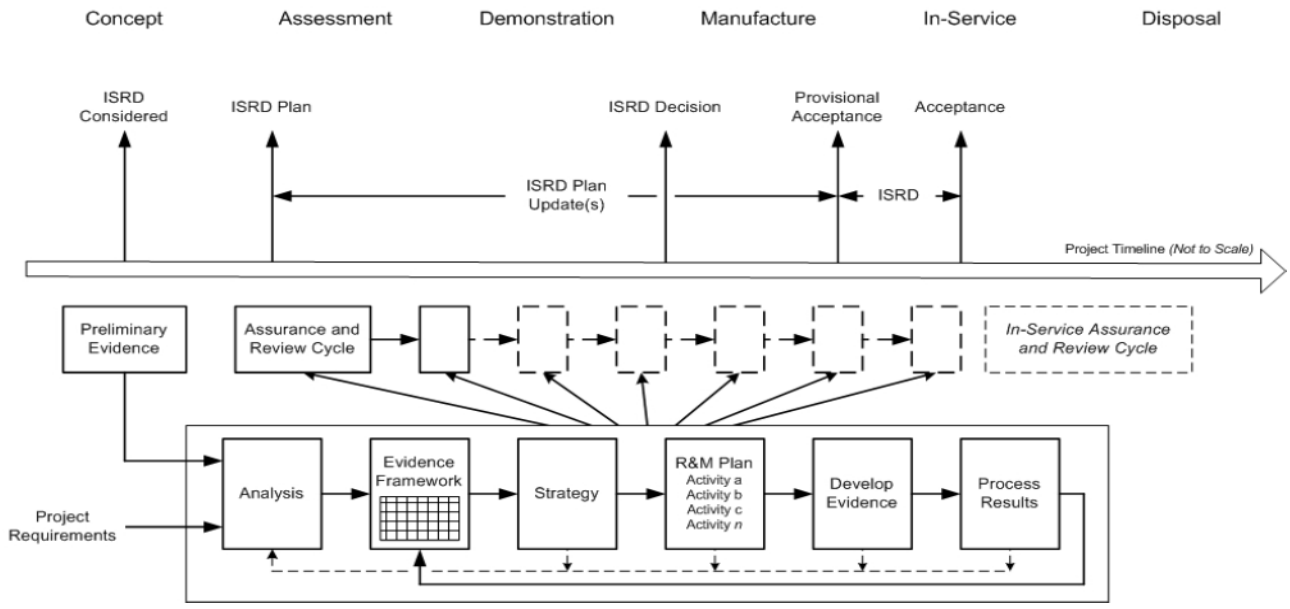

Figure 8 - Outline Management Process for ISRD

25. Invitation to Negotiation (ITN) and Response. The requirement for an ISRD as part of contractual acceptance needs to be declared within the ITN documentation, which should include sufficient information to determine the user's commitments and enable contractors tendering for the work to assess the financial and technical risks associated with an ISRD. Typically, information which should be included is:

a. The reliability parameters to be demonstrated.

b. The level of statistical confidence to which the customer requires the specified reliability parameters to be demonstrated.

c. The scope of the demonstration (i.e. a definition of the extent of the equipment or system to be demonstrated, the environment and operational factors) to be guaranteed by the user.

d. The resources to be made available by the customer and the user.

e. The customer's and the contractor's responsibilities during the ISRD.

f. Any operational constraints limiting the ISRD.

g. Any proposed payment retention until successful completion of the ISRD.

h. Start and finish dates.

26. From the Technical Transfer Date (TTD) and throughout the In-Service phase, the contractor will provide fault classification. Discussions involving classification of failures will form part of the In-Service Logistic Support Reviews.

27. During the In-Service phase, the contractor shall establish a procedure to review all failure reports to enable sentencing according to their relevance to the programme and to ensure that each failure is analysed and corrective actions are proposed. The contractor will also ensure that the corrective actions are carried out and suitably verified before the report is closed. The Authority will chair an incident sentencing committee and those attending will be agreed between the authority and the contractor. Attendees will be drawn from the following disciplines as necessary:

a. Reliability
b. Maintainability
c. Testability
d. Safety
e. Quality
f. Design
g. Manufacturing
h. Procurement
i. ILS
j. Engineering.

28. The Sentencing committee may be convened quarterly and at the Authority's discretion to coincide with the ILS Working Group meeting. The Sentencing committee will examine data including a description of the environmental conditions at the time of the failure, symptoms of failure, failure isolation procedures and known or suspected causes of failure. Sentencing committee items classified as 'Open' will be followed-up until failure mechanisms have been satisfactorily identified and corrective action determined. Part of the review will compare each arising with the FMECA. If a failure is confirmed, the FMECA will be updated accordingly if there is a discrepancy.

Data Classification

29. The Data Classification of incidents will form an essential part of the DRACAS during the In Service phase. The contractor will prepare and structure a data classification system for the in-service phase in accordance with Def-Stan 00-44 to ensure that all incidents are accurately and consistently categorised as to cause, criticality, frequency and charge-ability.

30. The contractor will agree on the criteria for the classification of data with the Authority. This will separate those incidents that are relevant to the estimation of equipment Reliability or Maintainability from those which are not relevant. Those that are relevant must be further divided as to the cause that will allow steps to be taken to eliminate weaknesses and improve AR&M.

R&M Plan from Industry

30. Section 3.7 of the ILS SoR will ask Industry to supply an R&M Plan, the plan will provide the Authority with the basis to review, monitor and evaluate the R&M programme. The plan must be delivered as part of the Integrated Support Plan (ISP) and will be used in the Tender Evaluation. The R&M Plan must detail, but is not restricted to, the following:

a. An R&M Programme Plan (DEF STAN 00-40 Part 1 Issue 4 Annex A) that identifies all R&M tasks, activities, resources and responsibilities within the bidder and their sub-contractors.
b. An R&M Case (DEF STAN 00-42 Part 3 Issue 1) that contains the evidence and analysis to support the predictions for the level of R&M of the equipment and it's ancillary equipment.
c. A Reliability Risk Matrix

Appendix 2 – Maintenance Plan

Aim

1. The aim of this document is to provide an overview of the required policy and content for the Maintenance Planning as an accompaniment to the ILSP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective maintenance plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Con 16
d. AC 71877 Battlefield Equipment Support Doctrine
e. AESP – 022-A-013-013
f. JSP 930
g. JSP 886 Vol 7 Pt. 8.03A, 8.03B, 8.03C, 8.03D, 8.03E
h. Sections 3.8 – 3.12 ILS SoR

Background

3. Maintenance includes all actions taken to retain equipment in, or to, a specified condition including inspection, testing, servicing, serviceability classification, repair, rebuilding and reclamation.

4. The maintenance plan shall consist of two elements:

a. Maintenance Policy

b. Maintenance Schedule.

5. The Maintenance Policy shall detail what maintenance philosophy is to be adopted, which lines and levels, roles and responsibilities, facilities and equipment defining who, where and when maintenance is to be delivered. The Contractor needs to be aware of the MOD's policy to repair as far forward as possible i.e. Level 3. This activity shall recognise the existing lines and levels of repair as identified by the Use Study, but shall aim to capture innovative concepts that suit CWSS and can be justified by the Contractor. The aim of the project team is to maintain or reduce the maintenance burden for the CWSS capability.

6. The Maintenance Schedule shall provide a definition of the maintenance tasks associated with the system, equipment, training equipment and S&TE. This shall include all mandated corrective, recommended corrective and preventative maintenance tasks and the periodicity of these latter tasks.

7. **Battlefield ES Concept**[2] Operating Environment, The National Security strategy states that "The risk picture is likely to become increasingly diverse. No single risk will dominate..; Therefore, achieving security will become more complex. During the Cold War we faced an existential threat from a state adversary through largely predictable military or nuclear means. Mission critical equipment must be repaired as close to the point of failure or damage as possible, with sufficient ES resources in order to deliver maximum combat effectiveness. Repair forward is constrained by the availability of resources, technical and tactical feasibility and in particular, the assessment of

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time required affecting the repair. Protected and agile ES assets enable this principle.

Levels of Equipment Support

8. The Level of ES is determined by the extent of the engineering content in the repair task. It is determined in terms of the depth of repair, the time required to carry out the repair, and its complexity in terms of the engineering resources required. Since the Levels of ES have a direct relationship to the time required there is also a direct relationship to the prevailing tactical situation that must be taken into account when making repair decisions. Consideration of 'maintainability' during the equipment development phase should ensure that repairs can be carried out using the minimum number of tradesmen, in the shortest possible time and using the minimum number of special tools. The Levels of ES are defined as:

a. **Level 1.** Servicing and day-to-day preparation conducted at unit level by the equipment user, which may include basic operations such as functional testing, ES Mat replenishment, servicing, minor modifications, fault diagnosis and corrective maintenance by replacement, adjustment or minor repair.

b. **Level 2.** ES planning and maintenance conducted at unit level, by replacement, adjustment or minor repair using generally provisioned resources, such as ES Mat spares battle boxes. This is the first level of ES delivered by the Royal Engineers and the Royal Electrical (RE) & Mechanical Engineers (REME).

c. **Level 3.** ES planning and maintenance is conducted at formation level and in greater planning detail and depth than Level 2. It includes such operations as Bde level ES planning, re-supply of ES Mat, repair, partial reconditioning and modification requiring special skills or equipment; but which is short of a complete strip, reconditioning and re-assembly. Generally, RE Workshops (WKSP) / REME Battalions (Bn) or optionally Defence contractors and Babcock DSG deliver Level 3 ES within the theatre of operations.

d. **Level 4.** Currently full overhaul, reconditioning, major conversions, or major repairs, are usually outside the theatre of operations and conducted by Defence contractors and Babcock DSG, however for this project Level 4 repair may be carried out by the OEM or a designated sub-contractor.

<table>
<tr><th>ES Levels</th><th>Description</th><th>Logistic Levels</th></tr>
<tr><td>Level 1 ES</td><td>Unit level by User</td><td rowspan="2">Unit level</td></tr>
<tr><td>Level 2 ES</td><td>Unit Level by RE Tradesman, Attached LAD REME Tradesmen.</td></tr>
<tr><td rowspan="2">Level 3 ES</td><td rowspan="2">Formation level by RE WKSPs and REME CS and FS Bns

Off Platform Repair (OPR) and Regeneration loop /CONDO (RE WKSP or REME Bn)</td><td>Formation Level</td></tr>
<tr><td>Force Level</td></tr>
<tr><td>Level 4 ES</td><td>Base Level by Primary</td><td>UK Based</td></tr>
</table>

	Contractor	

Table 4 - ES Levels

9. Levels of Spare (LoS). LoS is used to describe what type of store is supplied, held or fitted at what location and by whom. This information is not available on current asset management and stores systems as it is only used within Defence Equipment and Support (DE&S) to inform inventory scaling and purchasing plans. Nevertheless, practitioners need to be familiar with the definitions to understand what type of items are required to complete ES tasks throughout the Joint Support Chain. The definitions for LoS are in Column (d) of Table 5.

LoES	Definition	LoS	Definition	Source
(a)	(b)	(c)	(d)	(e)
1	**User**	1	Items normally fitted by the driver or operator as part of normal user operation and servicing. May be fitted by RE / REME when completing higher level tasks.	USA
2	**Unit (LAD/ RE WKSP)**	2	Items fitted by RE / REME personnel to achieve **in mission effect**. Usually these items can be fitted within 2 hours and are scaled in repair Section Battle boxes.	USA
		2A	Items fitted by Repair sect to achieve **inter mission effect**. Usually these items can be fitted in less than 6 hours.	USA or REME LAD or RE WKSP (Bn Stores Tp)
3	**Formation/Force (RE WKSP / REME Bn)**	3	Items scaled for forward deployment in repair section Battle boxes to achieve **intermission effect** and can usually be fitted in less than 6 hours.	RE WKSP /REME Bn (Bn Stores Tp)
		3A	Items fitted by RE and REME Bns in order to deliver **subsequent mission effect**.	
4	**UK Base (Contractor)**	4	Items fitted by Defence contractors and the Defence to deliver **sustaining mission effect**.	Industry

Table 5 - Levels of Spares

Requirements

10. CWSS equipment may be held by Contractor / Leidos or a military organisation and therefore requires a flexible maintenance policy. All parties who are responsible for providing maintenance services for CWSS must have the permissions and capacity to maintain capability whilst it is in their custody.

11. The MOD will adopt a traditional support approach for the capability whilst CWSS is held by the authority and shall use the in-service maintenance and supply chain personnel and policies.

12. The contractor/Leidos must employ a maintenance structure which integrates with existing MOD systems to ensure a holistic coherent maintenance solution is produced.

13. The responsibility of providing maintenance for the equipment held in these various locations will be shared between the MOD and the Contractor. The preferred approach is detailed below:

	Traditional (MOD)	Contractor
Peacetime (MOD)	Unit Lines 1-3	4
Peacetime (Storage)	N/A	1-4
Training Establishment	Unit Lines 1-3 / Existing holdfast and landmark contract	Call off 2-4
Operational	Unit Lines 1-3	Condo call off 2-4
Exercise	Unit Lines 1-3	FSR 3-4 call off

Table 6 Example Maintenance Responsibility Matrix

14. The Battlefield Equipment Support Doctrine is the repair policy which is adhered to by MOD maintenance organisations. This policy will provide industry with useful information about the framework the MOD uses, and can enable the contractor to provide an innovative maintenance policy for CWSS that could be beneficial to both the MOD and Industry.

15. The Maintenance Policy shall detail what maintenance philosophy is to be adopted, which lines and levels, roles and responsibilities, facilities and equipment defining who, where and when maintenance is to be delivered. The Contractor needs to be aware of the policy to repair as far forward as possible i.e. Level 1. This activity shall recognise the existing lines and levels of repair as identified by the Use Study, and BESD. The major consideration when producing a viable maintenance policy for CWSS is that the proposed solution should add a minimal increase to the maintenance burden that is required for the current in-service capability.

16. The Maintenance Schedule shall provide a definition of the maintenance tasks associated with the system, equipment, training equipment and S&TE. This shall include all mandated corrective, recommended corrective and preventative maintenance tasks and the periodicity of these latter tasks.

17. The contractor shall produce a Maintenance / Maintainability Plan which encompasses the following aspects, whilst taking account of applicable pre-existing maintenance knowledge of elements of the capability:

a. Development of a maintenance plan using the SA process as detailed in Def Stan 00-600. This shall include the application of FMECA and LORA techniques (both economic and non-economic) together with Task Analysis (Task 400 series).

b. Performance of a task analysis to a level and depth commensurate with the pre-existing knowledge of the system. The task analysis process will establish maintenance concepts and support resource requirements for the capability. This process shall, where applicable, include:

c. Critical failure modes (identified by FMECA) which analyses to ensure equipment is designed to eliminate critical failure. Where this is not possible, preventative maintenance tasks are identified. The results of Maintenance Task Analysis (MTA) are used, within both the Procurement and In-Service project phases to optimise WLC whilst maintaining performance and availability requirements. The FMECA leads to identification of corrective and preventative maintenance activities respectively, which enable the support

resource requirements to be determined.

d. The application of LORA to determine the level at which an item will be repaired or discarded. This will normally be based on economic factors unless there are overriding non-economic factors such as safety and security requirements.

18. The Contractor shall investigate, analyse and report on how they will implement maintenance policy for CWSS, including but not limited to:

a. Scheduled Maintenance

b. Corrective maintenance

c. Testability Philosophy

d. Maintenance of stored items

e. Allocation of maintenance tasks to skill levels and roles

f. Environmental impact on maintenance including Biological and Chemical

19. The Contractor shall investigate, analyse and report (including demonstration) on how the maintenance role of CWSS compares to and/or differs from the current maintenance role of similar In-Service capabilities (such as the existing WPU capability) including but not limited to:

a. Role time

b. Manpower requirements

c. Tools requirements

d. Hazard analysis for role activity

20. The Contractor shall provide evidence that the scheduled maintenance activities have been minimised and that appropriately trained personnel can carry out all maintenance tasks easily and safely.

21. Data information shall conform to ISO 10303 STEP (Standard for The Exchange of Product model data), Application Protocol 239 (Product Life Cycle Support) and Asset Unique Identification European Article Numbering International Identifier UID (EAN AI 8004).

22. The Maintenance Plan shall describe the process for capturing these objectives and justify any deviation through analysis, which includes consideration of WLC. An Ease of Maintenance Assessment (EMA) is also to be undertaken, where applicable, this shall link into the Supportability, Test, Evaluation and Verification (STE&V) Plan.

Supportability, Test, Evaluation and Verification

23. Supportability assessment is the process of auditing the achieved level of Supportability. It identifies any deficiencies and proposes any necessary improvements to achieve or enhance system readiness.

24. The Contractor shall provide a STE&V Plan. The plan shall describe how the Contractor shall demonstrate, and prove, its supportability and supportability-related design objectives, evaluate operability and operator training, demonstrate the adequacy of its logistic support plan and quantify

the need for supply support for CWSS. It is to assess the achievement of specified supportability requirements, identify reasons for deviations from projections and identify methods of correcting deficiencies and enhancing system readiness in accordance with Def Stan 00-600 and JSP 886.

25. As the Project evolves the support system and recommendations need to be evaluated against the actual equipment. This shall be aligned with the equipment acceptance and validation programme. The support system shall be included within the Factory Acceptance Testing (FAT) and System Acceptance Testing (SAT) reviews.

Appendix 3 - Supply Support Plan

Aim

1. The plan shall demonstrate how the Supply Support elements for CWSS shall be delivered to the Authority including a detailed explanation of the supply support planning process and spares modelling which will be carried out and how these activities shall be conducted.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Supply Support plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 05-99
d. Def Stan 61-17
e. Def Con 611
f. Def Con 694
g. Def Con 117
h. JSP 886 Vol 1 Part 2 (JSC Blueprint)
i. JSP 886 Vol 2 Part 1 – Part 9, Part 404
j. JSP 886 Vol 3 Part 1 – Part 16 (Supply Chain Mgmt.)
k. JSP 886 Vol 4 Part 1- Part 10
l. JSP 886 Vol 7 Part 8.10 (Supply Support), Part 8.14
m. Section 1.3.12 and 4.3 ILS SoR

Background

3. The high level support objectives of the CWSS team are to ensure that the CWSS solution is procured with due consideration of WLC and that the most effective and efficient support solution is implemented ensuring spares are available when and where required to meet the high level of availability required by the User.

4. When new systems are provided to the Authority it is imperative that its operational efficiency is not impaired by lack of spare parts, should a functional failure occur. Suitable arrangements must therefore be made to ensure that a supply of relevant spares is available when CWSS is brought into service. The Tenderer shall therefore plan to provide the range & scale of spare parts to the Authority to match the delivery of CWSS.

Supply Support Strategy

5. To produce a VfM supply support solution for the CWSS project, a flexible supply support strategy will be required. CWSS may require the prime contractor to work in co-operation with established MOD preferred partners to ensure delivery of the holistic supply support package for CWSS.

6. The project team has identified core supply support activities which must be delivered by the contractor for this project. In addition to the core activities, a series of costed options have been identified which may or may not be added to the overall support package. If these costed options are to be included, it will require the Tenderer to establish and manage

processes that will allow full cohesion between all organisations involved in delivering the overall supply support effect for CWSS.

7. The Authority will hold the minimum number of spares at an agreed readiness level in accordance with Def Con 82, commensurate with the usage of CWSS. These spares will be held as Unit Repair Scales (URS). During operations, spares will be held as Deployment Scales provided in unit packs, in the quantities necessary to support the deployed fleet for an initial period of 30 days. A further 60 days Deployment Scales may be held at the deployed Secondary Depots if required to satisfy operational sustainability.

8. ***Initial Provisioning (IP)*** - Identifying, cataloguing and procuring the spares and support items necessary to support the operation of the equipment. IP produces the initial Spares Pack which will provide spares support for an initial in-service period, usually 2 years. IP shall be in accordance with Def Con 82 and the contractor shall apply a System Based Inventory modelling approach to the Initial provisioning for CWSS.

9. ***Re-provisioning -*** The routine process of re-stocking items that have been consumed. Spares replenishment will be required to maintain the availability of the equipment through life. The management of Capital Spares and Consumables will need to be pro-actively managed to comply with financial, volumetric and FLC driven constraints. When setting up the support solution it is necessary to determine the responsibility for re-provisioning and repair (contractors, MOD or other organisations) to ensure there is an efficient process by which they are managed.

10. Continuous monitoring of 'In Service' spares usage by the Authority will be required to allow timely replenishment and also to inform future spares procurement decisions. Spares used in repairs should also be monitored to ensure an efficient repair loop. Efficient business optimisation procedures should include a regular 'In Service' stockholding reviews.

11. Initial and Re-provisioning is enabled by the following SS procurement processes:

a. ***Procurement Planning.*** This process establishes a method of requesting quotations, issuing formal quotations and Customer Price Lists. This activity is usually undertaken by using the Purchase to Payment (P2P) system. The output of Procurement Planning is requests for quotation by the PT, issuing of formal quotations and Customer Price Lists by the Contractor, and the subsequent decision by the PT.

b. ***Order Administration.*** This embraces all the activities undertaken in connection with processing an order, from the time it is placed by the customer with a supplier, through all associated amendment, diversion, inquiry, progression and advice stages, to confirmation of delivery of the ordered articles. This activity will be undertaken electronically using P2P processes. The output from this process is a pre-negotiated contractual framework by which the Customer may place and progress orders with the Contractor. The contractual framework provides the ability to use standardised messages, known as transactions, for the exchange of data between computer systems. P2P uses standard messages, for placement of the order and confirmation of receipt, enabling automatic exchange of data between computer systems.

c. ***Repair and Overhaul*.** Repair & Overhaul procedures cover the management of the repair of items, to re-establish them as serviceable spares. It includes all the activities from the time the repair order is placed by the customer with a supplier, through all associated amendment, diversion, inquiry, progression and advice stages, to confirmation of delivery of the repaired articles. For simple items this activity will normally be the same as for spares provisioning but more complex Engineering Managed Items will require more proactive management through the employment of an asset management system.

d. ***Invoicing.*** When an order is delivered an invoice will be generated by the contractor for payment. An invoice is normally an individual request for payment on a single or multiple order delivery. This activity is normally carried out using the P2P system.

Ranging & Scaling - Recommended Scales

12. Ranging and Scaling and additional inventory management activities are to be conducted by the contractor and managed through life of the contract. The following information is required for CWSS:

a. Contractor's Recommended Scaling at Levels 1-2.

b. Contractor's Recommended Scaling at Level 3.

c. Contractor's Recommended Scaling for Sustainment in Central Stocks, including the level 4 Repair Exchange Service.

ES Level Support Logistic Levels

LEVEL	DESCRIPTION
1	Servicing and day-to-day preparation conducted at Unit Level by the equipment user, which may include basic operations such as functional testing, ES Mat replenishment, servicing, minor modifications, fault diagnosis and corrective Maintenance by replacement, adjustment or minor repair.
2	ES planning and maintenance conducted at Unit Level, by replacement, adjustment or minor repair using generally provisioned resources, such as ES Mat spares battle boxes. This is the first level of ES delivered by REME.
3	ES planning and maintenance conducted at Formation Level and in greater planning detail and depth than Level 2. It includes such operations as re-supply of ES mat, repair, partial reconditioning and modification requiring special skills or equipment; but which is short of a complete strip, reconditioning and re-assembly.

4	Full overhaul, reconditioning, major conversions, or major repairs, usually outside the theatre of operations and conducted by Defence contractors.

Table 7 Levels of Equipment Support

13. The list of spare parts shall be based on the Equipment Breakdown Structure (EBS), where possible, using unique Logistic Support Analysis Control Numbers (LCNs) and shall commence with the main assemblies forming the complete CWSS equipment types and variants, followed by sub-assemblies, modules, piece-parts and components.

14. The Authority shall review the recommended spares list offered by the Contractor. The Authority also reserves the right to procure spare parts from sources other than the Contractor if required.

15. The Contractor shall produce the same data as described above covering the provision of CES and S&TE. The Authority will assess CES recommendations for applicability after Contract Award. S&TE will be ranged and scaled by the Authority after a preliminary Ease of Maintenance Assessment (EMA) has been completed post Contract Award.

16. The Contractor shall be informed by the Authority of the agreed S&TE ranging & scaling lists and applicable CES lists prior to the process of NATO codification. This will comply with the Authority Government Furnished Equipment policy.

17. Tenderers shall clearly show in their Project Schedule when they will have provided the data required for ranging & scaling to the Authority. Tenderers shall also clearly state the latest date when NSNs and related information should be provided by the Authority to the Contractor to allow items to be delivered appropriately packaged & labelled. The Authority will not accept delivery of items into the Joint Supply Chain (JSC) which have not been NATO codified.

18. The contractor shall make spares available throughout the life of CWSS equipment to meet all levels of repair, whether undertaken in service or in industry. The contractor shall be responsible for the ranging and scaling of spares to meet the contracted availability criteria. The Contractor shall provide details in the tender response of the disposition of spares that is considered suitable for Initial Provisioning.

19. CWSS will be asset managed by the MOD using the Joint Asset Management and Engineering Solutions (JAMES). It is intended that the contractor will also use JAMES as the preferred method of asset management for CWSS. The use of the MOD supply chain is often unavoidable for overseas-deployed systems, and therefore, all Line Replacement Items (LRIs) spares and consumables shall be NATO codified and tracked using the most current MOD stores system.

20. A full list with technical information, safety data sheets and UN/Classification details of batteries used within the equipment is required from the Contractor. This includes lithium button cells used for memory backup etc. In addition, all batteries are to be registered and approved for use in accordance with DEF STAN 61-17. A list of battery locations within the equipment is also to be provided. The contractor shall also provide details of any Equipment Supply Depot (ESD) safety precautions and maintenance requirement.

21. The stock/inventory will be replenished as necessary to match usage activity levels; the Contractor will then supply the spares to the requestor via Purple Gate.

22. The Contractor must demonstrate how their Supply IT system will interact with existing MOD Supply IT Systems; in particular Stores System 3, MJDI, Electronic Business Capabilities (EBC) and Purchase to Payment (P2P)

NATO Codification

23. The NATO codification function is carried out in the UK by the United Kingdom Codification Bureau (UKNCB) and or any authorised agent. This process allocates a unique, NATO Stock Number (NSN) to an item. Items that will or are likely to enter the Military Supply Chain are preferably codified by Fit, Form and Function, not to a specific manufacturer's part no. UKNCB will screen the codification request for items already within the inventory and advise accordingly. In addition the Authority will screen the list of codified NSN for common items already within the system and apply due consideration to category management principles. Any items that are already within the Inventory may be purchased using existing contractual agreements. Any items with special requirements for example, shelf life, hazardous or ITAR implications need to be identified early.

24. On completion of codification, all relevant data must be passed to the Authority to update SS3 accordingly. The relevant data includes but is not limited to:

a. Defence Management Code

b. NSN

c. Short Item Name

d. Account Class

e. Price

f. Lead Time

g. Constraints e.g. min/max order quantity, pallet loads etc.

h. Dues in date

i. Failure rates

j. Repair – dues in/in progress/completed

k. Special to Contents containers

l. GFA Quarterly Return

m. **Illustrated Parts Catalogue (IPC).** Identification of parts likely to appear in the technical documentation.

25. The Contractor shall describe how it intends to determine collating data for NATO Codification and the processes and procedures it will undertake to codify CWSS items likely to enter the supply chain.

26. The outputs from Supply Support are critical in achieving the Logistic Support Date (LSD) and In Service Date (ISD). The SSP must include a schedule of milestones to manage the delivery of supply to the agreed timescale. The support strategy will be developed as the project matures, with the full support requirements evolving along with the eventual CWSS solution. The final support solution will be developed jointly with CWSS stakeholders, using and referring to the DE&S SSDT throughout the process.

27. During the early stages of the Assessment phase, the emphasis will be on identifying possible support solutions and obtaining sufficient data to determine costs. The later stages of the Assessment phase will be used to mature the support solution to enable development of the support solution and subsequent implementation during the demonstration and manufacture phases.

Supply Support Plan from Industry

28. Section 4.3 (SoR) will ask Industry to provide a Supply Support Plan. The Supply Support Plan will provide the Authority with the basis to review, monitor and evaluate the Tenderer's Supply Support programme. The plan must be delivered as part of the Integrated Support Plan (ISP) and will be used in the Tender Evaluation. The plan is to detail, but is not restricted to, the following:

a. The structure and organisation of the supply chain.
b. The processes and procedures, undertaken and planned, used to identify the repairable and consumable spares required to maintain the availability level of the CWSS Programme including any related risks and issues.
c. The proposed methodology to interface with the Military supply chain.
d. The Complete Equipment Schedule (CES) data requirements.
e. Stockholding policy – Must comply with the Quadrennial stocktaking requirements where the contractor holds stock.
f. Provisioning level calculated to maintain availability criteria, pipe-line and turn round times
g. Any Initial Provisioning or IP strategy
h. Consumables & Repairable
i. Item management policy
j. Re-provisioning of spares/LRIs
k. Codification, NATO Stock Number (NSN) and Unique Identification (UID Asset Unique Identification European Article Numbering International Identifier UID
l. Illustrated Parts catalogue (IPC); The IPC is mainly dedicated for item identification and replenishment purposes for maintenance activities carried out by MOD personnel. The IPC may be incorporated within servicing documents
m. Surge/Crisis Re-supply from Industry Procedure
n. Initial repair programme support
o. Repair and overhaul policy
p. Repair loop time
q. Policy and responsibility for repair of non-attributable faults, i.e. Battle damage, misuse, Natural disaster, No Fault Found
r. Transportation proposals for the collection and delivery of faulty/repaired items

s. Delivery and receipt of LRIs between lines of maintenance
t. Warranties, guarantees and incentives
u. Tasking Policy
v. Responsibility for modifications due to obsolescence, equipment improvement to meet availability requirements, etc.
w. Lifed items
x. Actual Manufacturer's Name & Address.
y. Actual Manufacturer's Part Number.
z. System Manufacturer's Part Number.
aa. Description of Part.
bb. Lead Time – Receipt of Order to Delivery.
cc. Shelf Life Limited Item – if applicable in months/years.
dd. Static Sensitive Item – if applicable.
ee. Location of Part by Reference to the Illustrated Parts Catalogue (IPC).
ff. Denomination of Quantity (D of Q).
gg. Number Off per Assembly.
hh. Minimum Economic Order Quantity – if applicable.
ii. Price per item (D of Q)
jj. Adhere to Packaging standards DEFSTAN 81 + JSP 886 Vol 7.
kk. Price per Minimum Economic Order Quantity – if applicable.
ll. Banded Quantity Prices for Additional Spares.

29. The Tenderer shall also produce, as part of the ITN response, a full list of spare parts that the Tenderer considers will be required to support CWSS during the life of the support contract. In addition, the Tenderer is required to produce a list of recommended initial provisioning sufficient in type and quantity to maintain the operational efficiency of the units receiving the new CWSS to include:

a. Unit Repair Scales for 30 days at levels 1-2.

b. Scales for 60 days at level 3 to be held at unit lines and the contractors / Preferred Partners storage location.

c. Scales for optimum central stock holdings held by Contractor or Preferred Partners location (which will take account of the Tenderer's proposed Level 1-3 replenishment system and production lead-times leading to assured sustainment through life and the level 4 Repair Exchange Service).

d. Scales for the provision of 180 days deployable level 4 stocks within an agreed notice period.

Use of the Joint Supply Chain

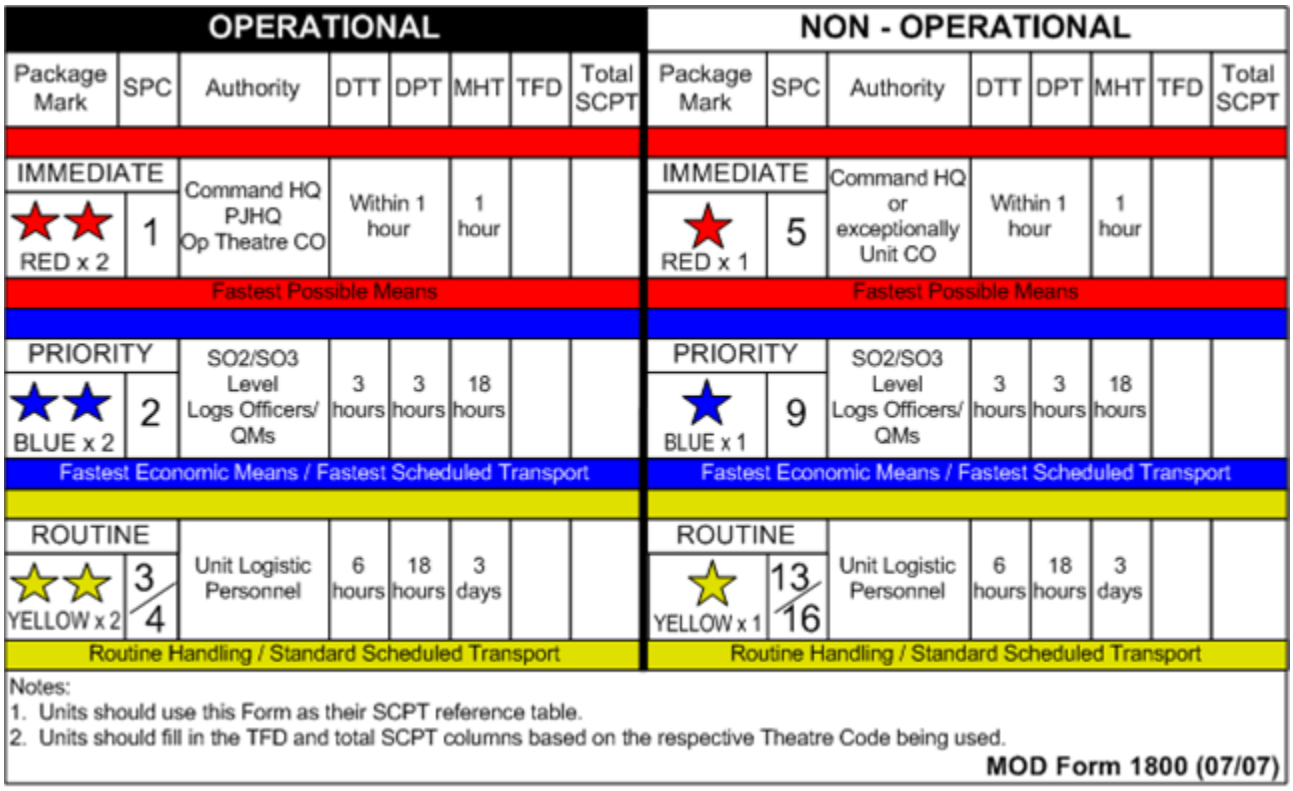
30. Spares for land equipment are initially held centrally by either the Contractor or the Preferred Partner prior to despatch to units for holding as Unit Repair Scales (URS).

31. Unit Repair Scales. In peacetime, spares are held by a unit as URS. This holding normally fluctuates between 15 and 30 days of forecast usage at peacetime rates.

32. Method of Delivery. All methods of delivery shall be compliant with the extant JSC policies and guidance.

33. The Standard Priority System (SPS). The purpose of the SPS is to define, allocate and implement supply chain priorities within the supply chain process.

34. SPS Matrix. Details of the relationship between SPCs, SCPTs and colour codes are shown in Table 7. SCPTs applicable to the supply of items between UK and other countries and operational theatres, are contained in Joint Services Publication (JSP) 886, Pt. 3 Vol 1.



OPERATIONAL							
Package Mark	SPC	Authority	DTT	DPT	MHT	TFD	Total SCPT
IMMEDIATE ★★ RED x 2	1	Command HQ PJHQ Op Theatre CO	Within 1 hour		1 hour		
Fastest Possible Means							
PRIORITY ★★ BLUE x 2	2	SO2/SO3 Level Logs Officers/ QMs	3 hours	3 hours	18 hours		
Fastest Economic Means / Fastest Scheduled Transport							
ROUTINE ★★ YELLOW x 2	3/4	Unit Logistic Personnel	6 hours	18 hours	3 days		
Routine Handling / Standard Scheduled Transport							

NON - OPERATIONAL							
Package Mark	SPC	Authority	DTT	DPT	MHT	TFD	Total SCPT
IMMEDIATE ★ RED x 1	5	Command HQ or exceptionally Unit CO	Within 1 hour		1 hour		
Fastest Possible Means							
PRIORITY ★ BLUE x 1	9	SO2/SO3 Level Logs Officers/ QMs	3 hours	3 hours	18 hours		
Fastest Economic Means / Fastest Scheduled Transport							
ROUTINE ★ YELLOW x 1	13/16	Unit Logistic Personnel	6 hours	18 hours	3 days		
Routine Handling / Standard Scheduled Transport							

Notes:
1. Units should use this Form as their SCPT reference table.
2. Units should fill in the TFD and total SCPT columns based on the respective Theatre Code being used.

MOD Form 1800 (07/07)

Figure 9 - Standard Priority System Matrix

Electronic Business Capability (EBC).

35. As the Defence electronic gateway to industry DECS handles the routing of all EBC CLS messages to and from industry. All CLS contractors have to be DECS registered to conduct business through the system. Further information is available from Electronic Business Capability Website.

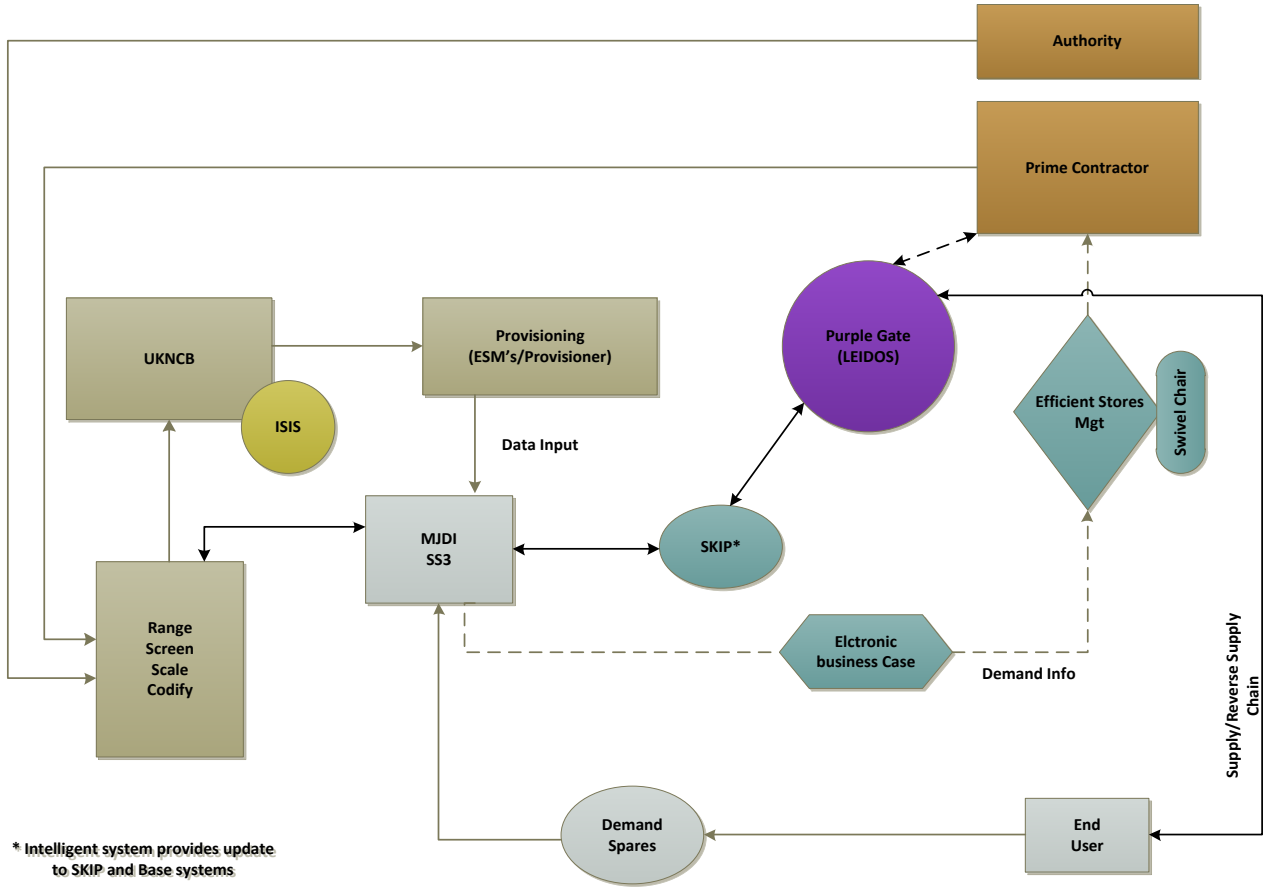


Figure 10 - Joint Supply Chain Interface Schematic (inc MOD Preferred Partner)

Appendix 4 – Support and Test Equipment (S&TE) Plan

Aim

1. The aim of this document is to provide an overview of the required format and content for the S&TE Plan required as an accompaniment to the ILSP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective S&TE plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 66-31
d. JSP 509
e. JSP 886 Vol 7 Part 8.06, Part 8.07, Part 8.15 and Part 8.17
f. Section 3.5 ILS SoR

Background

3. In order to conduct performance testing, preventive maintenance, servicing, corrective maintenance and fault finding on the equipment, a rationalised provision of S&TE which includes General Purpose Test and Measurement Equipment (GPTME) shall be made to the system/equipment and its support organisations.

4. It is an aspiration that CWSS shall require no additional S&TE. If this is not achievable, the MILSM would seek to minimise any requirement for S&TE to support CWSS in-service. The maintenance policy for S&TE shall be in line with the Prime equipment maintenance policy.

5. All software issues associated with S&TE shall be addressed in the Software Support Plan (SwSP).

Requirements

6. The contractor shall provide an S&TE Plan which details the following:

a. Identification and justification of all S&TE required supporting CWSS.

b. The function of any recommended S&TE.

c. Identification of training needs of the intended S&TE Operator and/or Maintainer skill set.

d. Identify the maintenance and calibration requirements of all S&TE required.

7. The purpose of the S&TE Plan is to define the management, organisation, methodology and tasks necessary to conduct and assess S&TE activities. The plan shall describe the requirement for and provision of the S&TE necessary to maintain the equipment (based on the data obtained from the SA activity).

8. The S&TE plan shall identify the tools, diagnostic and calibration equipment, servicing and handling equipment required for the preventive and corrective maintenance actions necessary for the operation and maintenance of CWSS.

9. The S&TE plan shall take special consideration of the need to reduce as far as practicable the requirement for S&TE. The equipment shall, if possible, be designed so that the user and first line maintainer has no need for S&TE. Maximum use of common tools and test equipment available in the Authority inventory shall be used in the first instance. Only when this is not possible shall new S&TE be introduced. All S&TE identified by the Contractor shall be costed, justified and may be considered as part of the procurement contract.

10. The Contractor shall develop and justify the range and scale of S&TE taking into consideration the storage limitations of the forward operating environments and cognisant of the equipment levels already available within holding units.

11. The Contractor shall supply and support all S&TE required.

12. The Contractor is to ensure that all S&TE required to deploy in support of CWSS can be operated under the same environmental conditions as CWSS or provide justification if this cannot be met.

Appendix 5 – Facilities and Infrastructure Plan

Aim

1. The aim of this document is to provide an overview of required format and content for the Facilities Plan as an accompaniment to the ILSP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Facilities & Infrastructure plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. JSP 886 Vol 7 Part 8.08,
d. Section 2.6 ILS SoR

Background

3. Facilities and Infrastructure are integral components which must be designed and built into an equipment requirement from the outset. Together these are an important performance parameter which underpins Availability, Supportability, Sustainability and Affordability.

4. Facilities, whether new or a modification to that already existing, are usually high cost and involve long lead times. The PT should ensure that the Support Analysis (SA) process is used to influence the design to minimise the need for new facilities or modification to existing facilities

5. MOD infrastructure is in high demand and is severely limited. Infrastructure requirements are to be discussed with the relevant stakeholders. One of the potential solutions for CWSS is an existing, in-service capability and as such, utilises existing infrastructure and facilities. The CWSS project shall aim to decrease this level of infrastructure support or as a minimum maintain current level of infrastructure requirement.

6. During the Demonstration and Manufacture phases of this project, Infrastructure requirements will be scoped more succinctly, in particular when fielding, training and storage requirements are set in greater detail to ensure that the Infrastructure is suitable and cost effective for the programme.

Requirements

7. The Contractor shall provide a Facilities Plan with their bid. This plan shall detail the programme to identify and ensure that all necessary facilities are available prior to the development of CWSS. The plan shall identify the activities to be undertaken during the Assessment Phase and outline activities to be undertaken during subsequent phases of the project.

8. All SA activities and schedules relevant to Facilities and Infrastructure must be included in the Facilities Plan.

9. The function and specifications for any facilities including technical accommodation, services and training facilities required to store, operate and maintain CWSS and details of how these requirements may be incorporated within existing facilities must be presented. Any additional facilities required to support the CWSS capability must also be communicated.

10. The Facilities Plan shall address the following as a minimum:

    a. Legacy or new equipment.

    b. Existing facilities (Authority or commercial).

    c. Power supply requirements.

    d. Training requirements including environmental impact studies.

    e. Maintenance of the facilities.

    f. Intended operational scenarios.

    g. Garaging secure/non-secure.

    h. Future strategies and policy (Whole Fleet Management)

Appendix 6 - Manpower and Human Factors Plan

Aim

1. The aim of this document is to provide an overview of required content for the Human Factors Integration (HFI) Plan required as an accompaniment to the ISP

Guidance Documentation

2. The following guidance documentation should be used when developing an effective HFI plan:

a. Def Stan 00-600
b. Def Stan 00-251
c. Def Stan 00-56 (Safety Mgmt)
d. JSP 886 Vol1 Pt.3
e. JSP 886 Vol 7 Pt. 8.09,
f. JSP 912
g. Section 2.3 ILS SoR

Background

3. To meet the MOD's legal duty of care obligations it is a requirement that all Project specific and equipment specific mandated HFI guidance must be considered on a product/equipment basis. HFI impacts on effectiveness and safety of product or service being delivered

4. It is envisaged that the equipment will consist of complex systems and sub-systems that will be deployed across a wide range of environments. Manning for the equipment shall be drawn from all three services of the military. It is essential that the equipment's interactions with the operators and maintainers are considered as part of the design process.

5. Industry shall prove how the following six (6) elements, known as domains, have been addressed or are to be addressed:

a. **Manpower**. The number of personnel, military and civilian, required and available to operate and maintain the equipment.

b. **Personnel.** The aptitudes, experience and other human characteristics, including body size and strength, necessary to achieve the optimum equipment performance.

c. **Training**. Specification and evaluation of the optimum combination of; instructional systems, education and on the job training required to develop the knowledge, skills and abilities needed by the available personnel to operate and maintain the equipment to the specified level of operational effectiveness under the full range of operating conditions.

d. **Human Factors Engineering**. The comprehensive integration of human characteristics into the equipment design.

e. **Equipment Safety**. The process of minimising safety risks occurring as a result of the equipment being operated in a normal or abnormal manner. The objective is to minimise to as low as reasonably practicable (ALARP), the risk of injury to personnel and damage to the equipment.

f. **Health Hazard Assessment**. The process of identifying and addressing the conditions inherent in the operation and support of the equipment which can cause death, injury, illness, disability or reduce the performance of personnel

Requirements

6. Section 2.3 (SoR) will ask the Tenderer provide a Human Factors Integration Plan (HFIP) in accordance with Def Stan 00-251, OPRR 11, JSP 886 volume 1 part 3, JSP 886 volume 7 part 8.09 Human Factors Integration, JSP 912 and JSP 822. The HFIP shall detail how Human Factor tasks are to be carried out and integrated with ILS/SA tasks. The plan will provide the Authority with the basis to review, monitor and evaluate the Tenderer's HFI programme. The plan, delivered as part of the Integrated Support Plan (ISP), will be used in the Tender Evaluation. This includes the tasks required to identify the training and training equipment definition. The Contractors HFIP shall detail, but is not limited to, the following:

a. An HFI programme of activities that considers HFI as part of the equipment design.

b. Assessment and influence of the deployment, operation and maintenance activities to ensure good HFI practice.

c. Design criteria to allow the operators to deploy (including re-role) the equipment quickly, safely and with minimum effort.

d. Design criteria to increase the availability of the equipment by providing a safe, comfortable and easy to use operating environment.

e. Design criteria to minimise the complexity and the time required for maintenance operations.

f. Design criteria to provide a safe, comfortable and easy to use operating environment.

g. How the HFI activities will interact with the R&M/FMECA activity and the Safety Programme.

h. The HFI interoperability aspects associated with COTS equipment.

i. Identification of all HFI programme milestones.

j. Explanation of how the requirements of DEF STAN 00-251 have been satisfied.

k. Explanation of how HFI was considered and implemented during the design and development of the equipment and ancillary equipment.

l. An explanation of how the equipment and ancillary equipment design will minimise human factor risks in all areas in order to promote safe, efficient and reliable operation.

7. These key issues are all interrelated and there are inherent trade-offs between them that require them to be considered together.

8. Examples of the trade-offs are:-

a. Reduction in manpower verses increased personnel skill requirements

b. The cost of simplification of user interface verse increase in training time

c. Reduction in operator manpower verse increase support manpower and skill level

9. Trade-offs can be made to promote cost-effective employment of people in system and support design. The HFI plan shall consider the above issues for the Human Integration with the proposed solution and include all aspects of workstation and work place.

10. The HFIP is the co-ordinating document for all HFI activities within the project. Its purpose is to provide a summarized record of the most important HFI issues, risks and constraints associated with the programme. It shall identify HFI activities, responsibilities and support tasking; identify HFI milestones and how they relate to the overall project plan. A HFI Schedule shall be developed as part of the HFIP.

11. Contractors will be required to state in their proposal, the support policy intention for their solution and what resources will be required from the MOD Service and civilian agencies to enable the execution of the support policy.

12. The HFIP shall provide an audit trail recording all decisions made and actions taken.

Appendix 7 – Training and Training Equipment Plan

Aim

1. The aim of this document is to provide an overview of the required policy and content for the Training and Training Equipment (T&TE) Plan required as an accompaniment to the ILSP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective T&TE plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. JSP 886 Vol 7 Pt. 8.01,
d. JSP 882
e. Section 7 ILS SoR

Background

3. Training of military and contracted CWSS personnel is fundamental to the effective deployment and Through Life Management (TLM) of the CWSS programme.

4. One of the potential solutions for CWSS is an existing, in-service capability and as such, training packages are in existence. The other potential solution is a COTS/MOTS solution that is in-service with other NATO nations. It is assumed at this stage that some level of training exists. In both cases, the training will need to be assessed to identify any shortfall in the new requirement along with the required activities to realign the training packages.

Requirements

5. The Contractor shall deliver a Training Plan (TP) with their bid that effectively underpins the CWSS procurement programme through life in accordance with the CWSS Training Needs Analysis (TNA) requirements, JSP 822 (The Defence Manual of Training Management), and the ILS Schedule of Requirement. The TP shall identify any constraints on the project in terms of training policy or funding, ensuring that all actions required to produce low cost effective training support are identified and the appropriate agencies/resources tasked. The TP shall address the following:

a. The scope and depth of the training required.

b. How the training shall be included into the Authority’s training programme.

c. How will training be delivered in the event of a surge requirement (initial training or crisis/conflict)

d. The personnel to be trained.

e. Equipment required for training.

f. Availability of equipment, technical publications and tools.

g. The tasks to be carried out within the TNA, the deliverables and how they are to be

evaluated.

h. The milestone dates for each deliverable and where appropriate, the integration with the key project milestones.

i. Roles and responsibilities with respect to the management and conduct of the TNA process.

6. The Contractor shall undertake a TNA, in accordance with Defence Systems Approach to Training (DSAT), Defence Training Manual of Training Management (JSP 822) and the Defence Training Support Manuals and Handbooks (DTSM), tailored to the needs of the CWSS programme, which will allow for the accurate and effective analysis of the training need based on available and emerging data. Any training requirements identified by the TNA process are to be developed into acceptable programmes or courses. The training options identified by the TNA shall be costed.

7. The TNA shall have the potential to influence the policy, equipment design or procedures of the CWSS capability.

8. The Contractor shall deliver the following outputs as a minimum:

a. Operational Task Analysis.

b. Training Gap Analysis.

c. Training Options Analysis.

d. Final Report Recommendations.

9. The Contractor shall undertake Course Design activities in order to provide Introduction, Familiarisation and, where identified as necessary Conversion Training for the CWSS Operators and Maintainers commensurate with the Maintenance Policy for the CWSS programme.

10. The Contractor shall deliver a Reusable Training Package (RTP) in order to provide all the course information and training material required. (Numbers of personnel to be trained are to be confirmed, but are likely to be military or civilian equivalent training instructors). The RTP must include the following:

a. Course Outline.

b. Course administration requirements.

c. Course Specification (CSPEC) to include the appropriate course specifications for the CWSS systems.

d. Instructional Specification's (ISPEC) for the CWSS systems as required and identified from the TNA.

e. An Assessment Specification (ASPEC): Assessment of the CWSS training must demonstrate a blend of both formative and summative assessment.

f. Details of practical exercises.

g. Training support documentation.

h. Training Development.

i. Training equipment and training equipment support requirements

Appendix 8 – Technical Documentation Management Plan

Aim

1. The aim of this document is to provide an overview of the required policy and content for the Technical Documentation Management Plan (TDMP) required as an accompaniment to the ILS Plan, detailed in section 2.8 of the SoR.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective TDMP:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. JSP Vol 7 Pt. 2
d. JSP 886 Vol 7 Pt. 8.05
e. Defence Technical Documentation Guidance (DTDG) *formally JSP(D) 543,*
f. ASD S1000D
g. Section 7 ILS SoR

Background

3. Technical Documentation (TD) is defined as the information necessary to operate, maintain, repair, support and dispose of equipment throughout its life. The consequence of not following the TD development activities is the risk of unsafe and ineffective use and maintenance of the equipment.

Requirements

4. The Contractor shall provide a TDMP which details the following:

a. A description of the method for developing the documentation set which will be produced for CWSS.

b. A description of the management organisation for the production of the technical documentation effort for the project.

c. Details of the production process.

d. The deliverables to be provided.

e. Detail of the review process.

f. Details of the contractors Security and Quality regime.

g. The standards to which the Technical Documentation shall comply.

h. Preliminary documentation development, approval procedures and distribution methods.

i. Data Module preparation and control.

j. Details of how NATO Codification will be incorporated within the documentation.

k. How documentation for the equipment shall meet safety certificate requirements.

l. Method of handling routine and priority changes

m. Documentation status reporting.

n. Documentation delivery profile demonstrating comprehensive delivery before Initial Operating Capability (IOC).

o. MOD ratification proposal.

p. Timescales/Delivery Schedule.

q. What business rules the project shall adopt.

5. The Contractor shall provide proposals for the provision of TD as IETP that shall be delivered with the equipment in accordance with Def Stan 00-600, JSP 886. The Contractor shall note that Army Equipment Support Publications (AESP) is the accepted format for land environment technical documentation. The TDMP must plan for the production of a full set of support publications in accordance with the DTDG.

6. MOD policy states a preference for the use of IETP but lessons learned from other land platforms suggest that IETP may not be the most cost effective solution for COTS land environment equipment. The proposition to utilise the recognised AESP format to be hosted on Technical Documents On-Line (TDOL) is an alternative. The Technical Documentation plan should be cognisant of the requirement to reduce the need for standalone MOD IT. In-service IT systems should be utilised. (JAMES Un-plugged Device or DII Terminal)

7. The Contractor will upload the TD onto TDOL and will store the documents in a MOD vault. The Authority will be able to carry out amendments to the TD depending on the scale and scope of the exercise. For larger amendments, the Contractor may be engaged to carry out the amendments on the Authority's behalf. This will be clarified in the contract before entering the In-Service Phase.

8. The TDMP shall also explain how existing documentation, e.g. handbooks, manuals, shall be converted into an acceptable defence standard publication.

9. All copies of publications shall be delivered by the Contractor to the Authority in accordance with the timescales laid down in the ILS SoR. Publications shall be required for any training Pilot Course, Logistic Demonstration, and EMA for any user trials. A delivery schedule must be included in the TDMP.

Appendix 9 – Packaging, Handling, Storage and Transportation Plan (PHS&T)

Aim

1. The aim of this document is to provide an overview of required content for the PHS&T Plan required as an accompaniment to the ILSP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective PHS&T Plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 81-41
d. Def Con 129
e. Def Con 691
f. Def Form 96
g. JSP 379
h. JSP 418
i. JSP 886 Vol 3
j. JSP 886 Vol 7 Pt. 8.02
k. Section 2.4 ILS SoR

Background

3. Correctly identified and labelled packaging will ensure that all items entering the JSC are packaged and labelled to a consistent standard so that they arrive at the right place, at the right time, in the right condition with due regard to economy and can be accurately recorded on MOD Consignment Tracking Systems.

4. CWSS will be required to be transported by aircraft, sea transportation, rail and road transport and all spares must be suitably packaged to be transported in the same manner.

5. Equipment and spares must be available and ready for use when needed, in a serviceable condition, at short notice by CWSS holding units. However, it may be impossible to forecast when and where the materiel is required and, although "just in time" principles are used when possible, it may mean that materiel could be stored for long periods and/or transported to inhospitable and remote locations at short notice. Consideration to the handling, transportation and movement of repairable items is required to ensure the condition of those repairable items does not suffer from degradation and that Turn Round Times support availability requirements.

Requirements

6. The Contractor shall provide a PHS&T Plan with their bid in accordance with Def Stan 00-600, Def Stan 81-41 part 6 and JSP 886 volume 3 part 5. The plan shall establish how the Contractor shall determine the PHS&T requirements for CWSS, its S&TE, spares and any other items relating to the project. The PHS&T Plan shall identify applicable regulations, specifications and related documents that describe and define the packaging, handling and storage requirements. It shall provide identification and procedures for accomplishing transportation and handling in support of installation, transition and operation throughout the system and for the support during the entire life cycle. The reverse supply chain needs to be considered by the Contractor when formulating the PHS&T Plan.

7. All SA activity and schedules must be incorporated into the PHS&T Plan.

8. The PHS&T Plan shall consider the Authority's envisaged usage profiles of CWSS and shall ensure that the end user is presented with a packaging solution that shall be both cost effective and which shall ensure the serviceability of the equipment throughout its life. An item of supply must be able to pass through the Authority's supply chain without defect or damage.

9. Packages must be able to withstand drop, topple test, vibration and environmental tests for pressure, immersion, rain, dust, sand and wind as specified in Def Stan 00-35. Packaging designs shall be recorded in a service packaging instruction sheet and have a Certificate of Conformity.

10. Factors which form specific requirements include:

a. Hazardous items (JSP 800 volume 4a & 4b).

b. Physical characteristics of the item.

c. Timing and mode of movement.

d. Movements Agency requirements – both Defence and commercial.

e. Specific asset management requirements – UID tracking, repair loop.

f. Operational requirements.

11. Military packaging for spare parts used In Service support and repair agencies shall be utilised unless commercial packaging is more appropriate. Military levels of packaging are defined in Defence Condition (Def Con) 129 (Packaging, including Spares Price Labelling).

12. If the Contract specifies UK or NATO MPL, labelling and marking of the packages shall be in accordance with Def Stan 81-41 (Part 6) and DEFCON 129.

13. Labels giving the mass of the package, in kilograms, shall be placed such that they may be clearly seen when the items are stacked during storage.

14. Correctly identified and labelled packaging will ensure that all items entering the JSC are packaged and labelled to a consistent standard so that they arrive at the right place, at the right time, in the right condition with due regard to economy and can be accurately recorded on MoD Consignment Tracking Systems.

15. All electronic components are treated as Electrostatic Discharge Sensitive Devices (ESDS) in accordance with BS EN 61340-5-1 (Protection of Electronic Devices from Electrostatic Phenomena). This also includes mechanical items containing electronic components.

16. The Contractor shall provide a PHS&T Plan which details the development of a PHS&T plan which shall include, but not be limited to, the following:

a. Packaging Standards.

b. Handling of Equipment.

c. Storage (short and long terms in various environments).

d. Transportation.

e. Marking of parts and NATO Codification.

17. The Contractor shall specify the shelf life of all spares, where applicable, and how they will be maintained through the service life.

18. The Contractor shall identify and supply written information on all constraints to Packaging, Handling, Storage and Transportation for CWSS solutions, Support Equipment and Spares.

19. The Contractor shall identify any security restricted items and the proposed solution for PHS&T.

20. The Contractor shall identify all hazardous items in the CWSS systems, support equipment and spares or their relevant packaging.

21. The Contractor shall mark all packaging (commercial and military) tailored to the requirements of the programme and the ILS SoR section 2.4.

22. The Contractor shall minimise the requirements for special packaging.

23. The Contractor shall detail proposed return routines (including MTTR requirements) and turn round timescales.

24. The Contractor shall outline how they intend to satisfy the underpinning policy requirements, as dictated by Def Stan 00-600 and subsequent Joint Service Publications

25. The Contractor shall be responsible for determining the necessary pre-packaged quantities of spares which is then to be authorised by the CWSS MILSM.

Appendix 10 – Disposal Plan

Aim

1. The aim of this document is to provide an overview of required format and content for the Disposal Plan required as an accompaniment to the ILS Plan.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Disposal Plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Con 601
d. JSP 418
e. JSP 454
f. JSP 886 Vol 2 Pt. 404
g. JSP 886 Vol 3 Pt. 16
h. JSP 886 Vol 4 Pt. 9
i. JSP 886 Vol 7 Pt. 8.02
j. Section 3.17 ILS SoR

Background

3. Disposal is the ultimate transfer of ownership of material / equipment no longer required within the MOD for any reason.

Disposal Strategy

4. Disposal of the CWSS equipment platform is expected to be through the Disposal Service Authority, either by sale to another country, other sale or disposal by scrapping depending on circumstances and casting decisions.

5. If the equipment is to be scrapped then any dangerous substances or pollutants will have to be removed in a controlled manner and in accordance with the legislation current at the time of disposal. Any classified ITAR or items / assemblies will also be removed and dealt with appropriately. Disposal will be considered at the design stage and future options will be re-examined throughout the life of the equipment. A Disposal Plan will be confirmed during demonstration and manufacture phase of the project once the prime contractor has been chosen and the design solution is finalised.

Disposal Plan

6. The contractor shall produce an Initial Disposal Plan that will describe how the system can be disposed of during the In-Service and Disposal Phases of the system's life. It will address the requirements for ensuring that all parts of the system can be economically and safely disposed of at the end of the system life.

7. The CWSS equipment provider will deliver a Disposal Plan at ITN and the plan will be matured to the point of acceptance by the Authority, in advance of Systems Acceptance. This will give the MoD the basis to review, monitor and evaluate the disposal programme throughout the assessment and development phase. This plan will be reviewed and refined as required during the life of the CWSS system

Requirements

8. The CWSS ILS SoR section 3.17, requests the Tenderer to provide a Disposal Plan in accordance with JSP 886. The DSA is the lead for the disposal of all MoD assets. SSDT GP2.7 and JSP 886 volume 7 and JSP 886 volume 2 Inventory Management provides MOD guidance and policy for Disposal Planning. Disposal Planning will address the requirements for ensuring that all parts of CWSS Platform can be economically disposed of at the end of system life. The plan will provide the Authority with the basis to review, monitor and evaluate the Tenderer's Disposal programme. The plan will be delivered as part of the Integrated Support Plan (ISP) and is to be used in the Tender Evaluation.

9. The Project Team (PT) must ensure that details of all hazardous material used in the production of the system will be documented and that this document is maintained through the equipment's service life.

10. The Disposal Planning Task shall focus on, but not be limited to, the following;

a. Identification of all items requiring special disposal.
b. Estimates of activities to carry out disposal.
c. Current legislation applicability.
d. The disposal risks identified during the Assessment phase and the action taken during the 'Influence the Design' period of the Integrated Logistic Support (ILS) delivery.
e. Safety aspects regarding disposal.
f. Control of Substances Hazardous To Health (COSHH).
g. Identification of disposal programme milestones.
h. Details of hazardous material forming part of the main equipment, ancillary equipment or support system that may have disposal implications.
i. Explanation of the procedures and cost required to prepare CWSS and ancillary equipment for disposal to include demilitarisation aspects.
j. Explanation of the implications of keeping the CWSS platform, ancillary equipment and any element of the support system in-service past the planned disposal date.
k. Details of commercial disposal opportunities and procedure.

Appendix 11 – Software Support Plan (SwSP)

Aim

1. The aim of this document is to provide an overview of required format and content for the SwSP required as an accompaniment to the ISP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective SwSP:

a. Def Stan 00-600
b. Def Stan 00-49
c. Def Stan 00-56 (Safety Mgmt)
d. Def Stan 05-57
e. JSP 440
f. JSP 886 Vol 7 Pt. 2
g. JSP 886 Vol 7 Pt. 3
h. JSP 886 Vol 7 Pt. 4
i. Section 6.4 ILS SoR

Background

3. As more and more functionality of complex military systems is being undertaken by software, software supportability is an essential and inescapable element of support for any system that has functionality vested in software. Experience has shown that the through life cost of software supportability has been a major driver with the cost of initial software development being greatly exceeded by the cost of supporting the software and maintaining the capability during the system's operational life.

4. Where the term "Software Support" is used it shall be taken to mean all the software, hardware, firmware, personnel (including training) and other resources required to correct a deficiency or design error, incorporate an enhancement, or respond to a hardware change/update.

5. The Contractor shall provide a SwSP detailing the methodology for conducting software supportability that ensures any in-service software modification activity is implemented in a timely manner in order to sustain operational effectiveness. Software support costs are to be clearly denoted in the submissions.

Requirements

6. The contractor shall create and maintain a SwSP that details the development of software (Development and Through Life) which shall include, but not be limited to, the following:

a. Maintaining a system's effectiveness as changes occur to the environment in which it operates (including any changes to the design of the system that contains the software).

b. Definition of software maintenance categorisation process.

c. Rectification of shortfalls in system effectiveness resulting from changes to user requirements.

d. Rectification of errors made in the software specification and development process.

e. Software Reliability (Correctness) and Maintainability (Administration activities) is to be detailed in appropriate section of the Reliability & Maintainability Plan as detailed in sections 3.7 and 6.4 of the CWSS ILS SoR.

f. Integration of Software design and verification processes with the DRACAS process.

g. Processes to be used for Design and Verification.

h. Software Configuration Management, both physical and functional, throughout the life of CWSS.

i. Software change management process including periodicities, timescales and ownership.

7. The contractor's Software Support Capability shall support all COTS, MOTS or bespoke software used in any part of the system.

Appendix 12 – Obsolescence Management Plan

Aim

1. The aim of this document is to provide an overview of required format and content for the Obsolescence Management Plan (OMP) required as an accompaniment to the ISP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Obsolesence plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. IEC 62402:2007
d. JSP 886 Vol 7 Pt. 4
e. JSP 886 Vol 7 Pt. 8.13
f. Section 3.16 ILS SoR

Background

3. Obsolescence affects all equipment, software, tools, processes, support products, standards and specifications. It impacts upon all stages of the life of equipment. It is inevitable, may be expensive and cannot be ignored, but its impact and cost can be minimised by forethought and careful planning. The objective of obsolescence management is to ensure that obsolescence is managed as an integral part of design, development, production and in-service support in order to minimise its cost and impact throughout the product life cycle.

Requirements

4. Section 3.16 (SoR) will ask the Tenderer to provide an Obsolescence Management Plan (OMP) with their bid, in compliance with JSP886 v7 p8.13 and BS EN 62402:2007. The objective of Obsolescence Management is to ensure that obsolescence is managed as an integral part of design, development, production and in-service support in order to minimise the financial and availability impact throughout the product life cycle. The plan will provide the Authority with the basis to review, monitor and evaluate the Contractors maintenance programme. The plan delivered as part of the Integrated Support Plan (ISP) will be used in the Tender evaluation.

5. The OMP shall provide specific detail of how the Contractor intends to address obsolescence rather than a generic description of how obsolescence can be managed. The OMP shall describe the strategies for identification and mitigation of the effects of obsolescence throughout all the stages of the equipment life cycle. The level of detail in the plan shall increase as the project proceeds. Subsidiary documentation must contain a full record of the factors in the analysis and trade-off arguments. As well as a record of decisions, the OMP shall also identify the following aspects:

a. The periodicity of review.

b. The Contractor’s organisation responsible for review and maintenance of the OMP.

c. Milestones for future transfer of ownership of the OMP (if applicable).

d. Demonstrable evidence that the CWSS equipment is capable of integrating current technology as it matures and new technology as it becomes available in the future.

6. The OMP shall describe how the Contractor is to:

a. Achieve optimum compromise between whole life costs for the system, equipment performance and equipment maintainability and availability.

b. Cover all material regardless of whether it has been developed specifically for a customer or is a COTS product.

c. Be compatible with the MOD's current support arrangements.

d. Provide a clear basis upon which obsolescence management requirements can be negotiated with suppliers and partners in collaborative projects.

e. Be robust with an environment of change.

f. Show consideration of the need for component or equipment re-qualification following component or module substitution.

7. The OMP shall identify potential obsolescence problems and address the overall impact it will have on the equipment throughout the life cycle. Robust processes for identification and mitigation must be documented and the risks assigned.

Appendix 13 – Configuration Management Plan (CMP)

Aim

1. The aim of this document is to provide an overview of required format and content for the Configuration Management Plan required as an accompaniment to the ISP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Configuration plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 00-057
d. Def Stan 05-061
e. JSP 886 Vol 7 Pt. 2
f. JSP 886 Vol 7 Pt. 8.12
g. JSP 886 Vol 7 Pt. 10
h. Section 3.6 ILS SoR

Background

3. Configuration Management is a management activity that enables the documented status of the product or system to be known at any time. The application of through life Configuration Management can ensure a disciplined approach for product development and maintain design integrity through life. Logistic activities will be integrated with those of Configuration Management. ILS staff will participate in configuration audits and reviews, in Logistic Support or Configuration and Change Management Committee activities, and in Sub-Contractor configuration management activities.

4. The identification of Configuration Items (CIs) within a product breakdown structure and associated product configuration information can provide the framework for structured arguments that underpin the product / system safety case.

5. Configuration Management supports the Requirements Management role for control, monitoring and administration of capability requirements; by tracking the implementation of the requirements. The evaluation of CI Configuration Baseline information against requirements documentation and use of Functional and Physical Configuration Audits can help to assure that capability requirements are met.

6. Configuration Management supports the Management of Design through life in JSP 886, v7 Pt.10 and the configuration of Integrated Logistic Support products as expressed in JSP 886 Volume 7 Pt.2.

Requirements

7. The CWSS SoR section 3.6 will ask the Tenderer to provide a structured Configuration Management Plan, identifying the processes, procedures, responsibilities and authorities for the effective application of the CM principles within the context of the contractual and project lifecycle requirements. The plan will provide the Authority with the basis to review, monitor and evaluate the

Contractors maintenance programme. The plan delivered as part of the Integrated Support Plan (ISP) will be used in the Tender evaluation.

8. The programme complexity and nature must be considered by CM planning to enable the effective and efficient application of the following CM principles:

a. Configuration Identification and Documentation
b. Configuration Change Management
c. Configuration Status Accounting
d. Configuration Audit
e. CM planning should be controlled and approved.

9. During the Assessment Phase, the product / system design will be developed and base lined for manufacture and delivery. Therefore the CM planning should identify the procedures, responsibilities and authority for CM up to delivery of the product In-Service.

10. Delivery Team CM planning for Main Gate should include:

a. CM contractual standards and In-Service processes specific to each domain.
b. The process for seeking Front Line Command (customer) engagement when the requirements of the URD are affected by Supplier non-conformances against the SRD.
c. The interaction of the Delivery Team with the Supplier to monitor the development product baselines, see Configuration Baselines.
d. The initial identification of product configuration information required for the In-Service product baseline and operational information and the Contract Data Requirements.
e. A consideration that drawings required from the Supplier should be supplied in accordance with Defence Standard 05-10: Product Definition Information.
f. The requirements for disposal and the need to uniquely identify product CIs (e.g. Part number + Serial number) during manufacture to enable through life tracking and disposal management.
g. The need to identify and record the Configuration Items (CIs) for System of Systems integration, where capability is to be achieved by the Systems of Systems approach.
h. A requirement for a deliverable CM plan from the Supplier, dependent upon the complexity and nature of the programme

11. During the In-Service phase when the Authority has accepted the product / system from the initial development contract the Delivery Team Leader has responsibility for configuration change management.

12. CM Planning should include:

a. The contractual CM policy and advice contained in this JSP 886 v7 p8.12.
b. The relationship between the In-Service Configuration Change Authority and the subsidiary change management committee(s), see c3, p3 of JSP 886 v7 p8.12 for guidance.
c. Where a Supplier is contracted for In-Service changes to the product, the Delivery Team should ensure that Supplier's CM planning identifies the interaction between the Supplier and the Authority's In-Service Configuration Change Authority and configuration change management processes.

Appendix 14 – Logistics Demonstration Plan

Aim

1. The aim of this document is to provide an overview of required format and content for the Logistic Demonstration plan required as an accompaniment to the ISP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective Logistics Demonstration plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 05-99
d. Def Con 23
e. Def Con 601
f. Def Con 611
g. Def Con 694
h. JSP 886 Vol 4 Pt. 4
i. JSP 886 Vol 7 Pt. 9
j. Section 1.37, 1.38 ILS SoR

Background

3. The logistic demonstrations will be developed through a series of meetings between the PM, MILSM and the contractor, to accept the support infrastructure provided with the main equipment. Initially this will be in the form of reviews of the Logistic Information Repository, recommended spares and Support & Test Equipment (S&TE) recommendations and examination of publications. The support system and recommendations shall be evaluated against the actual equipment and aligned with the equipment acceptance and validation programme. A supportability, test and evaluation plan shall be required and integrated with the main equipment acceptance plan.

Requirements

4. The ILS support package will be progressively assured through site visits, meetings and working groups, throughout the procurement phase of the project.

5. Section 1.37 & 1.38 (SoR) will ask the Tenderer to provide a structured Logistic Demonstration Plan with their bid, covering all ILS deliverables in the SoR. The plan shall detail how the Logistic Demonstration(s) shall be conducted, the responsibilities of those attending and the expected deliverables that the Logistic Demonstration is testing.

6. It shall also consider the provision for any training requirements; GFA required conducting the Logistic Demonstration. The plan will provide the Authority with the basis to review, monitor and evaluate the Contractors maintenance programme. The plan delivered as part of the Integrated Support Plan (ISP) will be used during tender negotiations.

7. The Logistic Demonstration Plan shall include, but will not be limited to the following criteria:

a. Identification of the Logistic Demonstration Milestones
b. Explanation of how the maintainability requirements are to be demonstrated and validated

c. Explanation of how the suitability of S&TE and Technical Documentation will be demonstrated and validated
d. Explanation of how the suitability of facilities will be demonstrated and validated
e. Explanation of how the support requirements for the CWSS equipment detailed in the SRD and SoR, will be demonstrated and validated
f. Explanation of how items of supply not held by the Authority will be sourced within JSP886 agreed pipeline times
g. Details of how the effectiveness of the training programme will be demonstrated and validated
h. Incorporation of the Authority requirement to carry out an in-depth Ease of Maintenance Assessment (EMA) as part of the Logistic Demonstration element of the Validation Trial
i. Identification of the Authority and Contractor resources required to satisfactorily execute the plan
j. Explanation of how the Logistic Demonstration shall interface with the Validation Trial.

Appendix 15 - Contractor Logistics Support / In Service Support Plan

Aim

1. The aim of this document is to provide an overview of the Contractors Logistics Support requirements as an accompaniment to the ISP.

Guidance Documentation

2. The following guidance documentation should be used when developing an effective CLS plan:

a. Def Stan 00-600
b. Def Stan 00-56 (Safety Mgmt)
c. Def Stan 05-99
d. Def Stan 05-57
e. Def Con 92
f. Def Con 613
g. Def Con 624
h. Def Con 637
i. JSP 886 Vol 7 Pt. 1 – Pt.10.
j. Section 1.3.12 ILS SoR

Background

3. The high level support objectives of the CWSS Project Team shall be to ensure that the platform solutions are procured with due consideration of whole life costs and that the most effective and efficient through life support solution is implemented.

4. The Contractor Logistics Support Plan shall identify In-Service support to be undertaken in the most cost effective and efficient manner possible. The In Service Support / Contractor Logistics Support Plan details the tasks and responsibilities to ensure that the support provisions defined during the design are appropriate and effective and that an adequate feedback process is maintained to identify any weakness.

Requirements

5. Section 1.3.12 (SoR) will ask the Tenderer to provide a Contractor Logistics Support Plan. This shall be a detailed explanation of how the Contractor proposes to deliver agreed support services during various stages of the project lifecycle. In service and the equipment support package to be delivered. The plan shall also detail the tasks and responsibilities to ensure that the support provisions defined during the design are appropriate and effective and that an adequate feedback process is maintained to identify any weaknesses. The In Service Support Plan shall be a costed proposal, and shall ensure that the costs for each of their support solutions can be assessed and compared. The plan will provide the Authority with the basis to review, monitor and evaluate the Contractors maintenance programme. The plan delivered as part of the Integrated Support Plan will be used in the Tender evaluation.

6. The Plan shall articulate the mechanisms by which the contractor intends to provide:

a. Through life reviews of the support solution for the CWSS platforms.
b. Maintenance schedule reviews.
c. Identification of the post-production support and in-service support milestones.

d. Explanation of how obsolescence management shall be assured for the in-service life of CWSS and ancillary equipment.
e. Explanation of how the continued supply of spares shall be assured for the in-service life of CWSS and ancillary equipment.
f. Details of the procedure to update technical training as a result of modifications to CWSS and/or ancillary equipment and/or operating procedures.
g. Details of the procedure to maintain and update spares re-provisioning data.
h. Explanation of how level 4 maintenance and repair capability will be assured for the in-service life of CWSS and ancillary equipment.
i. Details of how maintenance performance will be monitored and evaluated throughout the in-service life of CWSS and ancillary equipment.
j. Details of the Failure Reporting and Corrective Action System (FRACAS) to be used in-service.
k. Details of the Defect Reporting and Corrective Action System (DRACAS) to be used in-service.
l. Explanation of the Contractor's Post Design Services (PDS) procedures and organisation.
m. Explanation of how the monitoring, update and maintenance of each plan required as a contract deliverable will be undertaken for the duration of CWSS and ancillary equipment in-service life.
n. Explanation of how the configuration control of CWSS, ancillary equipment, technical documentation and S&TE will be carried out for the duration of the contract.
o. Details of the Contractor's strategy and capability to undertake mid-life refurbishment, technology insertions and legislative rework.
p. Identification of any maintenance tasks that require assessment under COSHH and provide information on the component or substance involved and any safety measures required.
q. Technical support to the Authority.

Post Design Services

7. Post Design Services is work undertaken to ensure that modifications and minor design alterations are properly appraised and, where approved, implemented. The PDS process is concerned with the redesign, redevelopment and engineering necessary to meet the agreed equipment capabilities, as defined by the original System Requirements Document (SRD) for CWSS.

8. PDS includes the Design Authority (DA) work necessary to maintain the design and manufacturing data and reference equipment. PDS may also be used for minor enhancements such as meeting new/safety legislation, enhancement to capability or performance or for reducing in-service support costs. It is not intended for use for major redesigns to meet a new requirement. Work shall be carried as agreed by the Authority and to the satisfaction of the Authority.

Post Design Services Requirements

9. The Contractor shall develop and underwrite all design changes and engineering work generated. Changes to design drawings, AESPs, safety cases and other relevant documentation will be updated and issued using a configuration management system in accordance with the principles of Def Stan 05-57.

10. The Contractor shall be responsible for underwriting the safety cases for the Platforms and any modifications including the responsibility for pro-actively managing obsolescence of components of CWSS.

11. The Contractor shall maintain copies of all designs and documentation developed on behalf of the Authority and hand them over at the end of the contract in a configured state which matches the CWSS current configuration.

12. The Contractor shall arrange for provision of all necessary facilities, equipment and stores in support of trials under the PDS element except when agreed otherwise. Should the Contractor wish to make use of the Authority's facilities they shall clearly identify the requirement and notify the Authority accordingly.

Appendix 16 – Logistic Support Committee (LSC) Terms of Reference (TOR)

Aims

1. The aims of the Logistic Support Committee (LSC) are:

    a. To develop, maintain and implement an Integrated Logistic Support Plan (ILSP).
    b. To develop and maintain a Use Study.
    c. To identify the overall logistic support implications of the introduction of a product into service.
    d. To examine cost options and trade offs for the provision of Logistic Support.
    e. Assist with the development of data base requirements for the Logistic Information Repository (LIR).
    f. Develop the input to Invitations to Tender at each stage of procurement.

Responsibilities

2. The Equipment Programme LSC is responsible for the following:

    a. Agree the TOR (Reviewed as required, at least annually);
    b. Review and update the stakeholder community and their involvement;
    c. Monitor and manage the platform Logistic DLOD;
    d. Develop, maintain, endorse and implement the Integrated Logistic Support Plan (ILSP) through engagement with the supportability community;
    e. Agree that the Integrated Support Plan (ISP), produced by the contractor, meets the contractual requirements;
    f. Monitor and agree progress of activities to meet the ISP;
    g. Develop and maintain the Use Studies.
    h. Develop ILS Schedule of Requirement (SOR);
    i. Identify the overall logistic support implications of the introduction of the platform into service;
    j. Examine cost options and trade offs for the provision of Logistic Support and agree solutions across all DLoDs;
    k. Develop the ILS project schedule and review the milestones at each stage of the procurement strategy;
    l. Reviewing the Milestones at each stage of the procurement strategy;
    m. Agreement of the outputs required by MoD from the Logistic Information Repository (LIR);
    n. Identify support risks, allocate responsibility and monitor mitigation;
    o. Assist with the development of the information requirements for the Logistic Information Repository (LIR);
    p. Resolve issues with Government Furnished Assets (GFA);
    q. Review and approve the ILS element plans;
    r. Appoint sub-Working Groups (WG) as required;
    s. Monitor and review Outputs and Issues from WG;
    t. Provide updated and coherent input on the programme to the CIWG.
    u. Develop the support input to Invitations To Negotiate (ITN) at each stage of procurement;
    v. Assist with the Tender assessment of Contractor bids at each stage of procurement;
    w. Define the criteria and timeline for a Logistic Demonstration;
    x. Develop and refine the support criteria required for ISD.

3. The key outputs are:

a. Ensuring a coherent programme plan that delivers both an optimised support solution that meets the needs of the user and provides VfM for Defence.

b. Identifying the resource required to resolve logistic issues as they arise in order to ensure they are resolved in a timely manner.

Chairman and Secretary

4. The Chair of the LSC will be the OSP-PgMO-TLS-AsstHd and the Chair will appoint the LSC Secretary

Membership

5. LSC membership should be as follows:

a. Equipment Sponsor;
b. Project Manager;
c. MILSM;
d. OSP-PgMO-Sup-Snr Mgr
e. IMOC SCE SSO
f. ILS element area support agencies as required and identified in the ILSP.
g. Users:
(1) Army HQ – DIO.
(2) Army HQ – CD CSS;
(3) Army HQ – CD CS
(4) Army HQ – Eqpt Date;
(5) Capability Integration Manager
(6) TDT
(7) Army HQ – DLog(A)
(8) SO2 EC and Sust
(9) TDT
(10) Army HQ - DTrg(A);
(11) JADTEU

Administration

6. The LSC shall be held as required, generally on a quarterly basis at least two weeks prior to the User CIWG. A calling notice shall be issued 2 weeks prior to the LSC.

7. Draft Minutes to be provided by the Secretary within five working days of the meeting. Comments on the Draft Minutes are to be returned to the Sec within a further five working days or a nil return may be assumed, after which Final Minutes will be issued. Minutes and the current action log will also be issued with the next LSC calling notice and circulated to attendees and members

Governance

8. The LSC shall report to the CIWG.

Periodicity

9. LSC meetings are to be held regularly to review progress and will be arranged as required; although, at a periodicity not greater than 3 months and where possible should be subsequent to Requirements Meetings.

Standard Agenda Items

10. The agenda for each meeting will include, but not necessarily be limited to, the following:

a. Chairman's Welcome / Introduction;
b. Minutes of Last Meeting;
c. Review of Actions;
d. Programme Overview and Schedule;
e. ILS Elements Discussion
f. SSDT
g. Review of Risks, Issues and Opportunities;
h. AOB.
i. Date & Place of next meeting.