Ministry of Defence

de&S MOD COMMERCIAL

SCHEDULE M – INTEGRATED LOGISTIC SUPPORT

MERLIN AND APACHE ENGINES FUTURE SUPPORT

CONTRACT NUMBER
HELSS/0102

SCHEDULE M

INTEGRATED LOGISITICS SUPPORT

1. INTEGRATED LOGISTIC SUPPORT OVERVIEW

1.1 Integrated Logistic Support (ILS) is a disciplined approach to managing Whole Life Costs that affect both the Ministry of Defence (MOD) and its suppliers. The approach is described in DefStan 00-600 Issue 1, Parts 1 to 3. Its aim is to optimise Whole Life Costs by minimising the support system required for products, through influencing their design for supportability and determining the optimum support requirements. A product is defined as an equipment, service, system, or sub-system. The end result is supportable and supported products at an optimised cost.

Note: Due to changes introduced by the DE&S Transformation programme, ILS may also be referred to as Technical Through Life Support (TTLS). The activities and responsibilities of a TTLS Manager remain the same as for the MOD ILS Manager.

1.2 ILS activity is typically summarised into 4 key objectives:

a. Influence the Design.

b. Develop the Support Resources Requirement.

c. Acquire the Appropriate Support Resources.

d. Provide the Required In-Service Support at the Optimum Whole Life Cost.

2. PROJECT SUMMARY

2.1 The MAEFS project is a Service support project, with the following vision:

“Merlin Delivery Team (MDT) is seeking to achieve the best Value for Money (VfM) engine Cost of Ownership (COO) through seeking market interest from potential bidders to provide future service support for both Merlin and Apache engines."

3. ILS PLAN

3.1 **Aim.** The aim of this ILS Plan 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.

e. Describe the Supportability Analysis (SA) Strategy.

3.2 **Objectives.** The objectives of ILS for the MAEFS programme are:

a. To establish and implement a robust sustainable, affordable and through-life support solution for the Merlin and Apache engines which delivers the required level of availability as defined in the User Requirement Document (URD) and System Requirement Document (SRD), used to develop the Statement of Requirements (SOR).

b. To influence sub-system design with logistic support considerations if a novel solution is selected.

c. To ensure that logistic support resource requirements are within the constraints identified in the SRD.

d. To minimise the demand for support resources and hence reduce through-life costs.

e. To look for opportunities to reduce the existing engine support logistic footprint using modelling to confirm the effectiveness of proposals.

3.3 **Scope.** This ILS Plan applies to the MAEFS programme and identifies the ILS requirements for the Assessment Phase, and in some places subsequent phases. The plan aims to bound the activity that will ultimately demonstrate that the Merlin and Apache engines are supportable through life by the successful bid. ILS activity is applicable regardless of the content of the solution proposed.

3.4 ILS is not a stand-alone activity; it must be closely tied to the design process to assure the relevance of the proposal to the assets within the sub-system. Supportability Analysis will mirror this development by identifying the logistic effect of support solution and/or sub-system design on the overall system capability of both aircraft types and provide guidance on alternative options. This will require a co-ordinated approach to the planning and management of ILS tasks.

3.5 **Organisation.** The Merlin Projects TTLS Manager will undertake the formal duties of the MOD ILS Manager and will be supported by the Merlin Projects Deputy TTLS Manager along with other SMEs within the Integrated Logistics function who will work together in assessment of the ILS aspects of responses to the ITN and development of the support solution by the successful bidder.

4. ILS MANAGEMENT

4.1 The Contractor shall assign a Suitably Qualified and Experienced Person (SQEP) as ILS Manager for the MAEFS Programme. The ILS Manager shall be provided adequate resources necessary to manage the Contractor's ILS programme.

4.2 The Contractor's ILS Manager shall have full responsibility and accountability for the performance of all ILS requirements for the MAEFS programme. The details of the ILS Manager and the ILS team shall be published in the Integrated Support Plan (ISP).

4.3 **Integrated Support Plan (ISP).** An ISP will be prepared by the Contractor and describe in detail the Contractor's activities planned to provide the contractual deliverables for the MAEFS project. The ISP is the principle document by which the ILS content of a potential contractor's bid will be assessed. As such, the inclusion of a comprehensive draft with any tender response is mandatory (SR-214 refers) - the ISP should normally initially closely mirror the ILS Plan and should address all the requirements within.

4.4 Activities detailed in the ISP should reference the supportability aspects of the Integrated Master Schedule.

4.5 The ISP shall:

a. Detail the contractor's ILS organisation.

b. Detail the planned ILS activities.

c. Define how the ILS requirements of the Award Criteria and System Requirement Document (SRD) will be met and demonstrated.

d. Define how the ILS deliverables in the ILS SoW (Annex R) will be generated and delivered.

e. Take account of the plans and guidance within the ILS Plan.

f. Comply with the requirements of Def Stan 00-600, agreeing any deviation with the TTLS Manager.

g. Define how ILS Risks are identified and managed.

h. Demonstrate how ILS methodology has influenced design (where applicable).

4.6 The ISP may be tailored dependant on the solution being proposed - clearly a novel solution will require more information to be provided across all elements than a bid to support the current engine solution. Tailoring of the response should be justified in the Contractor's ISP for each instance.

4.7 **Supportability Analysis Plan (SAP).** The SAP will be prepared by the contractor and should describe in detail the Contractor's SA organization and the activities planned to fulfil the SA contractual requirements, which will be detailed in the Statement of Work (SoW, Annex R). The SAP will describe the methods and procedures to be applied during the Project together with timing and responsibilities and will be included as part of the ISP. The Authority's SA Strategy is at Annex P of this schedule and provides guidance on the scope of the SAP.

4.8 Should a novel solution be proposed, such as re-reengining the aircraft, analysis should be used by the Contractor to determine the support impacts of equipment that is not currently part of the Merlin and/or Apache fleets and for which there is no in-service knowledge. The scope and level of detail of SA will be proposed by the Contractor in their bid and agreed by the Projects TTLS Manager pre-contract award..

4.9 **Progress Report.** The Contractor shall submit an initial ISP with their bid and updates to the document shall be supplied in accordance with the timings at Schedule N. Updates should be provided to the MAEFS Commercial Officer for onward distribution to the TTLS Manager at least 10 working days prior to the deadline.

4.10 **Elements Plans.** The Contractor shall update existing element plans and create element plans where none exists in accordance with Def Stan 00-600 to reflect changes to the aircraft through MAEFS. The ILS Element Plans (EPs) can be incorporated into the ISP or submitted as separate documents. The EPs shall detail planned ILS activities associated with the detailed ILS subjects and shall define how requirements will be satisfied and compliance demonstrated. The evidence generated by the ILS work shall be reported in accordance with the MAEFS SoW.

4.11 The EPs shall detail any associated deliverables. The EPs shall take account of the plans and guidance within this ILS Plan, its' annexes and the SRD. The EPs shall comply with the requirements of Def Stan 00-600. The Contractor shall prepare and submit EPs in the same timescales as the ISP. As described in the Def Stan, tailoring of the EPs and activities therein may be undertaken as applicable to the solution being proposed. Justification for this should be provided upon bid submission within the SAP.

4.12 Throughout the implementation of the ILS programme the Contractor shall demonstrate how the principles of ILS have been used to influence the support solution and design (if applicable) of the sub-system.

4.13 The confidence characteristics in DEFFORM 47 will be used to evaluate the quality of the ISP and EPs submitted as part of the bid.

4.14 **Logistic Information Repository.** The ILS process generates information held across a diverse range of systems which will collectively be referred to as the Logistic Information Repository (LIR). LIR documents shall be distributed in an agreed machine-readable format (e.g. .PDF/MS Office) accessible across both industry and MoD with common information held by both parties. All information generated shall indicate:

a. Originating Party.

b. Version.

c. Date of last update.

4.15 As a minimum the LIR should be tailored to the complexity of the equipment and allow all relative supportability information to be used in an organised and uniform manner to identify and develop logistic support resource requirements.

4.16 The structure of the LIR must account for the hierarchy of the:

a. Sub System.

b. Group.

c. Assembly.

d. Sub-assembly.

e. Part.

4.17 The LIR should include but not necessarily be limited to, the following outputs:

a. Logistic Control Number (LCN).

b. SA Candidate.

c. Equipment Descriptions.

d. Original Equipment Manufacture Technical Information.

e. Technical Documentation.

f. FMECA information.

g. Preventative and Corrective Maintenance Tasks.

h. Spares Data.

i. Supporting Equipment and Tools Data.

j. Packaging, Handling Storage and Transport data.

k. Facilities Data.

4.18 The data within the LIR shall be made available to the Customer.

4.19 **Logistic Control Numbers.** The Contractor shall propose a Logistic Control Number (LCN) scheme and structure that will be used to identify the equipment and its constituent parts from an ILS perspective.

Annexes

Plan Title	**Annex**
Training and Training Equipment (T&TE) Plan	A
Packaging, Handling, Storage and Transport (PHS&T) Plan	B
Maintenance Plan	C
Reliability and Maintainability (R&M) Plan	D
Technical Documentation Management Plan	E
Support and Test Equipment (S&TE) Plan	F
Disposal and Termination Plan	G
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Supportability Analysis Strategy	P
Terms of Reference of the Logistics Support Committee	Q
ILS Statement of Work (SoW)	R

Annex A to
MAEFS ILS PLAN

TRAINING AND TRAINING EQUIPMENT (T&TE) PLAN

1. AIM

1.1 The aim of this document is to provide an overview of the required policy and content for the Training and Training Equipment Plan required as an accompaniment to the ILS Plan.

2. BACKGROUND

2.1 The training of personnel is fundamental to the effective deployment and Through Life Management of the engine sub-system.

3. REQUIREMENTS

3.1 The contractor shall assess the need for any changes to current Merlin or Apache training[1] caused by the MAEFS project in accordance with JSP 822 (Defence Direction and Guidance for Training and Education) and the ILS SoW (Annex R). This assessment should consider the effect on both operator and maintainer training.

3.2 As a minimum this activity should include a Training Needs Survey, with further analysis to be undertaken in accordance with JSP 822 should it be agreed with the Authority that there is a need to implement changes to the training systems.

3.3 If deemed necessary, and following subsequent Training Needs Analysis, any necessary training material developed should include the following:

a. A Formal Training Statement (FTS) - to include the appropriate course specifications tailored to the engine sub-system (as detailed in JSP 822).

b. An Instructional Specification (ISPEC) for the engine sub-system as required and identified from the TNA.

c. An Assessment Specification (ASPEC) tailored to the engine sub-system and aligned to the overall Assessment Strategy (AssStrat) of each platform – The ASPEC informs the overarching AssStrat and collectively these documents must demonstrate appropriate assessment methods including a blend of formative, summative and practical assessments.

3.4 The Contractor shall support the Merlin and Apache DTs and the Users in the process of evolving the Training system by attending the quarterly Training System Working Groups.

FOI Act Exemption Section 26 (1) (b)

[redacted]

Annex B to
MAEFS ILS PLAN

PACKAGING, HANDLING, STORAGE AND TRANSPORT (PHS&T) PLAN

1. AIM

1.1 The aim of this document is to provide an overview of required content for the Packaging, Handling, Storage & Transportation (PHS&T) Plan required as an accompaniment to the ILS Plan.

2. BACKGROUND

2.1 In general, equipment and spares must be available, in a serviceable condition and ready for use when needed. However, it may be impossible to forecast the requirement 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 locations at short notice. Consideration to PHS&T of the engine sub-system is required to ensure the condition of these units does not suffer from degradation and that availability requirements are supported.

3. REQUIREMENTS

3.1 The Contractor shall provide a PHS&T Plan which details how the Contractor will manage this element which should include, but not be limited to, the following:

a. Packaging Standards.

b. Handling of Equipment.

c. Storage (short and long term in all potential operational environments).

d. Transportation including supporting supply documentation (via air, sea and land).

e. Marking of parts and NATO Codification.

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

3.3 The Contractor shall identify and supply written information on all constraints to PHS&T for the engine sub-system, support equipment and spares.

3.4 The Contractor shall identify all hazardous items in the engine sub-system, support equipment and spares or their relevant packaging.

3.5 The Contractor shall detail proposed demand and return routines and the turn-round timescales.

Annex C to
MAEFS ILS PLAN

MAINTENANCE PLAN

1. AIM

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

2. BACKGROUND

2.1 The maintenance concept for Merlin and Apache is constructed on two basic parameters, the line of equipment support and the level of maintenance to be undertaken. The level of maintenance defines the scope and depth of tasks to be undertaken and the line defines the part of the organisation to carry out those tasks. Both aircraft operate a 1st-4th Line support construct, though some Depth activities are carried out in the Forward domain, known as 2nd Line.

3. REQUIREMENTS

3.1 The Merlin and Apache maintenance and repair policy is as follows:

a. Adjustment and consumable replacement will be carried out by the User.

b. Repair by replacement of LRUs (ie the engine sub-system as a complete assembly and its' ancillaries) will be carried out by the User.

c. All subsequent maintenance to be carried out under Contractor Logistic Support (CLS) arrangements (arrangements to be specified, in detail, by the Contractor).

d. Any recommended deviation from this policy (for example undertaking depot level maintenance activities in the Forward environment) shall be highlighted to the Merlin Projects TTLS Manager for consideration. The impact of any change in maintenance policy should be provided in this plan and referenced in associated plans (for example there may be additional training or tooling requirements if depot level work is undertaken by MoD maintainers). The benefit in terms of Cost of Ownership to the Authority should also be detailed.

3.2 The Contractor shall plan and carry out analysis to include, but not be limited to:

a. Maintenance Concept.

b. Level of Repair Analysis (LORA).

c. Source Maintenance and Recoverability Codes.

d. Manpower and Personnel requirements.

e. Integration with LOG NEC information system.

f. Health monitoring and wear debris analysis requirements including any additional requirements due to operations from other environments (eg embarked, desert etc).

g. Tooling (any deviation from standard Merlin/Apache toolkits).

h. Access to equipment for repair/piece part spares replacement.

i. Expedient Repair provision.

j. POL usage.

k. Aircraft integration.

3.3 The Contractor shall investigate, analyse and report on the need and implementation of any changes to the current maintenance policies, 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 Chemical, Biological, Radiological and Nuclear.

3.4 The Contractor shall investigate, analyse and report on the engine change activity, including but not limited to:

a. Time.

b. Manpower requirements.

c. Tooling requirements.

d. Hazard analysis for activity ashore and afloat.

3.5 The Contractor shall investigate, analyse and report on the optimum maintenance policy for the equipment.

3.5 The support solution shall demonstrate where equipment design has minimised the maintenance and operator manpower requirements.

Annex D to
MAEFS ILS PLAN

RELIABILITY AND MAINTAINABILITY (R&M) PLAN

1. AIM

1.1 The aim of this document is to provide an overview of required format and content for the Reliability and Maintainability (R&M) Plan required as an accompaniment to the ILS Plan.

2. BACKGROUND

2.1 The critical nature of the engine sub-system and direct link to availability is such that R&M has a major impact upon the ability to meet the SRD.

3. REQUIREMENTS

3.1 The Contractor shall plan and carry out an R&M programme to include, but not be limited to:

a. Gathering R&M Data.

b. Reliability predictions underpinned with evidence.

c. Failure Modes Effects and Criticality Analysis (FMECA) in accordance with MilStan 1629.

d. Testability Philosophy.

e. Critical and Life Limited Items.

f. R&M Case Report delivered in accordance with Def Stan 00-42 and at timescales within the ILS SoW (Annex R) to include:

i. A description of performance against R&M requirements of the SRD.

ii. The provision of R&M data and it's impact to the Forward Fleet of both aircraft types.

iii. A demonstration of how the use of ILS has influenced the design of equipment (where applicable).

iv. A description of R&M risks and mitigation actions.

g. URD/SRD R&M requirements (SR-230) compliance assessment.

h. Establishment of a set of R&M baseline characteristics (where applicable).

i. Impact on MTBF (based on empirical data where available).

j. Schedule of R&M activity.

k. The identification, recording and reporting of R&M data (to include interim reports).

l. Details of reliability studies already conducted.

m. Justification of decisions made relating to all R&M aspects

n. Development of a reliability improvement programme.

3.2 The Contractor shall conform to the Data Reporting, Analysis and Corrective Action System (DRACAS) process in accordance with Def Stan 00-44 and GR-77 (Applied R&M Manual for Defence Systems).

3.3 Equipment covered by the MAEFS project shall provide high levels of availability, be reliable, place a small logistics burden on the support structure and be supportable and operational throughout its service life. The R&M Case Report will present evidence to support the Contractor's commitment to satisfaction of these qualities. The equipment and its support solution shall have the optimum Whole Life Costs (WLC) for the required performance. Where Commercial 'Off The Shelf Equipment' (COTS) is used its ILS attributes shall be recorded and used to influence the support solution.

Annex E to
MAEFS ILS PLAN

TECHNICAL DOCUMENTATION MANAGEMENT PLAN

1. AIM

1.1 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.

2. REQUIREMENTS

2.1 The Contractor shall provide a TDMP which details the following:

a. A description of the method for developing and updating all aspects of the documentation sets affected by the MAEFS project, including interaction with the Design Organisation and review by the Authority.

b. Confirmation that delivered documentation will be in accordance with ASD S1000D – International specification for technical publications using a common source database; SR-190 and SR-191 refer.

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

d. Data Module preparation and control.

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

f. How documentation for the equipment (airborne and ground based) shall meet safety certificate requirements.

g. Method of handling routine and priority changes.

h. Documentation status reporting.

i. Information/Documentation delivery profile demonstrating comprehensive delivery before LSD.

2.2 The Contractor shall identify what technical publications will be amended because of the MAEFS project.

2.3 The Contractor will present a detailed schedule of when the Technical Documentation (CIETP and associated hard copy publications) will be amended. The Contractor will outline the proposed acceptance regime and incorporate this within the schedule.

Annex F to
MAEFS ILS PLAN

SUPPORT AND TEST EQUIPMENT (S&TE) PLAN

1. AIM

1.1 The aim of this document is to provide an overview of the required format and content for the Support and Test Equipment (S&TE) Plan required as an accompaniment to the ILS Plan.

2. BACKGROUND

2.1 It is an aspiration that MAEFS shall require no additional S&TE over that currently in the MoD inventory. If this is not achievable, the Projects TTLS Manager would seek to minimise any requirement for Special Purpose Test and Measurement Equipment (SPTME) to support the MAEFS solution in-service. The maintenance policy for S&TE shall be in line with the Prime equipment maintenance policy (e.g. 1st to 4th Line unless agreed otherwise).

3. REQUIREMENTS

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

a. Identification, function and justification of all S&TE required to support MAEFS.

b. Identification of any training needs of the intended S&TE operator skill set.

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

d. Demonstration that S&TE availability will support the Logistic Support Date (LSD).

e. Impact on equipment of operation at sea or in inhospitable environments.

f. Commonality of equipment.

g. Economies of scale that could be realised.

3.2 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 cognoscente of the equipment levels already available within the existing aircraft fleets.

3.3 The Contractor shall supply and support all Special to Type S&TE required.

3.4 The Contractor is to ensure that all S&TE required to deploy (ashore or afloat) in support of MAEFS can be operated under the same environmental conditions.

Annex G to
MAEFS ILS PLAN

DISPOSAL AND TERMINATION PLAN

1. AIM

1.1 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.

2. BACKGROUND

2.1 The Disposal Services Authority (DSA) are the lead for the disposal of all MoD assets. DLF: Orphan Policy, JSP 886 Vol 3 Part 1, (SSE GP2.7) and DLF: Disposal provide MoD guidance and policy for Disposal Planning. Disposal Planning will address the requirements for ensuring that all parts of the engine sub-system, spares and support equipment can be economically disposed of at the end of system life. Where a design feature requires a special disposal method the Contractor must justify this. The Delivery Team must ensure that details of all hazardous material used in the production of the system are documented and that this document is maintained through the equipment's life.

3. REQUIREMENT

3.1 The Contractor shall produce an Initial Disposal Plan that will describe how the system can be economically and safely disposed of during the In-Service and Disposal Phases of the engine sub-system's life. Where a design feature requires a special disposal method the Contractor shall justify this. 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. Safety aspects regarding disposal.

e. Control of Substances Hazardous To Health (COSHH).

3.2 This plan shall describe how the engine sub-system and support equipment disposal solution is to be developed and instigated during its operational life to include proposed activity of the Authority and the Contractor.

3.3 The Contractor shall investigate, analyse and report on the optimum disposal solution, policy and procedures for MAEFS.

Annex H to
MAEFS ILS PLAN

FACILITIES AND INFRASTRUCTURE PLAN

1. AIM

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

2. REQUIREMENTS

2.1 The Contractor will be required to provide a Facilities and Infrastructure Plan which details the following:

a. A report which investigates and identifies any Contractor and Authority requirements for optimum facilities and infrastructure.

b. The function and specifications for any facilities including technical accommodation and services required to store, operate and maintain the system and details of how these requirements will be incorporated within the existing facilities.

c. The depth facilities required to support the engine sub-system and how/if these will be incorporated within existing facilities.

d. Identification of constraints associated with utilisation of existing facilities (including Security requirements).

e. Identification of areas where existing facilities will require modification to support the engine sub-system.

f. Inclusion of facility modification activity to the project schedule.

Annex I to
MAEFS ILS PLAN

HUMAN FACTORS INTEGRATION (HFI) PLAN

1. 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.

2. BACKGROUND

2.1 The MAEFS projects consists of a complex sub-system that will be deployed across 2 aircraft types and a wide range of environments. It is essential that the equipment's interactions with the operators and maintainers are considered as part of the design process.

3. REQUIREMENTS

3.1 The Contractor, utilising, as a minimum, Def Stan 00-251 as guidance, shall provide a Human Factors Integration Plan which will detail, but is not limited to, the following:

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

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

c. Design criteria to minimise the complexity and time required for maintenance activity.

d. Design criteria to provide a safe and easy to use operating environment.

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

f. Hazard assessment to consider operators and maintainers in all operating environments.

Annex J to
MAEFS ILS PLAN

SUPPLY SUPPORT PLAN (SSP)

1. AIM

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

2. BACKGROUND

2.1 The main objective of the MAEFS project is to ensure that the most effective and efficient engine support solution is procured with due consideration of whole life costs. As the project is at its' core, a support project, the SSP is critical to success.

3. REQUIREMENTS

3.1 The SSP is a key document and should include:

a. A description of the support solution, and benefits in terms of Cost of Ownership of the proposed solution.

b. Detail of through life ILS activity to include, but not be limited to:

i. Maintenance schedule reviews.

ii. Provision of technical support (i.e. response to technical queries, fault investigations etc).

iii. Field Engineering Support.

c. Description of how MAEFS will interact with the Integrated Operational Support (IOS) frameworks of both the Merlin and Apache air vehicles.

d. A description of the available Post Design Services to include corrective, perfective and adaptive activities.

3.2 As part of the Supply Support Plan the Contractor shall deliver a Defence Lines of Development (DLoD) focussed report describing impacts on other DLoDs which will consider, but is not limited to:

a. IOS interaction (including Government Furnished Asset (GFA) requirements and support required for any trials activity).

b. Aircraft modification (including a proposed schedule if applicable).

c. Support and Test Equipment.

d. Training (including aircrew, maintainers and training aids).

e. Forward Fleet.

f. Depth Fleet.

g. Spares Ranging and Scaling (including that required to support Deployable Support Packs).

3.3 Where a DLoD is sufficiently covered by an ILS Element Plan, a reference to the element plan should be made in the SSP.

3.4 The Contractor shall provide access to the model used to generate the Initial Provisioning range and scale and whole life support costs for verification and validation by the Authority as detailed in the Contractor Reporting and Data Deliverables (Schedule N).

Annex K to
MAEFS ILS PLAN

CONFIGURATION MANAGEMENT PLAN

1. AIM

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

2. BACKGROUND

2.1 CM is to be applied over the life cycle of the MAEFS project and will provide control and visibility of the sub-system's functional and physical attributes. It will provide verifiable evidence that MAEFS can meet the requirements of Def Stan 05-057 and is to be identified in sufficient detail as an aid to supportability throughout the life cycle. CM is equally applicable to hardware and software.

3. REQUIREMENTS

3.1 The Contractor shall provide a CM Plan which should include, but is not limited to the following:

a. A description of the management of change over the lifecycle of the project considering the current CM system within the Merlin and Apache DTs and how interfaces to the Design Organisation will be managed.

b. How development benefits associated with any other applicable/parallel projects will be captured and incorporated into the MAEFS project.

c. How CM activity (including development of modifications) will be documented and information disseminated between the Delivery Teams (DT) and other stakeholders.

d. Description of how the Contractor intends on enabling the configuration history and status of all equipment and technical information to be continuously recorded and made available on request.

e. The method by which the Contractor will ensure that assets are delivered to the appropriate modification standard for their intended application.

3.2 The Contractor shall control the range of configuration items that meet the needs of the MAEFS project.

3.3 The Contractor shall produce Risk Assessment sheets for each hazardous item identified in the engine sub-system, support equipment and spares.

3.4 The Contractor shall identify and record the physical and functional characteristics of Configuration Identification (CI).

3.5 The Contractor shall ensure the CM System takes account of any relevant statutory and regulatory requirements (including RA 4350 and RA 5301).

3.6 The Contractor shall investigate, analyse and report on the optimum Configuration Management (CM) Support System (e.g. the maintenance of engine designs and specifications, and management of design changes), CM processes and procedures articulating any differences from the current DT system.

3.7 The CM Plan is a deliverable with the ITN response and shall be delivered to the Authority in accordance with the ILS SoW (Annex R).

Annex L to
MAEFS ILS PLAN

OBSOLESCENCE MANAGEMENT PLAN

1. AIM

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

2. BACKGROUND

2.1 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 to minimise its cost and impact throughout the product life cycle.

3. REQUIREMENTS

3.1 The contractor shall provide an OM Plan, using Def Stan 00-600 for guidance, which details, as a minimum, the following:

a. How the contractor will implement a proactive, risk-based system to ensure early identification and resolution of obsolescence problems with components.

b. How the contractor will provide the widest range of options to mitigate obsolescence issue(s) and provide justification of the obsolescence strategy proposed in any instance.

c. How forward planning of obsolescence costs could provide a more cost effective way to manage obsolescence.

3.2 The OM Plan shall demonstrate how continued support for the engine sub-system as components become discontinued will be achieved, without resulting in extensive redesign.

3.3 The Contractor shall provide an obsolescence impact assessment, using a defined modelling process. This shall identify equipment considered as being at risk of obsolescence and its impact. This shall consider the management overhead of fleets within fleets and the respective out of service dates of each aircraft type.

3.4 In all instances of obsolescence, the Contractor shall provide a description of the solution (including any required support), cost, timescale, technical risk and impact.

Annex M to
MAEFS ILS PLAN

SAFETY AND ENVIRONMENTAL MANAGEMENT PLAN

1. AIM

1.1 The aim of this document is to provide an overview of the required content for the Safety and Environmental Management Plan (SEMP) required as an accompaniment to the ISP.

2. REQUIREMENTS

2.1 The Contractor shall deliver, a Safety and Environmental Management Plan, including, but not limited to development of the following products:

a. Safety Strategy (including preliminary Hazard Identification).

b. Equipment Safety Case.

c. Software Safety Case.

d. Environmental Management Strategy (including preliminary Aspects/Impacts identification).

e. Equipment Environmental Case.

f. Environmental Impact Statement.

g. Sustainability Assessment.

h. Regulator, Legislation and applicable Regulation / Standards register.

(Guidance for content of a – h, can be found in POSMS, POEMS and the relevant DEFSTANs).

2.2 Def Stan 00-56 certification requirements should be considered early in the project and a strategy for tailoring compliance should be included in the SEMP.

2.3 Def Stan 00-970 certification requirements should be considered early in the project and a strategy for achievement of a certified engine sub-system should be included in the SEMP.

2.4 Def Stan 00-051 certification requirements should be considered early in the project and a strategy for tailoring compliance iaw Part 2, Annex A should be included in the SEMP.

2.5 The Contractor’s resourcing of safety management within the MAEFS project shall be articulated alongside the commitment to attend and support the Authority’s Propulsion System Integrity Working Group (PSIWG) and Project Safety Committee (PSC).

Annex N to
MAEFS ILS PLAN

THROUGH LIFE FINANCE PLAN

1. AIM

1.1 The aim of this document is to provide a detailed breakdown of the requirements for delivery of the Through Life Costs for the MAEFS Project.

2. REQUIREMENTS

2.1 The Contractor, as a minimum, shall deliver detailed costs which discernibly articulate the Through Life Costs including, but not limited to:

a. Engine support solution costs.

b. Software support.

c. Initial Provisioning of Spares.

d. Facilities Uplift or modification.

e. Training system development.

Annex O to
MAEFS ILS PLAN

SOFTWARE SUPPORT PLAN

1. AIM

1.1 The aim of this document is to provide an overview of required format and content for the Software Support Plan (SSP) required as an accompaniment to the ISP.

2. BACKGROUND

2.1 Software support is essential for any system that has functionality that is reliant on 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.

3. REQUIREMENTS

3.1 The contractor shall provide an SSP detailing the methodology for conducting software supportability that ensures any in-service software modification activity is implemented in a timely manner to sustain availability. The SSP shall be able to integrate with the Merlin and Apache Delivery Teams software solution as appropriate and should include, but not be limited to, the following:

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

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

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

d. Software Configuration Management, both physical and functional.

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

f. Configuration control, documentation, testing, integration and data management.

g. Application of the SA tasks to software elements of the design.

h. Identification of Software Maintenance Tasks and development of associated procedures.

i. Identification and Configuration Control of Software elements within the design.

j. Software Security.

k. Provision of logistic support.

3.2 The contractor's Software Support Capability shall support all COTS, MOTS or bespoke software used in any part of the engine sub-system including any interfaces with wider aircraft systems. Where the term "software support" is used it shall be taken to mean all the software, hardware, personnel (including training) and other resources required to design and develop software that is as error free as possible, correct a deficiency or design error, incorporate an enhancement or respond to a hardware change/update.

3.3 The contractor shall provide details regarding the intended Software Quality Management System it intends implementing and how it will assure the success of software development.

3.4 An indication of which software uploads/downloads will be achieved in the Forward environment in support of SR-219 requirements should be included in the SSP.

3.5 Software Reliability (Correctness) and Maintainability (Administration activities) is to be detailed in appropriate section of the Reliability & Maintainability Plan and referred to in the SSP.

Annex P to

SUPPORTABILITY ANALYSIS STRATEGY

1. AIM

1.1 The aim of the Supportability Analysis (SA) programme for the MAEFS project is to ensure that the optimum support system is arrived at through the application of carefully selected SA.

2. OBJECTIVES

2.1 The Objectives of SA for the MAEFS project are:

a. Optimise Whole Life Costs (WLCs) for the required level of supportability and readiness.

b. Define logistic support resource requirements to support the engine until Out of Service Date (OSD) of the 2 aircraft types.

c. Determine the principal logistic support cost drivers and minimise demand where possible to reduce WLCs.

3. SCOPE

3.1 This document identifies the strategy for the SA Programme to be used in accordance with Def Stan 00-600. This SA Strategy describes the MOD's approach to SA, tailored in accordance with the Def Stan, to meet the needs of this project. At all stages, the scope of SA activity undertaken should be appropriate to the constraints and requirements identified in the SRD.

4. CONTENT

4.1 This strategy describes the SA tasks that need to be undertaken throughout the Project to ensure that the objectives of ILS/SA are achieved.

5. COST/FINANCE

5.1 SA tasks within a programme cost money, time and resources. Inefficient application of SA is wasteful and may not deliver the necessary information to allow decisions to be made.

5.2 Whilst this strategy describes MODs approach to SA tasks, the Contractor should not be constrained to only those tasks suggested where there is a demonstrable reason to carry out additional SA activity. Conversely, where the Contractor believes that a task is unnecessary, then this statement shall be made and justified in the SA Plan. Where a contractor proposes alternative or additional SA tasks in the SA Plan evidence that these tasks provide a greater return on investment will be required.

6. SUPPORTABILITY ANALYSIS TAILORING

6.1 Tailoring of SA is mandatory. This strategy details the tailored application of each of the SA tasks. A full list of SA tasks and task descriptions are given within Def Stan 00-600.

6.2 Several tasks may be repeated for various stages of the project. For each of these tasks, its applicability to the Project, the timing of data necessary to support other activities and the responsibility for performing (and or validating) the task must be identified.

7. PLATFORM SA INTEGRATION

7.1 Whilst SA will only be conducted on the engine sub-system as part of the MAEFS project, the recommended support should highlight the interface with the aircrafts' IOS support infrastructure including proposing assumptions and dependencies to the Authority where appropriate.

8. REQUIREMENTS

8.1 The Contractor shall submit an SA Plan in accordance with the ILS SoW (Annex R).

8.2 The Contractor shall implement a Supportability Analysis (SA) Plan in accordance with Def Stan 00-600, against one of the recognised standards highlighted in the Def Stan, and tailored to meet the requirements of the MAEFS project. Only those SA tasks selected because of task tailoring, and therefore included in the Contractor's SA Plan, are to be undertaken, unless the need to undertake additional tasks is jointly agreed with the Projects TTLS Manager. Where the Contractor believes that there is no requirement to carry out a task or sub-task, or, where the Contractor recommends additional tasks, or sub-tasks, the Contractor shall fully justify the reasons.

8.3 The SA Plan must include, but not be limited to, the following tasks which have been initially tailored by the Projects TTLS Manager. Further tailoring should be undertaken by the Contractor based on the ITN response being made (i.e. a novel solution or otherwise). They are presented in five inter-related groups:

a. Programme planning and control.

   i. Development of the SA Plan.

   ii. Programme and design reviews.

b. Mission and Support Systems Definition.

   i. Analysis of operating environment as detailed at SR-215

   ii. Support system and standardization.

   iii. Comparative analysis.

   iv. Technological opportunities.

   v. Supportability and supportability related design factors.

c. Preparation and Evaluation of Alternatives.

   i. Functional requirements identification.

   ii. Support system alternatives.

   iii. Alternatives evaluation and trade-off analysis.

d. Determination of Support Resource Requirements.

i. Task analysis.

ii. Impact on existing support systems (IOS interfaces).

iii. Post production/manufacture support analysis.

e. Supportability Assessment.

i. Supportability, test, evaluation and verification.

ii. Monitoring and evaluation of the developing support system.

iii. Monitoring, evaluation and updating of the implemented support system.

8.4 Additionally the SA Plan should detail the equipment breakdown structure and identify and justify any additional information required to be delivered by the Authority to the Contractor in support of SA along with a schedule of delivery dates.

Annex Q to
MAEFS ILS PLAN

TERMS OF REFERENCE OF THE INTEGRATED LOGISTICS SUPPORT WORKING GROUP

1. AIM

1.1 The aims of the ILS Working Group (ILSWG) are:

a. To develop, maintain and implement an Integrated Logistic Support Plan in accordance with the procedures set out in Def Stan 00-600.

b. To identify, develop and act upon the dependencies and assumptions affecting ILS activity on the MAEFS project.

c. To identify the overall logistic support implications of the engine sub-system in service.

d. To examine cost options for the provision of Logistic Support.

e. To develop and refine criteria for the planning of the Logistic Support Date (LSD).

f. Configuration Management.

g. Agree the format and review the Logistics Information Repository.

2. CHAIRMANSHIP

2.1 The Merlin Projects TTLS Manager and Contractor's ILS Manager will co-chair the ILSWG.

3. MEMBERSHIP

3.1 The ILSWG shall routinely be attended by:

a. The Merlin Projects TTLS Manager or empowered representative.

b. The Contractor's ILS Manager.

c. The Contractor's SA Manager (where different from the ILS Manager).

d. Others as required dependent on the agenda.

3.2 The Support Solutions Officer (SSO) and Platform Integrated Logistics Function Leads will be invited to meetings on an occasional basis to provide assurance.

4. FREQUENCY

4.1 The ILSWG will be held every 3 months with additional meetings able to be called when required to discuss urgent matters. The Contractor shall ensure adequate Contractor and sub-contractor (if applicable) representation at the meetings.

4.2 ILSWG meetings will normally alternate between DE&S Yeovil (based at Leonardo Helicopters) and the Contractor's premises.

4.3 The Contractor shall prepare and submit a recommended agenda (and slide pack) to the Authority 10 working days prior to the ILSWG. The Authority will then provide the final agenda to the Contractor for distribution. The Agenda shall always include the following:

a. Progress against milestones.

b. Risk.

4.4 The Contractor shall prepare detailed minutes of each ILSWG and shall submit the minutes to the Authority for approval within 5 working days of the meeting.

4.5 If a topic necessitates a discrete meeting in addition to the ILS WG these shall also besupported by the Contractor. Topics may include, but are not limited to:

a. Supportability Working Group.

b. DRACAS Sentencing Committee (Def Stan 00-40) (If needed).

c. Training Working Group.

d. Technical Publications Working Group.

e. R&M Working Group.

f. Software Support Working Group.

Annex R to
MAEFS ILS PLAN

INTEGRATED LOGISTIC SUPPORT STATEMENT OF WORK

1. The Contractor shall provide an Integrated Support Plan (ISP) for the management and execution of the Integrated Logistic Support (ILS) programme in response to the Authority's ILS Plan and this Statement of Work (SoW).

2. The ISP (including associated element plans) shall be delivered with the Contractor's proposal. If the tender response is successful, the plans should be updated for delivery at contract award. Routine update requirements will be included in the contract documentation, though an indication is given in the table below.

3. Where in-service data is required, this shall be requested by placing a Clarification Question through the AWARD system.

4. Any data presented should reflect positive and negative impacts to the engine sub-system, wider aircraft and support solution (including impacts to IMOS where applicable) and should give an indication of the impact upon Cost of Ownership.

Description	**Deliverables**	**Periodicity post contract award**
Integrated Support Plan	Report	Annual
Training and Training Equipment (T&TE) Plan	Report	Annual
Packaging, Handling, Storage and Transport (PHS&T) Plan	Report	Annual
Maintenance Plan	Report	Annual
Reliability and Maintainability (R&M) Plan	Report	6-monthly
Technical Documentation Management Plan	Report	Annual
Support and Test Equipment (S&TE) Plan	Report	Annual
Disposal and Termination Plan	Report	Annual
Facilities and Infrastructure Plan	Report	Annual
Human Factors Integration (HFI) Plan	Report	Annual
Supply Support Plan (SSP, including DLoDs report)	Report	6-monthly
Configuration Management Plan	Report	Annual
Obsolescence Management Plan	Report	Annual
Safety and Environment Management Plan	Report	Annual
Through Life Finance Plan	Report	Annual
Software Support Plan	Report	Annual
Supportability Analysis Plan	Report	Annual

Logistic Information Repository	Repository	N/A
Logistic Control Number Scheme including Standards Assurance Strategy	Report	Annual