Ministry of Defence

Defence Standard 00-051 Part 02

Issue 2 **Date:** **28 November 2021**

Environmental Management Requirements for Defence Systems

Part: 02 : Guidance

Section 1

Foreword

Defence Standard Structure

Section 1 (Generated by the StanMIS toolset)

- Revision Note
- Historical Record
- Warning
- Standard Clauses

Section 2 (Technical information provided by Subject Matter Expert)

- Title
- Introduction (optional)
- Table of Contents
- Scope
- Technical Information to include Tables and Figures
- Annexes (as required)

Section 3 (Generated by StanMIS toolset)

- Normative References
- Definitions
- Abbreviation
- Changes since previous issue

REVISION NOTE

This standard has undergone a major rewrite, peer reviewed by an Environmental Working Group and endorsed via a Safety and Environmental Standards Review Committee. A full record of documented changes is available upon request by contacting the DStan Help Centre (details on rear cover of standard).

Following on from the rationale outlined in Def Stan 00-051 Part 1 Change Summary, this Issue of Def Stan 00-051 Part 2 represents an evolution of its immediate predecessor. Industry was proportionally represented at Editorial and Working Groups, with attendance by an ADS (Aerospace, Defence, Security and Space) Group Ltd representative. For Issue 2, in summary:

Various minor typographical and grammatical updates.

Rearranged to present a more logical order (e.g. advice on how to tailor placed before the tailoring matrix).

The standard is structured to be more open architecture to place emphasis on using open standards or a combination of open standards to meet environmental requirements.

Guidance for the new clause included to reflect changing priorities to adapt to Net Zero and MOD's Climate Change and Sustainability Strategy. These aim to develop awareness and understanding of the two concepts before the overarching strategy and requirements are released across Defence.

Guidance on how to facilitate the achievement of military deltas, when analysis of the open standards identifies the need to use this Def Stan to achieve remaining or additional requirements.

Clarification on tailoring the environmental requirements using the tailoring matrix. A new Tailoring Matrix Template has been provided and guidance has been updated to factor for Full, Full (AAMC), Partial, Waiver (including for Non-Compliance but in guidance text only) to enable the Contractor to respond to the Authority's specifications on mandatory or tailorable requirements.

Environmental Artefacts - further guidance by introduction of a definition table and schematic diagram to detail their association.

HISTORICAL RECORD

This standard supersedes the following:

Defence Standard 00-051 Part 2 Issue 1

WARNING

The Ministry of Defence (MOD), like its contractors, is subject both to United Kingdom law and any EU-derived law that has been retained under the European Union (Withdrawal) Act 2018 regarding Health and Safety at Work. Many Defence Standards set out processes and procedures that could be injurious to health if adequate precautions are not taken. Adherence to those processes and procedures in no way absolves users from complying with legal requirements relating to Health and Safety at Work.

STANDARD CLAUSES

a) This standard has been published on behalf of the Ministry of Defence (MOD) by UK Defence Standardization (DStan).

b) This standard has been reached following broad consensus amongst the authorities concerned with its use and is intended to be used whenever relevant in all future designs, contracts, orders etc. and whenever practicable by amendment to those already in existence. If any difficulty arises which prevents application of the Defence Standard, DStan shall be informed so that a remedy may be sought.

c) Please address any enquiries regarding the use of this standard in relation to an invitation to tender or to a contract in which it is incorporated, to the responsible technical or supervising authority named in the invitation to tender or contract.

d) Compliance with this Defence Standard shall not in itself relieve any person from any legal obligations imposed upon them.

e) This standard has been devised solely for the use of the MOD and its contractors in the execution of contracts for the MOD. To the extent permitted by law, the MOD hereby excludes all liability whatsoever and howsoever arising (including, but without limitation, liability resulting from negligence) for any loss or damage however caused when the standard is used for any other purpose.

Section 2

Environmental Management Requirements for Defence Sysems

Part 2: Guidance

0 Introduction

0.1 Preface

0.1.1 All Ministry of Defence (MOD) Contractors are expected to apply a systematic approach to environmental management by implementing an Environmental Management System (EMS) for their organisation, which covers the Products, Systems or Services (PSS) supplied. Accredited certification of an organisation's EMS, to an open standard, such as ISO 14001, helps an organisation demonstrate an ongoing commitment to improving its environmental performance.

0.1.2 Part 1 of this Standard defines the environmental management activities and artefacts to be provided by Contractors as part of their provision of PSS to the MOD; within the context of this Standard these environmental management activities and artefacts are termed environmental management requirements. The environmental management requirements defined in this Defence Standard should fit within the remit of the Contractor's established EMS. To address a broad range of scenarios, Part 1 of this Standard sets out Environmental Management Requirements which require application in any given situation. Part 2 sets out Environmental Management Requirement Guidance and helps to analyse the different circumstances which can arise and to provide rationale for compliance with this Standard.

0.1.3 Part 2 also provides guidance on establishing a means of compliance with the requirements in Part 1 for achievement, assurance and management of environmental aspects, including overarching objectives and principles.

0.1.4 The term PSS is used to describe what is being delivered, as defined by the Contract. This Standard is intended to capture a broad spectrum of deliverables.

0.1.5 Under UK law, all employers have a duty of care to their employees, the general public and the wider environment. For the Authority, the Secretary of State to Defence has issued a policy statement on health, safety and environmental protection which is applied throughout Defence. It requires that the Authority eliminate or minimise environmental effects on the environment.

0.1.6 The requirements are grouped into five main areas; General Requirements, Environmental Management, Environmental Management Requirements, Environmental Assessment and Control, Environmental Management Responsibilities – In-Service.

0.2 Purpose

0.2.1 The purpose of Part 2 is to provide advice and guidance on how to comply with the environmental management requirements contained in Part 1 of the Standard that enables the acquisition of PSS to be compliant with environmental legislation, defence regulation, standards, policy and guidance. By following the advice and guidance laid out in Part 2, a Contractor will demonstrate compliance with the Part 1 environmental management requirements.

0.2.2 Deviation away from the advice and guidance in Part 2 is permitted, in agreement with the Authority, where sound evidence is provided to demonstrate the alternative approach will:

a) meet the environmental management requirements in Part 1; and

b) support the overarching goal to protect the environment.

0.2.3 The use of Open Standards is strongly encouraged to meet the requirements of this standard. A gap analysis must be conducted to ensure the full military context is captured and any deltas identified. Annex A includes an example of an Open Standard analysed against this Defence Standard detailing the military deltas identified.

0.2.4 An essential element of the EMS is the generation of bodies of evidence termed Environmental Case for individual PSS that must be retained for audit and assurance or a legal or regulatory requirement. Some data will be documented in the Environmental Management Plan (EMP) and other data retained as part of the Information Set. Throughout this Standard, unless otherwise specified, the data to be recorded or documented must be retained within the Information Set. Data Item Descriptions (DIDs), available within Annex B, supports the definition and production of deliverable documentation.

0.3 Terminology

0.3.1 This Standard follows International Standard Organisation (ISO) terminology for requirements and recommendations. The clauses and sub-clauses detailed in Part 1 are all 'mandated' to ensure review for applicability to the PSS to be delivered, of which tailoring may be applied proportionally by the Authority.

Note. For Normative References the terminology outlined for each reference is to be followed.

0.4 Tailoring

0.4.1 This Standard will be tailored by the MOD prior to Contractor engagement to ensure a proportionate approach to environmental management requirements that reflect the complexity of the PSS, the intended application and operational context.

0.4.2 Tailoring can be done only by suitably qualified MOD personnel, or as proposed by the Contractor and with the agreement of the Authority, to reflect the applicable environmental management requirements associated with provision of the PSS, which includes:

a) **Scope of Supply**: the deliverable PSS and information. The introduction of scope of supply is intended to identify what is delivered and not delivered to the Authority.

b) **Scope of Analysis**: all relevant activities to be undertaken, which may apply to more than or less than, the scope of supply.

0.4.3 Guidance on tailoring is in Annex C. It can be particularly effective where there is an urgent operational need for Contractors to supply or modify PSS.

0.5 Accountability

0.5.1 Contractors who supply PSS to the Authority are subject to legal duties, which may vary with the place of manufacture and supply or operation. The Authority shall have regard to the needs of Contractors to discharge their legal duties when interpreting and applying the requirements of this Standard.

0.5.2 This Standard covers a broad range of contractual scenarios, including Contracts providing support to operations, e.g. a PSS delivered and maintained by Contractors in an operational environment. In the operational environment, a MOD Crown servant will retain accountability and responsibility for environmental protection, assure compliance with legislation, and take account of this contracted PSS delivery.

0.6 Application

0.6.1 This Standard can be applied to all acquisition scenarios and all PSS, but the responsibility of the Contractor varies with the scope of supply.

0.6.2 This Standard is intended to cover the full range of contracting possibilities, including:

a) Enhanced, where the Contractor carries out environmental management beyond the deliverable PSS(e.g. screening, scoping and analysis) and demonstrates environmental compliance to the Authority's Accountable Person.

b) Full, where the Contractor carries out environmental management and demonstrates environmental compliance for the deliverable PSS.

c) Reduced, where the Contractor carries out limited environmental screening, scoping and assessment and environmental management, or supply chain analysis, only for parts or

aspects of the deliverable PSS, e.g. for change of operational use or operating environment. Demonstration of environmental compliance with the scope is still required.

0.7 Further Information

0.7.1 Further environmental management reference material, which may be relevant to this Standard, may be found via the Knowledge in Defence (KiD) website, accessible through the MOD Defence Gateway and the Acquisition Safety and Environmental Management System (ASEMS) website.

Notes:

1. Abbreviations used in this Standard, e.g. PSS, are to be considered as singular or plural in context with their use in the text.
2. The Authority mandated requirements for quality management in acquisition and the standard quality assurance contractual requirements are available through the KiD website accessible through the MOD Defence Gateway. These requirements are not addressed in this Standard.

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1 Scope and Applicability

1.1 Def Stan 00-051 Part 1 specifies the requirements for achieving, assuring and managing the environmental aspects of PSS defined by the scope of contract.

1.2 Part 2 provides the Contractor with guidance, where required, for compliance with the Environmental Management Requirement clauses within this Standard, thereby supporting the Authority in meeting their compliance obligations with regard to the management of environmental aspects associated with the operation of military systems.

1.3 Part 2 also provides guidance on tailoring and the overarching contracting processes with respect to compiling the tailoring and compliance matrix template.

2 Contracting to Defence Standard 00-051 Part 1

2.1 Def Stan 00-051 Overview

2.1.1 This Standard is primarily intended to ensure that Contractors have established a robust approach to environmental management and have an EMP and associated EMS in place. In exceptional circumstances, the Authority may work with some specialist Contractors who do not have an EMS but have clear processes in place to appropriately manage environmental aspects. It should be noted that the EMP is a live document.

2.1.2 Environmental management requirements identified in the scope of contract may arise from the scope of supply or scope of analysis for the specific project, or from applicable MOD policy or regulations.

2.1.3 To oversee the procurement and support of the PSS, the Authority will set up an Environmental Committee, which the Contractor should use as a mechanism for reporting, negotiation and raising issues. In some cases, it may be appropriate for the Environmental Committee to sit under a combined Safety and Environmental Committee.

2.1.4 The use of open standards, and in particular ISO 14001, is a straightforward and pragmatic means of meeting many of the requirements of this Standard. An example guide to the application of ISO 14001 and the Military Delta associated with it is provided in Annex A.

2.1.5 Contractors are responsible for identifying all relevant environmental legislation, defence regulation, standards, policy and guidance that needs to be applied to the PSS that they are developing. This needs to be communicated with the Authority and captured in the Register of Environmental Standards (see Table 1 for definition). The Authority will be able to advise on how the PSS will be used and will be able to identify which overseas locations the PSS is expected to operate in, and therefore provide advice from which the Contractor can identify which international legislation shall be included.

2.1.6 During the tendering process, it is intended that this Standard will be tailored to represent the specific requirements of the PSS and its operational and acquisition context. Approval for all tailoring lies with the Authority, who will prior to Invitation to Tender (ITT) detail the extent of tailoring for the PSS, annotating the Tailoring and Compliance Matrix (Annex C) prior to sending it to the potential tenderers. The tenderer will subsequently complete the provided matrix, annotating how they will comply with the requirements. As part of this process, the Authority will request specific documentary deliverables to be provided. In many cases, this is to meet the requirements of the Defence Equipment and Support (DE&S) Project Oriented Environmental Management System (POEMS) and, as such, the documents should be generated with an appropriate format and content. Therefore, references to POEMS within this document are provided as informative guidance only.

2.1.7 A set of these documents and their DID are listed in Annex B. These documents are required to provide information to particular stakeholder groups and should only be requested where needed by the Authority. It should also be noted that as there can be significant overlap between these documents, it is expected that they will be generated from a common underlying set of data contained within the Information Set and Environmental Case for the PSS to reduce duplication. In some cases, and with Authority's agreement, it may also be appropriate to combine documents such as a combined Safety and Environment Case. Further information on documentary artefacts is available within section 2.4.

2.1.8 Documents identified in this Standard may be delivered by the Contractor, or as a joint venture with the Authority, or just the data/information or evidence provided to the Authority, as agreed with the Authority in the Contract.

2.1.9 As informed in Part 1 it is essential that tailoring captures the environmental challenge (the environmental impacts and potential risks) as well as the size and complexity of the project. However, it is important to realise that the Authority will need to manage through-life implications of ownership of the PSS and may have a different view on proportionality and risk to the Contractor. Where the Contractor has concerns over the burden of meeting the requirements of this Standard, this should be raised through the Environmental Committee (paragraph 2.1.3 defines).

2.1.10 The Authority retains responsibility for implementing POEMS and retains ownership of the POEMS deliverables, however, the Contractor is required to generate information to support the POEMS process, and production of certain deliverables may be included as part of the Contract.

2.1.11 Once the contractual terms and conditions and set of deliverables have been agreed and published by the Authority in an ITT, the Contractor will develop a proposal and conduct an environmental assessment to identify environmental aspects and risks. This will initially be through a screening and scoping activity, and where required through a more formalised environmental assessment process. In both cases, the aspects should be captured and recorded. The Authority uses an Environmental Features Matrix (EFM) to capture this information. It is important to ensure that the analysis is proportional to the size of PSS and its associated environmental challenge, and covers all lifecycle phases appropriate to the contractual scope of analysis.

2.1.12 The Contractor's ITT response, unless requested, may include a draft EMP and draft Register of Environmental Standards, as well as the results of any initial assessment activities and a preliminary Environment Case Report (ECR). This is to provide initial evidence of how the environmental requirements will be met and any other specific documents requested by the Authority to support the tender evaluation.

2.1.13 During Development and Manufacture, the assessment process will continue in parallel with the design. The Contractor shall operate an EMS relevant to the supply of PSS, and provide a through-life EMP for the PSS which is consistent with the Authority's requirements to manage environmental requirements. Where an EMS is already in existence for the Contractor's enterprise operations, an EMP will need to be developed which specifically describes how the EMS will enable the PSS to meet its environmental requirements.

2.1.14 The design and environmental management activities will need to address both environmental requirements (those stated within the User Requirement Document (URD) and System Requirement Document (SRD) and derived environmental requirements (those arising as a result of the nature of the PSS, operational environment, environmental legislation, defence regulation, standards, policy and guidance etc.). It is essential that the Contractor effectively manages all requirements and provides evidence of compliance and shortfalls to the Authority. This should be recorded in the EMP and the Information Set provided in response to the Contract.

2.1.15 Where the design involves complex trade-off decisions, these need to be communicated to the Authority at the earliest opportunity to demonstrate compliance with the environmental requirements, the appropriate course of action is to be agreed with the Authority. There may be a need to generate a specific Design for Environment Impact Report (DfEIR) Annex in the ECR which captures the decision-making process, if required by the Authority.

2.1.16 As part of the effective management of environmental aspects, the PSS environmental assessment should be continually updated throughout development and manufacture phases, as agreed with the Authority. This should include respective updates to Progress Reports, updated project documentation (including EFMs and assessment reports) and ECRs which should be delivered to the Environmental Committee in accordance with the EMP. The Contractor is expected to have an awareness of the impact upon environmental management of any changes to context and requirement and should therefore have processes in place to manage changes to the environment, proposed use, or environmental legislation, defence regulation, standards, policy and guidance. The Contractor will conduct their own internal audits, and also enable the Authority, or independent auditors appointed by the Authority reasonable access to the Information Set for the purposes of audit. Commercially sensitive information may be protected by a Non-Disclosure Agreement (NDA) in accordance with the Contract.

2.1.17 During Trials and Evaluation activities, the Contractor shall ensure that suitable environmental controls are put in place to ensure that the EMS is followed and to minimise the impact and risk of environmental harm. Where the Contractor is supporting Authority or third party trials they will ensure that they liaise with the appropriate trials and regulatory authority. Any concerns should be raised through the Environmental Committee.

2.1.18 Not all PSS will include In-Service support but where the Contractor is delivering a service, they are required to monitor any changes to the PSS design, content, or operational use and inform the Authority of impacts and, where necessary, update the associated relevant documentation.

2.1.19 Throughout all stages of the acquisition cycle, as well as end of life, there will be a requirement for disposal. In many cases disposal will be through MOD-approved channels such as the Disposal Equipment Services Authority (DESA). However, in some circumstances the Contractor will be engaged to specifically conduct disposal activities. To support disposal activities, the Contractor will be required to follow or implement the appropriate EMP and EMS, implementing a Disposal Plan where necessary. At design, consideration shall be given to manufacturing techniques and the selection of materials in order to facilitate disposal and, for planning disposal activities throughout the acquisition cycle and delineate also for waste. Furthermore, to inform disposal activities, an updated hazardous materials list, detailing substances, quantities and location should be provided by the Contractor throughout the acquisition lifecycle.

2.2 MOD Policy

2.2.1 Introduction

This standard supports the policy cascaded from the Secretary of State for Defence's policy statement on health, safety and environmental protection.

2.2.2 Secretary of State for Defence – Health, Safety and Environmental Protection Statement.

This sets out the MOD's legal obligations and the requirements of the Secretary of State for Defence for individuals, managers and commanders (available on the Gov.uk public website). MOD policy for environmental protection is derived from this statement. The Contractor (including its supply chain) and the Authority are expected to follow the requirements of the statement.

2.2.3 Environmental Policy

There is a wealth of legislation for environmental protection to which Defence must comply in full. In exceptional circumstances where exemptions are applied, the Secretary of State's statement underpins the requirement to achieve equivalent outcomes. This is further amplified in Defence policy and Defence regulation.

2.2.4 Climate Change and Sustainability

Following development of environmental legislation, there is a requirement to recognise the evolution towards Net Zero carbon and adoption of Sustainable Procurement, in particular:

a) The 2008 Climate Change Act was amended in 2019 to commit the UK to a legally binding target of Net Zero greenhouse gas (GHG) emissions by 2050. It is recognised that Defence is critical to the success of central government's emissions reduction commitment. To enable MOD to achieve Net Zero emissions obligations by 2050, PSS and the defence supply chain should also achieve Net Zero by 2050, by either inherent design or alternative means.

b) The Defence Review on Climate Change and Sustainability commits MOD to embracing environmental sustainability in all aspect of MOD acquisition. This includes eliminating GHG emissions wherever possible. Where elimination is not possible, then this includes reducing emissions produced by PSS and the Defence supply chain and finding alternative means to achieve Net Zero by 2050. Procuring sustainably is an essential step to support MOD requirements under the Government commitment of Net Zero GHG emissions by 2050 as well as enhancing operational capability.

c) Integrating environmental sustainability principles is applicable to all Defence PSS projects. Key areas include the need to embed resource efficiency, embracing eco-design and lean support approaches in order to minimise resource use, waste and reduce through-life costs. The reduction of GHG emissions and adaptability to climate change should be a consideration in all types of acquisition.

2.2.5 Compliance.

The purpose of Def Stan 00-051 is to place requirements on Contractors to enable Authority to meet its obligations to protect the environment as defined by the Secretary of State's Policy Statement and amplified by extant MOD Defence Health Safety and Environmental Protection guidance documentation. MOD policy requires compliance with relevant legislation, policy, defence regulation and standards, both civilian and military. Codes of practice, mandated procedures, advice and guidance are also provided to support MOD staff in delivery of compliant PSS.

a) The Contractor is expected to derive environmental requirements arising from relevant MOD policy. The Authority will assist the Contractor to identify relevant MOD policy, including standards and regulations. DE&S mandates the ASEMS that includes the POEMS which is available on the ASEMS website and contains guidance on defining environmental requirements.

b) This Standard requires Contractors to meet their obligations with all applicable environmental legislation, defence regulations, standards, policy and guidance; agree with Authority the criteria that must be complied with; and document this information in the Register of Environmental Standards.

Notes:

1. It is expected that a Contractor will be aware that MOD policy identifies that where Defence has exemptions, derogations or dis-applications from HSEP legislation, the MOD must develop departmental arrangements that produce outcomes that are, so far as reasonably practicable, at least as good as those required by UK legislation. Evidence may be required by Defence Safety Authority (DSA) Regulators.

2. It is expected that a Contractor will be aware that MOD policy identifies that the use of hazardous substances and restricted materials must be avoided on new PSS. Defence or National Security related exemption or disapplication may be used only where necessary to maintain a military capability. Contractors must comply with relevant domain-specific policies relating to approved / restricted substances and materials.

3. Where there is a requirement on the Contractor to obtain agreement on disapplication, exemption or derogation (DED), dependent on the applicable legislation for their chosen solution, e.g. where chemicals may be subject to legislation that restricts or prohibits manufacture or import. In all cases, the interest of Defence, or interest of national security, DEDs are for only the Authority to apply.

4. DEDs are time-limited and reviewed annually by Authority. The Secretary of State has the right to revoke DEDs at any time.

5. The Contractor is expected to either already be aware of such legislation and defence regulation, or be in a position to identify it, particularly where they are selecting options for the PSS solution.

6. The Contractor is expected to be aware of any legislative issues that may impact the import, manufacture or delivery of PSS throughout the supply chain.

7. The Contractor is also expected to manage their supply chain to ensure that they are aware of chemicals used in the manufacture or support of the PSS that are controlled by legislation and will identify risks to the supply of such substances to the Authority at the earliest opportunity.

8. The MOD's strategy relating to sustainability and Net Zero Carbon is published in 'Ministry of Defence Climate Change and Sustainability Strategic Approach', available on the Gov.uk website.

2.3 Products, Systems and Services

2.3.1 Product

Most MOD acquisitions result in a delivery of an article which is intended to be operated; this Standard refers to such artefacts as products. Products will range size and type, example products are: a chemical sensor, a winch, a software application and a ship. However, products usually need additional elements, such as supplies, crew, weapons, etc. in order for them to be considered as an in-service/operational system.

2.3.2 System

A System is usually intended to be operated in a defined environment, to achieve a particular capability. The PSS may be part of a military system of systems, in which case it will include other system elements. The system of systems will have Defence Lines of Development (DLODs) associated with them to deliver effective capability. The PSS will also have DLODs associated with it. In some cases, for example crew, these will be part of the same resource.

2.3.3 Service

A military service is provided by the operation or use of a system. The Contractor may operate a system and provide a Service, e.g. a network service. In this case, the Contractor may have some responsibility for supporting in-service environmental protection i.e. the availability of the service must be considered in assessing the environment impacts and risks.

2.3.4 When this Standard is applied, it will always be the case that there is a MOD Accountable Person who has ultimate responsibility for the PSS environmental aspects and associated environmental impacts and risks.

2.3.5 As the range of scenarios for providing PSS is very large, there may be conflict between the legal obligations on Contractors, e.g. under Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) legislation, and the operational imperative. This Standard expects that the scope of contract will define contractual clauses which will be agreed between the Authority and the Contractor to ensure these issues are managed to the satisfaction of the end-user as agreed with the Authority and the Contractor.

Notes:

1. The distinction between different PSS impacts on the environmental management processes: a Contractor will be able to identify and manage some impacts, e.g. the reduction in the use of hazardous substances whilst maintain product reliability and performance. Other impact identification will depend on the way the PSS is used or employed, for example emissions and energy use will depend upon the type, location and frequency of operations. The anticipated operation and use of the PSS should be used as the basis for environmental impact and risk assessment. Performance is defined within the Concept of Use/Employment/Operation (CONUSE, CONEMP/CONOPS). The Contractor will be reliant on the defined requirements in the scope of contract, e.g. URD and / or SRD, as well as other sources as agreed with the Authority.

2. During acquisition of some products the contractor will test the system and the service by trials that replicate in service use, including provision of personnel for the trials. All the legislative requirements associated with PSS including all these activities are expected to be part of the registry of standards, with compliance evidenced in the Environmental Case.

2.4 Information Sets and Environmental Artefacts

2.4.1 The Information Set, containing an agreed selection of environmental artefacts, provides the totality of information produced in support of the PSS. The Environmental Case contains all of the information relevant and applicable to environmental management. Artefact deliverables should be proportional to the project and it's environmental requirements.

2.4.2 Table 1 lists the variety of environmental artefacts that may be used to meet mandated clauses. Artefact selection, in a format agreed with the Authority, should be used to provide evidence for the Environmental Case.

2.4.3 Figure 1 provides a diagrammatic representation of the range of artefacts in Table 1 that could populate the Environmental Case.

2.4.4 The Authority acquires PSS which are intended to form part of more complex systems. The system integrator, or systems of systems Design Organisation, will need to be provided with relevant information to enable them to assess the overall environmental aspects. Such information could include the impacts associated with the use of the PSS, as well as usage constraints.

2.4.5 As an example, a commercial off the shelf (COTS) communications system ISES Annex may contain sufficient information relevant for assessing environmental aspects in the wider context. This would include impacts such as use of hazardous substances tolerated by a Defence or National Security exemption or disapplication in the legislation. For example, the use of a REACH restricted substance which is still legal for industrial use with appropriate controls, when no other substance is effective for essential safety related non-destructive testing. In general, the ISES Annex could be used to help define limitations of use for a defined interfacing capability.

2.4.6 In developing interfaces (e.g. integration/system of systems) as defined in the scope of contract, this Standard places requirements on Contractors to collaborate with relevant stakeholders (e.g. system integrators, and other PSS developers) and system owners. This also includes the need to collaborate where necessary in environmental management activities. Developing an ISES Annex can be a useful way of exchanging important and relevant information.

2.4.7 The scope of contract may include requirements on Contractors to design multiple PSS to be operated in a system of systems. Technical requirements would apply to each system (e.g. vessel and different unmanned vehicles). This would inform the ECR for each system, i.e. each type of unmanned vehicle integrated with the support vessel. Therefore, for a particular configuration of unmanned vehicles which are integrated with a support vessel, an Environmental Case and ECR could be constructed for the deployed system of systems.

Table 1 - Environmental Artefacts Description

Artefact	Description
Design for Environmental Impact Report (DfEIR) Annex	Provides a record of how environmental requirements have been implemented within the design and record any trade-off decisions (and where evidence is required to demonstrate how fully the environmental requirements have been met; e.g. to demonstrate that impacts have been minimised) and justify any decisions been taken that may impact on the environment' or something similar that justifies the requirements for any proposed 'trade-offs'. This can be utilised at all stages of the acquisition lifecycle to demonstrate that each assumption that influences the design of the PSS is reasonable and justified.
Environmental Aspects Register/Environmental Features Matrix (EFM)	A register of all environmental aspects and impacts identified through the EMS. Captures the significance, systems affected, management actions, owners, and considerations to implement operational controls. Consideration should also be given to external environmental issues affecting the PSS which in turn could potentially cause an environmental impact.
Environmental Case Report (ECR)	Summarises the arguments and evidence of the Environmental Case for a given application in a given operating environment at a given time.
Environmental Impact Management (EIM) report	Reports the approach and outcomes in assessing medium and high impacts alongside mitigating measures and positive impacts.
Environmental Impact Screening and Scoping (EISS) Report	Following completion of EISS, the report summarily details how the EISS was undertaken and by whom. Identifying and detailing relevant aspects, impacts and potential risks to the acquisition of the PSS. The purpose of this report is to validate the findings and communicate which environmental aspects and impacts should be prioritised, and why, to stakeholders.
Environmental Impact Statement (EIS)	A non-technical summary of the environmental aspects and impacts associated with the PSS, and how these are managed through life.
Environmental Management Plan (EMP)	Defines the strategy for assessing environmental matters and outlines the Environmental Management System. The EMP defines relevant activities to be undertaken to manage the environmental aspects, and the organisational arrangements to deliver the EMS.
Information Set Environmental Summary (ISES)	Provides the information needed to integrate the PSS into a system of systems or with a peer system, describing the environmental elements of the technical/ engineering interface. The purpose of the ISES is to provide information which a system integrator, or user, needs to handle and install the PSS and carry out environmental risk analysis, including information on environmental performance, legislation and operational use. This should include assumptions and dependencies related to valid configurations of the PSS.
Register of Environmental Standards	Identifies relevant environmental requirements, from legislation and other environmental obligations to which the organisation subscribes that apply to the project over its lifecycle in order to be able to meet their demands and demonstrate compliance. It should also include compliance requirements and capture compliance evidence.

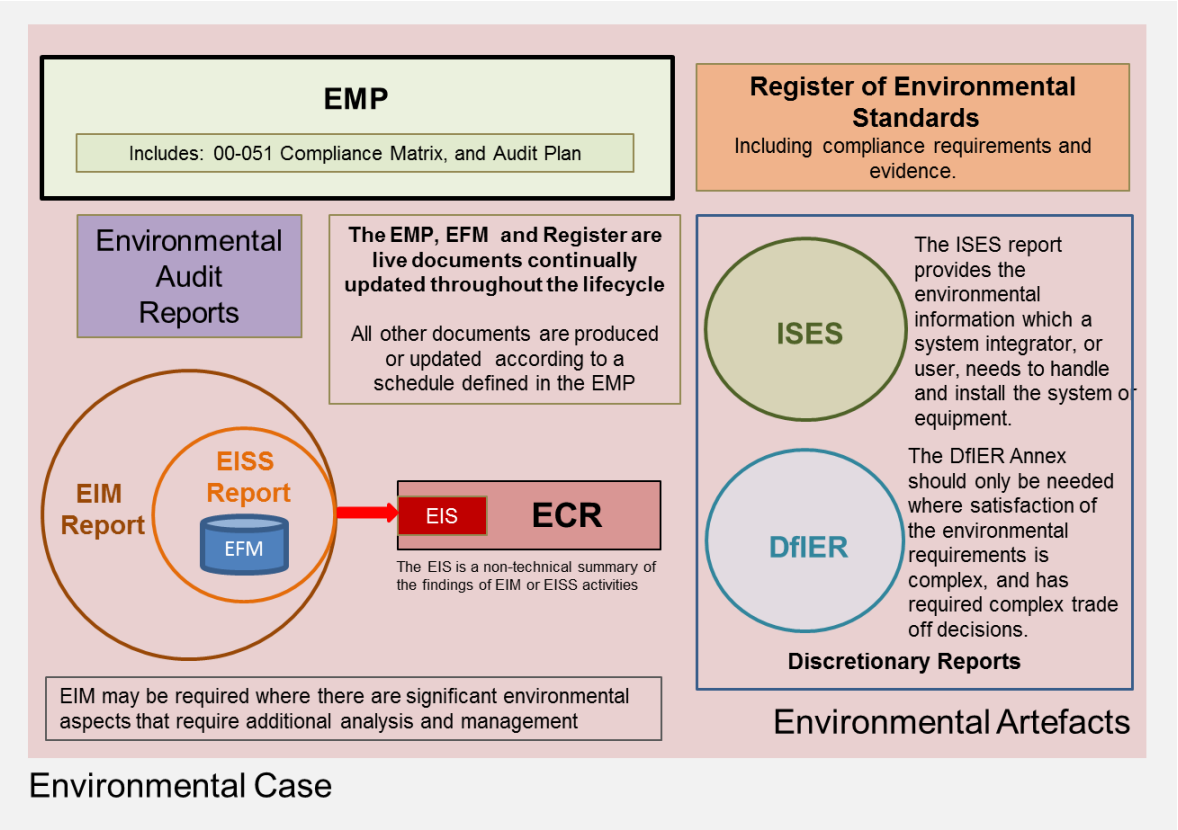

Figure 1 - Diagrammatic Representation Environmental Artefacts

2.5 Invitation to Tender

2.5.1 Prior to ITT, the Authority will carry out any necessary tailoring of this Standard. Bidders would then respond to the ITT, potentially proposing further tailoring that is compliant with this Standard. The resulting acceptable means of compliance of the selected Contractor will be documented in the scope of contract and detailed in the Contractor's EMP.

2.5.2 In the lead up to a project ITT, the Authority will identify the required capability for the deliverable PSS, e.g. in the URD/SRD. Other key environmental information to assist in the production of a tender response, will be provided to the Contractor by the Authority, e.g. through POEMS, and the CONUSE/CONEMP/CONOPS. This and other relevant information is identified by this Standard as the scope of contract.

2.5.3 The ITT will require the Contractor to provide a completed compliance statement or matrix against the tailored requirements. Guidance on use of the Tailoring and Compliance Matrix is given in Annex C.

2.5.4 In meeting the requirements of this Standard, the Authority should allow Contractors, during the pre-contract negotiations to propose open standards as an agreed means of compliance. It must be understood that a completed tailoring and compliance matrix that is detailed and unambiguous, may be a significant discriminator in selection of preferred bidder and subsequent Contract award.

2.5.5 A key environmental document is the Contractor's draft EMP, normally included in the ITT response. A draft EMP will enable a Contractor's environmental management capability, understanding and competence to be assessed by the Authority.

2.5.6 The level of detail to include in a draft EMP or ITT response will be dependent on the scope of contract and the Top Level Environmental Requirements. POEMS provides guidance on what environmental management requirements the Authority may need. Where necessary, the ITT response or draft EMP could also identify:

a) Where there is uncertainty as to the applicable environmental legislation, defence regulation, standards, policy and guidance, e.g. new materials.

b) Where the Contractor cannot disclose required information, e.g. Intellectual Property Rights or International Traffic in Arms Regulation, the Contractor will need to define how such aspects are to be addressed, in line with any information provided from MoD International Relations Group (IRG) and current Defence Instructions and Notices (DIN).

c) Where Government Furnished Equipment or Assets will need to be incorporated, the Contractors can identify the requirement for access to relevant environmental information.

2.5.7 The Authority may request preliminary deliverables to support the ITT response, such as:

a) Draft Register of Environmental Standards: containing environmental legislation, defence regulation, standards, policy and guidance applicable to the operating environment and proposed PSS design.

b) Draft ECR: where an outline environmental argument and type of evidence is a key discriminator for selection.

c) DfEIR Annex to the Draft ECR where key design features and trade-offs which have driven the proposed design are identified.

2.5.8 It will be for the Authority to determine if a Contractor's ITT response to environmental management would be considered acceptable.

Note:

It is expected that the information necessary to respond to the Tailoring and Compliance Matrix at ITT will be sufficient to achieve at least an outline EMP. Once the preferred bidder has been selected, the EMP will be developed as the Contract progresses.

2.6 Scope of Analysis

2.6.1 This Standard recognises that the design of the system will impact upon environmental issues encountered during the in-service and disposal phases. Therefore, there is likely to be a difference between the scope of the contract that is agreed with the Contractor, the scope of the delivered PSS, and the scope of the analysis undertaken to support and justify design decisions. The introduction of the scope of analysis in this Standard is intended to enable this difference to be articulated.

2.6.2 The scope of analysis defines the Contractor’s responsibilities with regards to the application of the environmental assessment and processes for the management of environmental aspects. The scope of analysis will typically cover everything which can affect the environmental integrity, operational use and disposal of the PSS, including any ancillary material which could influence environmental aspects, e.g. operating procedures. As detailed in Part 1, this standard is intended to cover the possibility of Enhanced, Full and Reduced range of possibilities.

2.6.3 At the ITT stage, the Authority will identify the level of expected scope of analysis that is appropriate to the PSS being proposed. The Contractor will need to ensure that this is reflected in the environmental activities documented in the EMP. It may be necessary to review and modify the scope of analysis as the Contract matures, and where not factored in, this may require amendment to the Contract.

2.7 Scope of Supply Documentation

2.7.1 This Standard mandates certain documentary deliverables related to environmental management, others are tailorable; these form a major element of the scope of supply. The Authority will specify deliverable documents, and their links to project milestones, in the ITT and Contract. The EMP must detail the form and content of the deliverables and the delivery schedules.

2.7.2 The DIDs are intended to support the definition and production of the deliverables. The DIDs, available at Annex B, include the description, purpose and format of environmental management document deliverables. These DIDs may be tailored by the Authority either to meet PSS requirements or where an agreed alternative, acceptable means of compliance is offered by the Contractor.

2.7.3 Under certain circumstances, such as an emerging operational requirement for the PSS, the Authority may require additional documentary deliverables. It may be possible for these to be extracted from the Information Set. An example is the required reliability and performance data to support Failure Modes Effects and Criticality Analysis (FMECA) for a low-level component such as a valve critical to environmental integrity, or a human factors analysis for a new operating procedure. It would be expected that the Authority will ask for additional documentary deliverables relating to environmental management only where they have a clear role in supporting environmental management of the Defence activity, e.g. for a system integrator or a training facility.

2.8 Disapplication, Exemption, Derogation (DEDs) of Legislation

2.8.1 MOD civilian and military staff and Defence Industry Partners (Contractors or consultants managing procurement roles on behalf of the Authority) shall follow extant MOD guidance identified in the Contract. Design Organisations and staff procuring Defence PSS on behalf of the Authority must ensure it is fully compliant with existing and reasonably foreseeable legislation on delivery.

2.8.2 In accordance with the Secretary of State's Health, Safety and Environmental Protection (HS&EP) Policy Statement, Defence Safety Regulatory Publications (DSRPs) directs that, within the UK, Defence is to comply with all applicable legislation (which includes legislation giving effect to the UK's international obligations). Overseas, and notwithstanding state immunity under customary international law, Defence is to apply UK standards where reasonably practicable and, in addition, is to respond to host nations' relevant HS&EP expectations and co-operate with host nations' HS&EP authorities.

2.8.3 There are a number of pieces of legislation which effectively exempt defence activities or provide relevant derogations; there may also be powers of specific disapplication granted to the Secretary of State (SofS) in some legislation. In these circumstances, in accordance with the SofS Policy Statement requires the introduction of Departmental arrangements that produce outcomes which are, so far as is reasonably practicable, at least as good as those required by legislation.

2.8.4 There are some powers of Disapplication, Exemption and Derogation (DED) built into legislation that allows the SofS to exempt defence activities, e.g.

a) Allow for DEDs, where necessary in the interests of defence (by SofS);

b) DEDs, where necessary for the protection of the essential interests of the security of Member States, including arms, munitions and war material intended specifically for military purposes;

c) DEDs for military equipment, which means arms, munitions and war material intended specifically for military purposes which are necessary for the protection of the essential interests of the security of Member States.

2.8.5 The DSA is responsible for Defence safety and environmental regulation, direction and guidance which are delivered through DSRPs. Domain specific regulation may influence legislative compliance and exemption procedures.

2.8.6 In line with MOD policy, the contractor, prior to engaging the Authority for DED submission, should explore all options (e.g. designing out, replacement with approved substance). DEDs are only to be used where it is imperative to deliver or maintain the PSS during the lifecycle of the PSS, and only when approval has been relayed by the Authority. The contractor should support the Authority with the submission.

2.8.7 Where PSS cannot comply with the same requirements applicable to non-military PSS, and therefore reliance on a DED is required, suitable justification and evidence should be presented to the Authority to support this.

2.8.8 The Authority reserve the right to deny reliance on a DED if a non-compliance with a legal requirement is identified without suitable justification and evidence.

2.8.9 A DED shall only be approved under exceptional circumstances when it is not possible to provide the military capability within the legal requirements and the supplier is to fully support the DED application process. This includes providing the necessary investigations and justification.

Note.

The MOD ASEMS provides instruction and guidance through POEMS and Audit and Assurance procedures, which include procedures that should capture through-life management of legislation, standards and the consequences of use of hazardous substances and restricted materials.

2.9 Use of Other Standards

2.9.1 It is likely that open standards will not address all of the MOD's specific requirements. It will therefore be necessary for the Authority and/or Contractors to undertake a gap analysis for the adoption of standards that they intend to use against the requirements of this Standard. It would then be necessary to identify how any requirement shortfalls, termed Military Deltas, would be addressed in the EMP. Examples of the military delta to be considered for open standards are provided in Annex A. The military delta could include:

a) Omissions: such as the absence of a key Environmental Requirement, e.g. Independent Environmental Audit.

b) Conflicts: where some standards may require environmental controls to be incorporated which conflict with operational necessity and where degraded functionality would be unacceptable.

c) Additions: where other standards impose Environmental Requirements over and above those required by this Standard, due to the limited way the military deploys the PSS that could result in unnecessary effort and cost.

2.10 Continuous Review and Configuration Management

2.10.1 A continuous review and update of the EMS should be undertaken where scope should capture the need for the EMS to communicate to the associated management systems and vice versa to identify and drive changes to the EMS.

2.10.2 Contractors should demonstrate a process for engineering change management that includes environment and conversely there are quality assurance and configuration management of the environmental documentation.

Note:

Further guidance on configuration management is provided by Defence Standard 05-057 (this includes domain-specific requirements).

Annex A
Adoption of Open Standards as an Acceptable Means of Compliance

A.1 Introduction

A.1.1 One of the goals of this Standard is that open standards should be used as the basis for complying with its requirements.

A.1.2 To ensure that open standards fully address the requirements of this Standard, a gap analysis shall need to be conducted. In practice, not all open standards will fully address the requirements of this Standard, therefore the military delta and additional environmental requirements should be identified.

A.2 Purpose

A.2.1 The purpose of this Annex defines the adoption practices for the selection and use of an open standard proposed as an acceptable means of compliance of this Standard. These are expressed in terms of considerations that a Contractor should take into account and justifications expected to be produced to facilitate the Authority's acceptance of the proposal.

Notes:

1. The term Military Delta refers to the evidence shortfall or gap between civil and military needs arising from the use of civil standards or Off the Shelf (OTS) solutions. The term includes any difference between UK and overseas military standards. This Standard uses it to refer to the differences between MOD requirements associated with the unique military risk for PSS and civil requirements met by open standards used in a military context.

2. An OTS solution may have been developed to a foreign military standard. In such cases the foreign military standard may be treated as any open standard. In such cases, there is likely to still be a difference between the standards.

3. This Annex provide guidance on the adoption of a selection of open standards in common use. Inclusion should not be taken to imply a preference for use of those open standards, nor should exclusion be taken to imply that any standard is unsuitable or unacceptable for adoption.

A.3 Scope

A.3.1 Meeting the requirements of this Standard through the use of open standards needs consideration and evaluation as their requirements relating to risk do vary. Additionally, the set of techniques required, or implied, to meet the different standards also vary. Adoption of a PSS open standard may lead to shortfalls in meeting the requirements of this Standard, such as:

a) The open standards may not address all of the requirements of this Standard, i.e. it does not provide a full coverage of required design integrity, e.g. a unique MOD regulation;

b) The open standard does not provide sufficient confidence, e.g. a unique, more demanding, military capability than this Standard was intended to address.

A.3.2 For any Def Stan 00-051 requirement not covered by the adoption of an open standard, the Contractor shall ensure compliance by agreeing with the Authority any mitigation strategies as a means of meeting any shortfalls in evidence as a result of applying an open standard. Open standard shortfalls need to be addressed, and may lead to Derived Environmental Requirements, addressed through the design and/or development process.

A.4 Adoption Context

A.4.1 When adopting an open standard, the context of its application must be considered. Where required, more than one open standard may be used to meet the requirements. This Annex addresses all PSS acquisition context, including where the PSS is developmental, or an un-modified OTS acquisition.

A.4.2 This Annex also provides guidance on the adoption of a selection of open standards in common use. Inclusion should not be taken to imply a preference for use of those open standards, nor should exclusion be taken to imply that any standard is unsuitable or unacceptable for adoption.

A.4.3 The scope of contract may cover multiple PSS. The considerations of this Standard must be applied to each of these PSS, with particular attention paid to risks introduced by any proposed use of different

open standards across different integrated PSS. In all cases this must be with reference to the requirements of the higher-level system needs.

A.4.4 The Contractor must ensure that the open standard's Environmental Management Requirements are equivalent to those defined in Part 1 of this Standard and produce equivalent evidence to support the environmental claims and arguments. If the proposed open standard fails to fully address those environmental requirements, the Contractor must derive environmental requirements that will address the shortfall.

Notes:

1. For the purposes of this Standard, an OTS PSS which is modified is to be considered developmental.

2. An Un-modified OTS PSS includes use in the context for which the PSS was designed.

3. Open standards may have similar outcomes to this Standard but could generate shortfalls in meeting all the MOD Environmental Management Requirements.

4. The Contractor must ensure that the justification supporting the use of the proposed open standard is agreed by the Authority.

A.5 Adoption Requirements

A.5.1 The Contractor must ensure that shortfalls in evidence, supporting environmental claims and arguments, generated from the use of the open standard are addressed by considering the following top-level adoption requirements.

Notes:

The Environmental Management requirements developed from the adopted open standard must demonstrate equivalence to the Environmental Management Requirements of this Standard.

A.5.2 Environmental Requirements Definition

A.5.2.1 The Contractor must ensure that application of the open standard will provide evidence that the PSS Environmental Management requirements are defined and justified.

Note:

This should include:

- **a)** Definition of boundaries and operating environment;
- **b)** Definition of assumptions about interfacing systems (including systems-of-systems);
- **c)** Identification of relevant environmental legislation, defence regulation, standards, policy and guidance;
- **d)** Addressing the environmental issues relating to the environment;
- **e)** Definition and traceability of environmental requirements and design integrity requirements;
- **f)** Appropriate application of environmental requirements to multiple deliverables.

A.5.3 Environmental Requirements Satisfaction

A.5.3.1 The Contractor must ensure that application of the open standard provides evidence for the satisfaction of the Environmental Management Requirements.

A.5.3.2 The PSS risk assessment and analysis must provide sufficient evidence to enable the Authority to manage environmental aspects.

A.5.3.3 The status of all environmental aspects and impacts must be visible to the Authority throughout the Contract.

A.5.3.4 All assumptions and information necessary to enable safe integration or interoperation with other PSS must be recorded, including in a system-of-systems.

A.5.3.5 Provide assurance that the relevant requirements of this Standard are met throughout the supply chain.

A.5.3.6 Provide evidence that all environmental requirements have been met.

Notes:

1. This should include:

a) Availability and maintenance of evidence;
b) Production of all documentary deliverables;
c) Provision of diverse, comprehensive and trustworthy evidence;
d) Conducting Contractor environmental audits;
e) Access for Authority independent environmental audits;
f) Analysis, documentation and treatment of shortfalls in the evidence;
g) Addressing design integrity principles.

2. This will include adoption of good practice and appropriate technical standards.

3. This will include the definition and validation of technical interfaces with interfacing and interacting systems (including systems-of-systems), and the definition of the safety aspects of the interface in the ISES.

A.5.4 Continued Satisfaction of Environmental Requirements In-Service

A.5.4.1 The Contractor must ensure that evidence is provided that the environmental requirements can continue to be met in-service.

A.5.4.2 The Contactor must ensure that the following are provided:

a) Essential environmental information for inclusion into the Command Summary.

b) Information on assumptions and limitations regarding the safe use of the PSS in-service.

A.5.4.3 Where the Contractor supports the in-service PSS, they must ensure that the Information Set is maintained.

A.5.4.4 Where the Contractor supports the in-service PSS, they must provide evidence that environmental impact and risk analysis is carried out after any change that may affect environmental performance or integrity.

Notes:

1. This will include management of environmental related data in-service, and provision of a suitable configuration management framework to capture change. Further guidance on configuration management is provided by Defence Standard 05-057, as well as giving domain-specific requirements.

2. This may require a monitoring, analysis and corrective action process to be agreed between the Contractor and the Authority and, where relevant, other Contractors.

3. Change can include change of use, change of operating environment, or PSS modification.

A.6 Governance

A.6.1 This Standard requires an agreed approach for governance which may vary between MOD regulatory domains. The approach must consider the proposed open standard and any requirements of the MOD policy or regulation. The governance must be agreed and formalised in the scope of contract.

A.6.2 The assessment of compliance for open standards can vary. When adopting an open standard, the assessment definition and measurement of compliance must be considered. It is important to consider whether the governance arrangements for the proposed use of an open standard are compatible with the original intent.

A.6.3 The Contractor must provide the Authority with visibility of the environmental engineering (activities required to ensure that the design achieves the desired environmental requirements and outcomes), support and Environmental Management activities throughout the life of the Contract.

A.6.4 The Contractor must provide evidence of competence of individuals and organisations responsible for tasks that have a bearing on Environmental Management and their application in the military environment.

A.6.5 Whilst assurance will be covered in open standards, the Authority requires that independent environmental audits are undertaken to provide assurance that environmental activities comply with planned arrangements.

Notes:

1. Environmental activities must be coordinated with stakeholders by means of the Environmental Committee.

2. Where the Contract involves support, the Environmental Committee must approve proposed changes to all PSS before they are implemented and ensure the proposed changes comply with domain regulatory requirements.

3. The Contractor will need to allow an Independent Environmental Auditor (IEA) reasonable access to the Information Set.

A.7 Applicability and Status

A.7.1 The Contractor must provide a justification for the relevance of the open standard to the PSS in a military environment, and demonstrate that it represents current good practice.

Notes:

1. If a superseded or obsolete standard, or a standard that is not native to the domain, e.g. an automotive standard for avionics application, is proposed; it is likely to require more robust justification.

2. It may be necessary to supplement the open standard with additional process or governance to cover shortfalls, e.g. where the governing body has issued supplemental guidance or where the open standard is being applied outside its native domain.

A.8 Strategies for Managing Shortfalls

A.8.1 The Contractor may propose mitigation strategies as a means of meeting shortfalls in evidence supporting the environmental claims and argument as a result of using the selected open standard.

A.8.2 Where selected, the supplements to the open standard that address shortfalls should be expressed as Derived Environmental Requirements, as detailed in Part 1.

Note:

Resulting shortfalls that introduce unacceptable risk may result in significant environmental requirements that must be agreed with the Authority. This mitigation may include, but not limited to:

a) Raising the design integrity, e.g. increasing integrity or assurance level within the chosen open standard;
b) Raising the level of assurance, e.g. by carrying out testing, monitoring and analysis to more demanding coverage criteria;
c) Raising the level of scrutiny, e.g. by further independent review or scrutiny of the development artefacts;
d) Reducing dependence on critical components materials, e.g. by introducing redundancy or diversity within the PSS.

A.9 BS ISO 14001 – Environmental Management Systems: Identification of Military Delta

A.9.1 ISO 14001 is a recognised Standard for use in producing an EMS. It provides a suggested framework to protect the environment and respond to changing environmental conditions in balance with socio-economic needs; and specifies requirements for a suitable environmental management system.

A.9.2 Table 2 details the military deltas that should be considered when comparing the clauses within Def Stan 00-051 to the requirements in ISO 14001. The Contractor shall formulate to provide justifications to enable the Authority's acceptance of the proposed open standard and identified military deltas.

Table A. 1 - Example of identifying Milta Delta for Open Standard (BS 14001 used)

Def Stan 00-051	ISO 14001 Clauses	Military Delta
General		
Clauses (Terminology)	0.5 - Contents (Terminology)	No deltas identified.
Tailoring	A.4.3 – Determining Scope of EMS	The requirements set out within Def Stan 00-051 have to address a wide range of PSS acquisition programs. As a consequence, there may be some requirements which are not applicable in a particular scenario, or there may need to be additional information on how to interpret the Standard and tailor, for a given Contract.
Def Stan 00-51 Overview	0.3 – Success Factors	Def Stan 00-051 Part 2 provides rationale for compliance with MOD requirements for this Standard and to ensure conformity.
Section 3 (normative references, definitions and abbreviations)	A.3 – Clarification of Concepts	In addition to agreeing with the Authority any difference between Terms and Definitions within Def Stan 00-051 and ISO 14001, clarification of selected concepts should also be agreed so as to prevent any misunderstanding.
Environmental Management		
EMS	A.4.3 – Determining the scope of the EMS A.4.4 – EMS A.5.2 – Environmental Policy A.7.1 – Resources A10 – Improvement	The Contractor's environmental policy is to be fully stated in the EMP and any delta between MOD policy requirements is to be highlighted.
Environmental Management Plan (EMP)	A.4.2 - Understanding the needs and expectations of interested parties A.4.4 - Environmental Management System (EMS) A.7.4 – Communication A.9.1 – Monitoring, measurement, analysis and evaluation A.9.3 – Management Review	The Contractor will deliver the EMP by the appropriate scoping of the EMS. The EMS will need to include the appropriate Environmental Management Requirements for delivering the PSS. The military delta can be met by including any additional requirements listed in this Annex and defined in Def Stan 00-051. These should be captured in the EMS as Environmental Management Requirements and included in the EMP. The Authority has a detailed Environmental Management Procedure which could be followed within Project Oriented Environmental Management System Environmental Management Procedure 01 (POEMS EMP01).
Disposal	A.6.1.2 – Environmental Aspects	The Contractor must ensure that the evidence required to support extant MOD disposal policy and relevant legislation is identified within the EMP and covers through-life assessment (each stage of the acquisition cycle) of disposal requirements of the PSS.

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Management Contd		
EIM Strategy	A.6.1.1 – General A.6.1.2 – Environmental aspects A.6.1.4 – Planning action A.6.2 – Environmental objectives and planning to achieve them A.7.1 – Resources A.9.3 – Management review A.10 – Improvement	The Authority requires environmental requirements and environmental objectives to be submitted to the Environmental Committee. The MOD has a detailed impact and risk management and documentation process which could be followed (KiD and POEMS EMP07).
Deviations from Requirements	A.3 – Clarification of Concepts A.5.2 – Environmental Policy A.6 - Planning	Any deviations from the requirements of the Standard shall be formally agreed between the Authority and the Contractor prior to implementation, documented in the Tailoring and Compliance Matrix and included in the EMP.
Legislation, defence regulation, standards, policy and guidance	A.5.2 – Environmental Policy A.6.1.3 – Compliance Obligations	The Contractor has responsibility for identifying relevant UK, as well as other national and international legislation and MOD policy. The Contractor should apply all requirements of Def Stan 00-051 in respect of disapplication, exemption and derogation where there is an operational imperative. The Authority will be able to provide advice on operational context and will agree with the Contractor on the relevant environmental legislation, defence regulation, standards, policy and guidance to be adhered to. MOD has a detailed process for a Register of Environmental Standards which could be followed (POEMS EMP03).
Competency	A.7.1 – Resources A.7.2 – Competence A.7.3 - Awareness	No delta identified.
Sub-Contracting	A.8.1 – Operational Planning and Control	It is the Contractor's responsibility to meet the requirements within Def Stan 00-051 and it is expected that the Contractor would set further requirements on their sub-contractors that will enable them to meet their obligations.
Multiple Deliverables	A.6.1.2 – Environmental Aspects A.7.5 – Documented information A.8.1 – Operational Planning and Control	Where the Contractor is asked to produce a variety of different PSS types, guidance is provided in Def Stan 00-051 to address these situations.

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Management Contd		
Information Management	A.7.4 – Communication A.7.5 – Documented Information	The Authority needs to be consulted early regarding cost-benefit trade-offs associated with obsolescence information management systems for their agreement.
Document Deliverables	A.6 – Planning A.7.5 – Documented information (including 7.5.2, 7.5.3) A.8.1 – Operational Planning and Control	The Contractor shall deliver some or all of documents listed in Part 2 of this Standard, and any additional documents as required by and agreed with the Authority. The Contractor shall agree with the Authority the format and content for all contracted related deliverables in the scope of supply and document this information in the EMP. MOD requirements for deliverables to support the MOD EMS process can also be found within extant MOD environmental guidance listed in Part 2 of this Standard.
Roles and Responsibilities	A.4.2 – Understanding the needs and expectations of interested parties A.5.1 – Leadership and Commitment A.5.3 – Organisational Roles, Responsibilities and Authorities	A clear definition of roles and responsibilities within the Authority and Contractor organisation is to be identified. MOD has a detailed process for a stakeholder's register which could be followed (POEMS EMP02).
Organisation	A.4.1 – Understanding the organisation and its context	No deltas identified.
Competency	A.7.1 – Resources A.7.2 – Competence A.7.3 – Awareness	The Contractor shall take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken, providing evidence to the Authority when required.
Awareness	A.4.2 – Understanding the needs and expectations of interested parties A.7.3 - Awareness	No deltas identified.
Environmental Committee	A.5 – Leadership A.6 – Planning A.7 – Support A.8 – Operation A.9 – Performance Evaluation A.9.3 – Management review	The Contractor is required to contribute to Environmental Committees and other liaison activities, as directed by the Authority, to ensure effective coordination of environmental management with the Authority and other stakeholders. MOD has a detailed process which could be followed for establishing an Environmental Committee (POEMS EMP02).

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Management Contd		
Organisational Interfaces	A.4.2 – Understanding the needs and expectations of interested parties A.7.4 – Communication A.8.2 – Emergency Preparedness and Response	The Contractor is to establish a procedure for the timely communication between stakeholders, e.g. to manage an emergent environmental risk that impacts in-service operations.
Interfaces	A.6.1.2 – Environmental Aspects A.8.1 – Operational Planning and Control	The Contractor responsible for one PSS is to identify what properties they can achieve (and assure), giving the assumptions they can legitimately make about interacting or interfacing with other systems, in accordance with guidance provided in Def Stan 00-051. The Contractor should identify and record all assumptions made about the known interfacing or interacting PSS, including the information required for the integration or interoperation of the PSS.
Contractor Environmental Audits and Reports	A.9.2 – Internal audit A.10 - Improvement	The audit reports from the Contractor's environmental audits should be made available to the Authority on request to show their EMP is being successfully implemented.
Environmental Audits	A.9 – Performance evaluation A.9.2 – Internal audit A.10 - Improvement	No deltas identified.
Independent Environmental Audit	A.9 – Performance evaluation A.9.2 – Internal audit A.10 - Improvement	The Environmental Audit Plan can be used for Contractor Environmental Audits, Independent Environmental Audits, or combined audits. The Contractor shall allow a Authority appointed Independent Environmental Auditor (IEA) reasonable access to the Information Set. Commercially sensitive information may be protected by a Non-Disclosure Agreement (NDA) in accordance with the Contract. Where restrictions on access to elements of the Information Set, required for environmental audit, are unavoidable, e.g. foreign export controls, the Contractor shall identify and communicate them to the Authority at the earliest opportunity following the appointment of the IEA and take reasonable steps to enable access as soon as practically possible.
Remedial action	A.6.1.4 – Planning Action A.9.2 – Internal Audit A.10 - Improvement	The Contractor shall provide the necessary information on remedial actions to the Environmental Committee for their prioritisation, and update the EMP to reflect this information.

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Assessment and Control		
Environmental Management Requirements	A.6 – Planning A.6.2 – Environmental objectives and planning to achieve them	Any delta will be generated where IS0 14001 does not meet the requirements of Def Stan 00-051. Interpretation will be needed to produce Environmental Management Requirements to the PSS, recorded in the Tailoring and Compliance Matrix and agreed with the Authority.
Environmental Aspects and Impacts	A6.1.1 – General A.6.1.2 – Environmental Aspects A.8.2 – Emergency Preparedness and Response	Assessment of environmental aspects should enable the Authority to understand operational and through-life impacts of the PSS. This should include cumulative effects and duration. The Contractor shall ensure that environmental assessment covers all stages of the PSS acquisition cycle. Conducted first at the design process to a sufficient level of detail to address all aspects of the design which will lead to significant environmental aspects (as defined by EISS and EIM activities) and support the assessment and control of environmental impacts arising from these aspects. MOD has a detailed process which could be followed for environmental risk and impact assessment (POEMS EMP04).
Screening and Scoping	A.6.1.2 – Environmental Aspects	The Contractor shall conduct screening and scoping in accordance with Def Stan 00-051 requirements and POEMS EMP04.
Design for Environment	A.6.1 – Actions to Address Risk and Opportunities A.7.1 - Resources	Where required by Authority, the Contractor should develop a Design for Environment Impact Report in accordance with Def Stan 00-051 requirements. It is expected this will be required where the Authority needs to be informed of complex design trade-offs that have taken place during the design process.
Environmental Risk	A.6.1.1 - General A.6.1.2 – Environmental Aspects A.8.1 – Operational Planning and Control	Def Stan 00-051 defines the requirements for the Contractor to carry out environmental risk analysis to determine systematically the probability and consequence of all identified environmental impacts, recording the results in the Environmental Features Matrix. Risk within the supply chain should also be considered, as this may have an impact on the through-life operational use and maintenance of the PSS. MOD has a detailed process which could be followed for risk analysis, including recording mechanisms, objectives and targets setting to manage environmental impacts (POEMS EMP04 & 06).
Environmental Risk and Compliance Evaluation	A.6.1.2 – Environmental aspects A.6.1.3 – Compliance obligations	No deltas identified.
In-service Monitoring and Reporting System	A.7.5 – Documented information A.9.1 (including 9.1.1, 9.1.2) – Monitoring, measurement, analysis and evaluation A.10 - Improvement	There needs to be an agreed process of ownership between the Contractor and Authority for the retrieval and analysis of reported data. The Authority requires Environmental Requirements to be used to address any shortfalls identified in the monitoring and reporting system information.

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Assessment and Control contd		
Information Set Environmental Summary	A.7.4 – Communication A.7.5 – Documented Information A.8.1 – Operational Planning and Control	The Contractor will provide an ISES in accordance with Def Stan 00-051 requirements to support activities associated with integration within a system of systems.
Environmental Case	A.6.1.2 – Environmental aspects A.6.1.3 – Compliance obligations A.7.5 – Documented information A.9.1.2 – Evaluation of compliance	The Contractor should consider all phases of the lifecycle of the PSS, including MOD ownership requirements. The MOD has a detailed process which could be followed for the production of an Environmental Case (POEMS EMP07).
ECR DfEIR Annex and ECR ISES Annex	A.6 – Planning A.7.1 – Resources A.7.5 – Documented information	The ISES Annex is intended to provide information for specific stakeholders in order to support PSS integration. The DfEIR Annex is intended to provide a record of how environmental requirements have been implemented within the design, and record any trade of decisions. It is anticipated that this will be required for PSS with complex environmental dependencies; where there are conflicts between environmental requirements, operational requirements and DLODs which require trade-offs to be made; and where evidence is required to demonstrate how fully the environmental requirements have been met.
Supply and Change Management - Build State Definition	A.7.5 – Documented Information	The Contractor is to produce records which show the build state it (configuration) of each PSS element supplied, and to ensure all stakeholders identified in the EMP are kept up to date regarding the build state.
Change Control	A.1 – General A.8.1 – Operational Planning and Control	No deltas identified.
Planning for Change	A.1 - General	No deltas identified.
Management of Changes	A.1 - General	No deltas identified.
Maintaining the Environmental Performance during Change	A.9.1 – Monitoring, Measurement, Analysis and Evaluation	Due to operational necessity, the Authority can decline or delay the endorsement of changes that have been recommended by the Contractor in order to reduce impacts on the environment, or impose operational limitations on the use of the PSS post-delivery.

Def Stan 00-051	ISO 14001 Clauses	Military Delta
Environmental Assessment and Control contd		
Monitoring Change	A.9.1– Monitoring, Measurement, Analysis and Evaluation A.1 - General	Where a Contractor has visibility of the in-service use of the PSS, the Contractor will need to keep accurate build state configuration records of the individual PSS. This visibility may include changes in use or operating environment of the PSS in-service. The extent of the responsibility of monitoring and reporting environmental impacts due to changes will be part of the agreed scope of supply or scope of analysis.
Incorporating Change	A.1 – General A.10 – Improvement (Nonconformity and Corrective Action)	The Contractor shall provide information to the Authority and other stakeholders to enable them to assess the environmental impact of the proposed changes. The Environmental Case, ECR and Command Summary will need to be updated to ensure they remain valid.
In-Service		
Supporting Systems In-Service – Management of Environmental Related in-service Data	A.7.5 – Documented Information A.8.1 – Operational Planning and Control	The Contractor is expected to monitor changes to design, operation and legislation and inform the Authority of any consequences at the earliest opportunity.
Monitoring and Reporting	A6.2 - Environmental objectives and planning to achieve them A.9 – Performance Evaluation A9.1 - Monitoring, measurement, analysis and evaluation	No deltas identified.
In-Service Data Analysis	A.9 – Performance Evaluation A9.1 - Monitoring, measurement, analysis and evaluation	The Contractor shall seek guidance from the Authority regarding the analysis of in-service data.
Remedial Action	A6.1.4 - Planning action A.9.1.2 – Evaluation of compliance A10 – Improvement (including Nonconformity and Corrective Action)	The Contractor shall provide the necessary information on remedial action to the Environmental Committee for their prioritisation, and update the EMP to reflect this information.
Service Provision	A8.1 - Operational planning and control	When the Contractor is supporting the Authority by providing a Service, including operating a PSS, development operations should be covered (e.g. test firings, sea trials, flight trials, etc.).

Def Stan 00-051	ISO 14001 Clauses	Military Delta
In-Service		
Environmental Case	A.6 – Planning A7.5 - Documented information A.10 – Improvement	The Contractor should consider all phases of the lifecycle of the PSS, including those in-service. The MOD has a detailed process which could be followed for the production of an Environmental Case (POEMS EMP07).
Service Provision Planning	A8.1 - Operational planning and control A.6.1.2 – Environmental Aspects A.7.4 - Communication	No deltas identified.
Environmental Risk Management	A6.1.1 – General A.8.2 – Emergency Preparedness and Response A.7.4 – Communication	No deltas identified.

A.10 MIL-STD-882E (Task 210) - Standard Practice System Safety: Identification of Military Delta

A.10.1 Another open standard which can potentially be used to meet the environmental assessment requirements from Def Stan 00-051 is MIL-STD-882E – Standard Practice System Safety, which considers hazard analysis, including environmental hazards.

A.10.2 MIL-STD-882E is a US Department of Defense (DoD) standard designed to define the DoD approach to system safety practices. This includes the DoD approach for identifying hazards and assessing and mitigating associated risks encountered in the development, test, production, use, and disposal of defence systems. MIL-STD-882E is intended to be used pan-domain.

A.10.3 MIL-STD-882E is a process-based standard. Implementation of the standard will produce the evidence required to assess environmental hazards, and generate data that can be used to undertake the assessment.

A.10.4 MIL-STD-882E is divided into 3 sections and numerous tasks but only Environmental Hazard Analysis (Task 210) is within scope of Def Stan 00-051 and provides a means of compliance against the specific Def Stan 00-051 requirements covering aspects of Environmental Assessment and Control. The Contractor may propose standards derived from MIL-STD-882E with the agreement of the Authority using guidance within this Annex to adapt.

A.10.5 MIL-STD-882E helps a Contractor of all types and sizes to establish a means of analysing their environmental protection risks and coordinate this with their environmental protection procedures. It is recognised that proportionality has to be applied and the requirements tailored to meet the intent of Def Stan 00-051. These requirements have to address a wide range of acquisition scenarios and as a result there will be clauses in MIL-STD-882E which require tailoring. Whilst tailoring is the prerogative of the Authority, it may be influenced by a Contractor's alternative acceptable means of compliance (AAMC) for a given Contract.

A.10.6 Within the EMP specified within Def Stan 00-051, the Contractor must describe the risk analysis process to be used. The adopted environmental risk analysis process must be based on MIL-STD-882E Task 210, tailored as required for the MOD procurement organisation.

Notes:

1. An environmental hazard is a threat to the environment posed by an environmental aspect.

2. This refers to the 2012 edition (extant) of MIL-STD-882E and identifies principles at the time of publication of this Standard. Future updates of MIL-STD-882E may change details of the clauses, and the contents of this annex will need to be interpreted accordingly.

3. Within MIL-STD-882E, the word "shall" identifies mandatory system standards. The word “should” identifies the clauses that are desirable but not mandatory.

4. Use of the MIL-STD-882E approach to environmental hazard analysis should be considered when it is already being applied to meet system safety requirements (as described in Def Stan 00-056 Part 2).

Annex B
Environmental Management Data Item Descriptions

B.1 Purpose

B.1.1 Defence Standard 00-051 utilises DIDs to support the definition and production of deliverables. The Def Stan 00-051 DIDs are intended to assist Contractors in determining the scope of supply of the deliverables.

B.2 Application

B.2.1 The format, content and frequency of deliverable DIDs will be agreed with the Authority and form part of the scope of supply. Domain specific regulations may expand or reduce the intent of the DIDs, e.g. an EISS report may be replaced by an EIM Report. The tailoring guidance within Annex C is to be used to assist identification of the mandatory and optional scope and content of deliverables. Where possible, Contractors should use open and other standards as a basis of meeting the intent of the DIDs. The EMP will define what are the relevant deliverables and agreed DID tailoring.

B.3 DIDs

B.3.1 Environmental Management DIDs are as follows:

a) Environmental Management Plan.

b) Register of Environmental Standards.

c) Environmental Impact Screening and Scoping Report.

d) Environmental Impact Management Report.

e) Environmental Case Report.

B.4 Environmental Management Plan

B.4.1 The purpose of the Environmental Management Plan (EMP) is to define relevant activities to be undertaken to manage the environmental aspects, which are agreed with the Authority before they are performed. Where services are provided as part of the Contract, there may be additional plans which govern these activities. The EMP is intended to give visibility to the Environmental Committee, as well as other relevant stakeholders, of progress of the relevant activities and to identify issues which need management attention, as and when they arise.

B.4.2 The typical scope and content of an EMP can be found in POEMS EMP01.

B.4.3 The EMP does not need to be a stand-alone document and can be combined with other relevant project document, such as the Safety Management Plan, by agreement with the Authority.

B.4.4 The EMP is a live document detailing the current stages of the plan whilst highlighting future stages. It should be proportionate to the scale of the Contract and environmental impact and risk, as agreed between the Authority and Contractor. The Contractor should make use of ASEMS Proportionality Guidance to assist with establishing scope, boundaries, depth and breadth for environmental management activities.

B.4.5 The Authority will consider the context of the organisation and project when agreeing the EMP, as well as understand the needs and expectations of all stakeholders to the project, along with compliance obligations.

B.4.6 In general, it is likely that the EMP would be produced by drawing on standard company practices, e.g. an Environmental Management System (EMS), environmental objectives, and on the project-specific information defined in the Contract Statement of Work. The EMP should address the core principles of environmental management (see Definitions for list of environmental principles).

B.4.7 It is expected that the EMP will form part of the Project Management Plan which would identify the context of the Project. For some smaller projects the Environmental Management aspects may be included within the Project Management Plan.

B.4.8 It is critical for the management of the PSS that the EMP is kept up to date. The review of these updates, either periodically or at agreed trigger points (i.e. a change in design or materials), will be documented in the EMP. The Environmental Committee will be responsible for ensuring that the reviews are carried out at planned intervals commensurate with the environmental impact and risk, as well as key Project Milestones.

B.4.9 The minimum main sections to be included within an EMP are:

a) A Product, System or Service Description;

b) Concept of use, operation and operating environment;

c) A description of the project team and structure;

d) Relationship with other systems;

e) Anticipated and / or actual legal compliance arguments, exemptions / derogations;

f) Reference to the Environmental Policy to be met;

g) Demonstration of the Contractor's approach to environmental sustainability and commitment to Net Zero carbon by 2050;

h) Stakeholders;

i) Anticipated and / or actual significant environmental aspects;

j) Outline approach to anticipated aspects including objectives and targets and communications;

k) Environmental responsibilities;

l) Interface with other business systems/processes;

m) Considerations to be embedded within the procurement process (link to significant environmental aspects);

n) Key environmental management milestones;

n) Assurance regimes (e.g. Environmental Audit Plan);

o) Resources required;

p) Competence and SQEP;

q) Other pertinent information;

r) Tailoring and Compliance Matrix for Def Stan 00-051.

B.4.10 The level of detail under each topic will depend on the scale of the project. For simple projects the EMP may contain detail for all the above topics or may reference activities in the overall Project Management Plan. For complex projects, the EMP is likely to contain detail for key elements of the above topics, and to refer out to other documents as appropriate, e.g. the Disposal Plan.

B.4.11 The purpose of the Environmental Audit Plan is to identify all environmental audit requirements imposed through the Contract and applicable environmental legislation, defence regulation, standards, policy and guidance. This should take into account all relevant jurisdictions; compliance with which may be determined during the environmental audits. The Environmental Audit Plan should also set

out the assumptions being made by the Environmental Auditor with regard to availability of documents, evidence, etc.

B.4.12 Throughout the life of the Contract, the EMP shall be subject to continual review and all changes agreed with the Authority and the Environmental Committee.

B.5 Register of Environmental Standards

B.5.1 The purpose of the Register of Environmental Standards is to:

a) Identify relevant environmental legislation, defence regulation, standards, policy and guidance that apply to the project over its entire lifecycle;

b) Demonstrate that their demands are met and;

c) Demonstrate compliance through evidence.

B.5.2 An example of the scope and content required for the Register of Environmental Standards Identification and Demonstration of Compliance process can be found in POEMS EMP 03.

B.5.3 'Standards' in this context includes legislation, agreements, guidance, defence regulation, standards, MOD policies and strategies. Details of how compliance is achieved shall also be recorded and included in the ECR.

B.5.4 Information regarding potential legislative and environmental issues should be recorded at the earliest stage possible in the project, and updated when information becomes available. The Contractor shall be able to produce a preliminary list which may use simple terms such as: air emissions, emissions to water, emissions to land or resource use. The ECR shall record compliance requirements and the compliance argument.

B.5.5 The following information should be considered in compiling the Register as part of an ITT response during the Assessment phase, and in subsequent updates throughout the acquisition cycle of the PSS:

a) Domain of operation of the project (air, land, water);

b) The country (or countries) in which the PSS is likely to be deployed;

c) The potential environmental issues associated with the project (e.g. air pollution, use of non-renewable resources);

d) The lifecycle stages the project is likely to pass through (e.g. CADMID/T);

e) Other projects or platforms with which the project may be closely associated.

B.5.6 Gaps and omissions may occur in the register, and in particularly sensitive cases the Authority may wish to have assurance from discussions with the Contractor that any listing is comprehensive. Where operations or activities are planned overseas, the register shall be expanded to include this, as agreed in the Contract. The Contractor should also inform the Authority of any limitations or caveats on scale/scope/conditions of use.

B.5.7 When identifying environmental standards consideration should be given to future environmental legislation applicable to the project in its context.

B.6 Environmental Impact Screening and Scoping Report

B.6.1 The purpose of the Environmental Impact Screening and Scoping (EISS) Report is to identify and detail relevant aspects, impacts and potential risks to the acquisition of the PSS. Authority may delegate the requirement for the Contractor to either conduct the screening and scoping, or to provide information on the aspects of the screening and scoping that they are in a position to inform.

B.6.2 The typical scope and content of the EISS process and report can be found in POEMS EMP04, and will form part of the ECR. The EISS process will populate the EFM, the typical scope and content of an EFM can be found in POEMS EMP04.

B.6.3 Screening and scoping can indicate relevant impacts and key environmental issues. This provides an opportunity to influence procurement and design decisions. Screening and scoping should be proportionate and relative to the anticipated environmental impact; therefore if few impacts are indicated then a streamlined approach can be undertaken, as agreed with the Authority.

B.6.4 For new projects screening and scoping should be undertaken as early as possible. It is likely that Authority will have conducted a preliminary EISS activity in the Concept Stage, prior to Initial Gate approval. Where this is the case, the Contractor should use this to inform their own screening and scoping activities. All projects must take environmental impacts into consideration.

B.6.5 For legacy (ongoing) projects this should be undertaken at the outset of the Environmental Impact Priority Evaluation to ensure that all relevant stakeholders and Subject Matter Experts are fully engaged and that the latest legislation and policies are being implemented.

B.6.6 The main sections to be included within an EISS Report are:

a) Reference to the information sources used to compile the EFM;

b) An overview of the main potential environmental impacts of the project;

c) Comment on which lifecycle stages are likely to have the greatest environmental impact;

d) Which, if any, of the lifecycle stages will be excluded from further assessment;

e) Applicable assumptions, evidence and references;

f) Any other limitations or restrictions that may be placed on assessment requirements.

B.6.7 A non-technical summary of the findings of the EISS, covering the key points of the issues covered in the assessment along with an overview of any recommended mitigations, forms the Environmental Impact Statement (EIS). The EIS is usually part of the introduction to the ECR.

B.7 Environmental Impact Management Report

B.7.1 Environmental Impact Management (EIM) is the approach for assessing medium and high impacts alongside mitigating measures and positive impact reporting.

B.7.2 Full details of the EIM process and report can be found in POEMS EMP07 and forms part of the ECR. The EIM process follows the EMP04 process of populating the EFM. The EIM process also includes EMP06 and EMP08 (Objectives and Targets and Operational Controls respectively), of which they are often completed in parallel with EMP07 to provide input to the EIM report and ECR. EIM should be undertaken if there is either:

a) One or more medium or high priority impacts identified in the EFM; or

b) The absence of an EIM would cause the effect of a positive environmental impact to diminish or come to an end; or

c) Insufficient information to decide whether any adverse environmental impact present a significant material risk to the environment; or

d) Insufficient information to decide whether an environmental impact is adverse.

B.7.3 There are many formats that the EIM Report may follow and it shall be used either as a specification for commissioning assessments of environmental impacts or for use as a guide for internal Environmental Impact Management.

B.7.4 The main sections to be included within an EIM Report are:

a) Statement of Need;

b) Description of the PSS and Potential Priority Impacts;

c) A description of the PSS physical characteristics;

d) Priority Impacts identified;

e) Mitigation and monitoring;

f) Conclusion.

B.7.5 The EIM Report is a deliverable specified within the EMP, however it may be combined with the ECR or Safety and Environmental Case Report with prior agreement from the Authority.

B.7.6 A non-technical summary of the findings of the EIM, covering the key points of the issues covered in the assessment along with an overview of any recommended mitigations, forms the Environmental Impact Statement (EIS). The EIS is usually part of the introduction to the ECR.

B.8 Environmental Case Report

B.8.1 The purpose of the ECR is to summarise the arguments and evidence of the Environmental Case, as well as to document such progress against the environmental programme. The ECR will usually include the EIS and provides the environmental justification to support the major project milestones identified in the EMP. The ECR may also contain DfEIR and ISES Annexes as optional requirements.

B.8.2 The typical scope and content of the ECR can be found in POEMS EMP07.

B.8.3 The ECR draws on the content of the Information Set to provide a justification of the environmental performance of a PSS, within bounds that are reasonable given the scope of supply and other factors set out in this DID.

B.8.4 The ECR is intended to provide information to those with accountability for the PSS on the status of environmental assessment and assurance, where the Contractor can assess the environmental impact and risk. This includes visibility of the structured argument justifying and providing evidence of the suitability of the environmental performance of the PSS and the outcomes and improvements identified by any Audit activities.

B.8.5 Depending on the scope of contract this may not represent a top level operational Environmental Case assessment and may feed into higher level system or operational Environmental Case assessment/assurance activities.

B.8.6 A Contractor may not be able to determine in isolation the acceptability of overall environmental performance of their PSS. However, they have a responsibility to provide sufficient information in the ECR for others to integrate their PSS in accordance with the Contractor's design intent to produce a system that can be operated within its designed parameters.

B.8.7 An ECR is always required where the scope of supply includes the supply of a system. An Environmental Case Report may be required where the product is an element of a larger PSS, dependent on the contracted scope of analysis.

B.8.8 Within the ECR, description of the PSS and potential priority impacts should include:

a) The methodology or methodologies that have been used for the assessment including a summary of the scope of the assessment;

b) A description of the equipment's or service's physical characteristics;

c) A description of the main characteristics and impacts of any proposed testing, trials or demonstration activities;

d) A description of the main characteristics and impacts of the manufacturing processes, for instance the nature and quantity of the materials used;

e) An estimate, by type and quantity, of expected releases and emissions (including water, air and soil pollutants, noise, vibration, light, heat and radiation) from the in-service stage for the system. The in-service stage includes: Operation, (Normal, Abnormal, Emergency) and Maintenance (Routine, Deep/Repair, Up-Grade);

f) Consideration of issues and impacts associated with the through-life and end of life disposal of the system, highlighting where impacts may exceed regulatory requirements.

B.8.9 For each of the Priority Impacts identified above the Report should include:

a) Reference to relevant legal and policy requirements highlighting where impacts may approach or exceed regulatory thresholds;

b) Quantitative information on the predicted scale of each impact (allowing for the incorporated mitigations);

c) Consideration of how individual impacts may combine to produce cumulative effects;

d) A description of receptors where there is potential for significant impact by the project (in particular - population, fauna, flora, soil, water, air, climatic factors, material assets (including heritage), and any interaction between them);

e) A description of the forecasting methods used;

f) An indication of any difficulties (technical difficulties or lack of know-how) encountered in compiling the required information;

g) An outline of any missing or incomplete knowledge.

h) Information on the proposed mitigation/controls/activities proposed to reduce the magnitude/significance of the priority impacts.

B.8.10 The ECR may be prepared under an alternative heading provided that it addresses the content and controls required by this DID. The content required may be provided under a number of documents, or incorporated with other deliverables, provided that the purpose set out above is achieved in a clear, concise and unambiguous way.

B.8.11 There will be cases where a Contractor can assess environmental impacts only in terms of the inherent characteristics of their PSS, such as the use of hazardous materials, or an oil spill event. There will be other cases where the Contractor has sufficient knowledge of the intended use that they can assess environmental risks arising from the operation of the PSS. The ECR should identify limitations on use of the Contractors PSS that are necessary to ensure protection of the environment. Limitations should be clearly linked to the possible environmental impact and the risks arising from operational imperatives addressed.

B.8.12 Design for Environmental Impact Report (DfEIR) Annex

B.8.12.1 The DfEIR Annex is to provide evidence that the design of the PSS has taken account of environmental impacts across the projected lifecycle, and to record key design decisions and rationale, particularly where they have been taken as a result of compromise or trade-offs between competing design priorities such as safety or operational performance. It is important that sufficient details or the alternative design options that were rejected are included or suitably referenced for audit purposes. The DfEIR Annex is proposed by this Standard, and not referenced by POEMS at the time of publication.

B.8.12.2 The DfEIR Annex is usually to be used for complex projects and development programmes where demonstration of compliance against the environmental requirement is difficult to assess, and there are likely to be complex trade-offs between environmental and other functional and non-functional requirements.

B.8.12.3 Contractors must, therefore, demonstrate that they have taken environmental impacts into account throughout the design, and improves environmental performance through design, taking into account design considerations and trade-offs. During the design process, different design options will be assessed in terms of their ability to meet the SRD requirement, and associated environmental impacts. The DfEIR Annex will need to demonstrate that an appropriate design methodology has been applied to ensure that environmental performance and risks have been appropriately considered throughout the design process.

B.8.12.4 Assessment of the PSS design should take into account the whole lifecycle during trade-off decision making including the through-life costs associated with the environmental performance of the PSS. This should include the use of energy, fuel and other consumables throughout the in-service phase, and estimated disposal costs in order to ensure that the through-life impacts of the option have been considered.

B.8.12.5 Where novel design is proposed in order to improve environmental performance, all possible safety, reliability and operational impacts of the novel design should be considered alongside the environmental improvement. Conversely if a novel design is introduced to improve safety or speed, its impact on environmental performance, emissions and any associated restrictions on geographic use needs to be taken into account.

B.8.12.6 Environmental lifecycle analysis can serve as a tool when determining the environmental impact of a product or process. Analysis can help compare several different designs (or COTS products) against a number of environmental impact categories, such as energy use, toxicity, acidification, CO_2 emissions, ozone depletion and resource depletion. This assessment can be used as part of the design selection criteria in conjunction with other design drivers such as functionality operational performance, reliability and through-life cost.

B.8.12.7 The EISS report will indicate the need for a DfEIR Annex to be conducted in parallel with EIM activities where there are complex and conflicting trade off priorities that will need to be agreed with the Authority i.e. between operational and environmental performance. The DfEIR Annex will, therefore, be a summary of the screening and scoping activity, and evidence taken from the EFM. The Design for Disposal or Reuse section may also be included in the Disposal Plan.

B.8.12.8 The following information may be required in preparing the DfEIR:

a) **Design for environmental integrity -** This analysis confirms that the PSS has been designed to minimise its impact on the environment during use and maintenance. This should include an assessment of failure modes using an approach such as FMECA to ensure that the PSS has been designed so that the impact of faults and failures is environmentally safe.

b) **Design for Supportability** – Design for Supportability should capture in-service repairs and updates whilst also looking to reduce reliance on short-life components and maintenance. This includes demonstrating obsolescence has been considered regarding component procurement to maintain capability whilst endeavouring to achieve circular economy and reduce waste. To enable awareness of legislative controls that may impact support provision, the presence of hazardous substances and restricted materials should be identified and recorded. It should also identify where additional consideration may be needed for regulatory permits and site requirements for support activities on estates.

c) **Design for reliability -** This analysis confirms that the PSS design is reliable and will minimise both the need for additional consumables and disposal of unserviceable parts and spares.

d) **Design for environmental processing and manufacturing -** This analysis ensures that raw material such as mining and drilling, processing of reusable materials and manufacturing are undertaken using materials and processes that are not dangerous and have minimum impact to the environment or the employees working on said processes. This includes the minimisation of waste and hazardous by-products, air pollution, energy expenditure and other factors.

e) **Design for environmental packaging -** This ensures that the materials used in packaging have minimal environmental impact, which can be achieved through the reuse of transit

packaging, elimination of unnecessary paper and packaging products, efficient use of materials and space, use of recycled and/or recyclable materials.

f) **Design for disposal or reuse -** Planning for the reuse or refurbishing of a PSS will encourage material substitution, how they could later be disassembled and reused, reduce waste, and the environmental impacts such materials have. At any stage of the acquisition cycle, including when a product reaches end of life, it is very important to account for the hazardous, toxic and harmful chemicals that could be emitted or absorbed into the air, ground and water after they are disposed of, including in landfill.

g) **Design for energy efficiency -** Design for energy efficiency must demonstrate that the energy and fuel requirements of different designs have been assessed, and that the chosen solution considered whole life costs. It should also identify options where reducing performance requirements would have a significant benefit for energy efficiency.

h) **Design for alternatives -** Design for alternatives must demonstrate that materials and substances of very high concern on the REACH and RoHS registers and authorised for military use, as well as Waste Electrical and Electronic Equipment (WEEE) compliant, have been assessed for suitable alternatives. It should also identify options where alternative materials and substances would have a significant impact on military performance, maintenance or capability.

i) **Design for Government initiatives -** Design for Government initiatives must include any extant Government or MOD environmental initiatives (i.e. Government Buying Standards or Green Initiatives), objectives or targets as expressed in the URD and implicitly stated within the FLC requirements in the SRD.

B.8.12.9 It is likely that some relevant evidence to support the DfEIR will be generated through other areas of work, such as safety or reliability analyses. Where practical, the DfEIR should draw on such evidence, summarising how it has affected the environmental impact of the design, rather than duplicating the work.

B.8.13 Information Set Environmental Summary (ISES) Annex

B.8.13.1 An ISES Annex is required where the Contract includes the supply of product or service that is to be installed, or integrated, into a larger PSS. The purpose of the ISES Annex is to provide information which a system integrator, or user needs to use the PSS and carry out environmental risk analysis, and where the Contractor does not have enough knowledge (within the scope of analysis) to complete an environmental risk analysis. The ISES Annex is proposed by this Standard, and not referenced by POEMS at the time of publication.

B.8.13.2 An ISES Annex essentially describes the environmental elements of the technical/ engineering interface. For some PSS, an ISES Annex may be all that is required to support the integration of a PSS into an Environmental Case; for instance, the PSS does not have an individual Environmental Case Report and is being integrated into a more complex PSS that already has an Environmental Case.

B.8.13.3 The ISES Annex is constrained by the scope of analysis in the Information Set. A Contractor's analysis is constrained to the limits of their visibility of the intended in-service operation of their PSS, and features that are inherent in their chosen design approach.

B.8.13.4 The Contractor should ensure that each ISES Annex contains sufficient information from the Information Set to enable a system integrator or operator to discharge their environmental responsibilities. Each ISES Annex should contain information on assumptions and limitations regarding the use of the PSS and its possible integration as defined in the scope of analysis. The Contractor should ensure that each ISES Annex includes a justification of the scope of the information provided and the ISES Annexes are updated and reissued when significant new information becomes available.

B.8.13.5 There will be cases where a Contractor can assess environmental risks only in terms of the inherent characteristics of their PSS, such as the use of hazardous materials or design characteristics. There will be other cases where the Contractor has sufficient knowledge of the intended use that they can

assess environmental risks arising from the in-service operation of the PSS. The agreed scope of supply should be documented in the EMP.

B.8.13.6 The ISES could address the following topics (or use alternative headings):

Scope - The ISES shall include a scoping statement that defines the boundary of the PSS covered by the ISES, taking into account the scope of contract, the scope of analysis and the PSS in-service operation. This may be supported by the relevant ECR and Command Summary if they are available.

Identified Aspects, Impacts and Risks – ISES should summarise all the potential environmental aspects, impacts and risks identified in the Information Set that may need to take into account when performing the risk analysis during PSS integration. This should include those that have been sentenced as low risk and are not identified or recorded in the Environmental Case Report. For example: aspects and impacts or failure modes associated with a capability of the PSS that is not currently used in-service.

Assumptions, Dependencies and Limitations – The ISES should summarise all the assumptions, dependencies and limitations identified in the Information Set including those not recorded in the Environmental Case Report. This should include assumptions and dependencies related to valid configurations of the PSS but not currently used in-service.

Context of In-Service Use - The ISES should summarise the current in-service use (the relevant Command Summary should be used to support this topic). The ISES should also summarise capabilities that are accessible but not used in-service. This should include capability that is inherent, e.g. functionality included but not used in a COTS PSS.

Unusual Aspects of the PSS Design - The ISES should summarise any aspects of the PSS that could be considered unusual, particularly those that are not covered by the Environmental Case Report, this may include:

a) Foreseeable misuse of the PSS capability, e.g. a PSS being used in an ad-hoc way to meet an emerging operational requirement.

b) A vulnerability that may lead to an environmental issue when the PSS is placed in an environment outside the current in-service Environmental Case.

Environmental Integrity - The ISES should summarise environmental performance of the PSS. This should include all the inherent/intrinsic risks that are part of the PSS design but mitigated:

a) The ISES justification must summarise the interface and accessible related capability.

b) It should include relevant environmental legislation, defence regulation, standards, policy and guidance that would be applicable if the PSS capability was outside the current in-service use, as defined in the relevant Environmental Case Report.

Notes:

1. In compiling an ISES Annex, it is recognised that whilst a Contractor may not be able to determine in isolation the acceptability of overall environmental performance of their PSS, they have a responsibility to provide sufficient information for others to integrate their PSS in accordance with the Contractor's design intent to produce a system that is environmentally compliant.

2. It is expected that the Contractor will reuse information from the Environmental Case in developing the ISES, drawing from a common Information Set.

Annex C
Tailoring Guidance

C.1 Introduction

C.1.1 Tailoring is the process of identifying the range and depth of environmental activities that should be carried out and depends on the scope, size, complexity, lifecycle phase and contractual arrangements of any given project.

C.1.2 Proportionality should be applied to ensure that the environmental assessment and management burden for the PSS is proportionate to size, complexity and environmental challenge. This Standard has to address a wide range of acquisition scenarios and as a result there will be clauses of this Standard which require tailoring.

C.1.3 Tailoring may be influenced by a Contractor's AAMC for a given Contract, but the final decision on tailoring to be applied is the responsibility of the Authority.

C.1.4 This Standard may be tailored by the Authority in the following ways:

Alternative: replacing a clause with an AAMC that meets the original environmental requirement, i.e. where the Contractors EMS covers a particular requirement.

Partial: revise a clause for partial compliance in order to address a particular acquisition scenario where full compliance cannot be achieved.

Waive: waiver of a clause or clauses from the Contract; this is likely to be at the whole paragraph level, e.g., to remove the requirement for a Design for Environment Impact Report where the requirements are covered by the EIM Report. Smaller scale waivers of clauses and sub-clauses are possible but all must be justifiable.

Additional: additional requirement clauses or sub-clauses may be added to this Standard. This may be particularly relevant where there are Domain Regulatory requirements, however, these clauses should be documented in the EMP and documentary deliverables as appropriate.

C.1.5 The required tailoring and compliance matrix (see Table 3) should be documented in the scope of contract at ITT. Captured either in a draft EMP or elsewhere as agreed between the preferred bidder and the Authority, prior to Contract award.

C.1.6 The primary aim of the Tailoring and Compliance Matrix is to support the Authority to tailor the requirements of Defence Standard 00-051 proportionally to the project.

C.1.7 The extent of tailoring applied shall be considered and decided by the Authority before ITT. annotating the matrix with the extent of the tailoring applied, including their rationale. Where a clause is stated as being mandatory, there will need to be a robust, justified reason for tailoring, e.g. compliance with Domain Regulatory requirements. The Contractor may propose further or less tailoring. The completed matrix provided by the tender requires approval from the Authority before it is reflected in the Contract.

C.1.8 The Authority, by approving the tailoring to be applied, effectively sets the assurance level for the requirements identified. The Contractor must provide evidence in the matrix that provides assurance of compliance to the requirements.

C.1.9 Where Contractors supply a draft EMP delivered in response to ITT, it is important that it incorporates the Contractor’s responses to any Authority tailoring and their compliance with this Standard as reflected in the ITT. The tailoring and compliance matrix should be used to identify compliance by the Contractor. The Contractor should indicate Full, Full (AAMC), Partial or Waiver against each clause and supporting evidence documented in the draft EMP.

C.1.10 Where Contractors are unable to comply at all to a specific clause, this is identified as a Non-Compliance. Strong rationale, evidence and a proposed resolution should be presented to the Authority in their ITT response, to be able to reach agreement to proceed to Contract.

C.1.11 Post bid selection, the rational for tailoring~~,~~ agreed with the Authority, should be documented where required in the EMP, EISS Report, EIM Report, ECR and ECR Annexes**.**

Notes:

1. Proportionality may determine the non-requirement of a clause prior to ITT (e.g. strike-through on matrix template). In this circumstance, the Authority will provide justification and evidence within their own project EMP prior to ITT and inform the Contractor as part of the ITT.

2. The draft EMP should identify and include rationale for any Non-Compliance with any mandatory or tailorable clauses in the draft EMP.

3. The ECR Annexes should also be considered by the tailoring process.

4. POEMS defines proportionality as 'a concept that should be applied to determine the allocation of resource and effort to a safety and environmental argument based on its risk', and provides guidance for the application of proportionality across the CADMID/T Cycle.

Table C. 1 - Tailoring and Compliance Matrix Template

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
0 - Introduction					
0.1	Informative				
0.1.1	Informative				
0.1.2	Informative				
0.1.3	Informative				
0.1.4	Informative				
0.1.5	Mandatory				
0.1.6	Informative				
0.1.7	Informative				
0.1.8	Informative				
0.1.9	Informative				
0.1.10	Informative				
0.1.11	Informative				
0.1.12	Mandatory				
0.1.13	Informative				
0.1.14	Informative				
0.1.15	Informative				
0.1.16	Informative				
1 - Scope and Applicability					
1.1.1	Informative				
1.1.2	Informative				
1.1.3	Informative				
1.1.4	Mandatory				
1.1.5	Informative				
1.1.6	Informative				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
2 - Satisfaction of Requirements					
2.1.1	Mandatory				
2.1.2	Mandatory				
2.1.3	Informative				
2.1.4	Mandatory				
2.1.5	Informative				
2.1.6	Informative				
2.1.7	Tailorable				
2.2 - Deviation from Requirements					
2.2.1	Mandatory				
2.2.2	Mandatory				
2.2.3	Mandatory				
2.2.4	Mandatory				
2.2.5	Mandatory				
2.2.6	Mandatory				
3 - Environmental Management Requirements					
3.1 - Environmental Management System					
3.1.1	Mandatory				
3.1.2	Mandatory				
3.1.3	Mandatory				
3.1.4	Mandatory				
3.1.5	Mandatory				
3.1.6	Mandatory				
3.1.7	Mandatory				
3.1.8	Mandatory				
3.1.9	Mandatory				
3.1.10	Mandatory				
3.2 - Environmental Management Plan					
3.2.1	Mandatory				
3.2.2	Mandatory				
3.2.3	Mandatory				
3.2.4	Mandatory				
3.2.5	Mandatory				
3.2.6	Mandatory				
3.2.7	Mandatory				
3.2.8	Tailorable				
3.2.9	Mandatory				
3.2.10	Tailorable				
3.2.11	Mandatory				
3.2.12	Mandatory				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
3.2.13	Mandatory				
3.2.14	Tailorable				
3.2.15	Tailorable				
3.2.16	Tailorable				
3.2.17	Mandatory				
3.2.18	Mandatory				
3.2.19	Tailorable				
3.3 - Disposal					
3.3.1	Mandatory				
3.3.2	Mandatory				
3.3.3	Mandatory				
3.4 - Environmental Assessment Strategy					
3.4.1	Mandatory				
3.4.2	Mandatory				
3.4.3	Mandatory				
3.5 - Legislation, Defence Regulations, Standards and Policy					
3.5.1	Mandatory				
3.5.2	Mandatory				
3.5.3	Mandatory				
3.5.4	Mandatory				
3.5.5	Mandatory				
3.5.6	Mandatory				
3.5.7	Mandatory				
3.5.8	Mandatory				
3.6 - Sub-contracting					
3.6.1	Tailorable				
3.6.2	Tailorable				
3.6.3	Tailorable				
3.7 - Multiple Deliverables					
3.7.1	Mandatory				
3.7.2	Tailorable				
3.8 - Information Management					
3.8.1	Mandatory				
3.8.2	Mandatory				
3.8.3	Mandatory				
3.8.4	Mandatory				
3.8.5	Mandatory				
3.8.6	Mandatory				
3.8.7	Mandatory				
3.8.8	Mandatory				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
3.8.9	Tailorable				
3.9 - Documentary Deliverables					
3.9.1	Mandatory				
3.9.2	Mandatory				
3.9.3	Mandatory				
3.9.4	Mandatory				
3.9.5	Mandatory				
3.9.6	Tailorable				
3.9.7	Mandatory				
3.9.8	Mandatory				
4 - Roles and Responsibilities					
4.1 – Organisation					
4.1.1	Mandatory				
4.1.2	Mandatory				
4.1.3	Mandatory				
4.2 – Competency					
4.2.1	Mandatory				
4.2.2	Mandatory				
4.2.3	Mandatory				
4.2.4	Mandatory				
4.2.5	Mandatory				
4.2.6	Mandatory				
4.2.7	Mandatory				
4.2.8	Mandatory				
4.3 – Awareness					
4.3.1	Mandatory				
4.4 - Environmental Committees					
4.4.1	Mandatory				
4.4.2	Mandatory				
4.4.3	Mandatory				
4.4.4	Mandatory				
4.4.5	Mandatory				
4.4.6	Mandatory				
4.4.7	Mandatory				
4.4.8	Mandatory				
4.4.9	Tailorable				
4.4.10	Mandatory				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
5 – Interfaces					
5.1 - Organisational Interfaces					
5.1.1	Mandatory				
5.1.2	Tailorable				
5.1.3	Tailorable				
5.2 - Technical interfaces					
5.2.1	Mandatory where one or more interface is required by the Authority.				
5.2.2	Mandatory where one or more interface is required by the Authority.				
5.2.3	Mandatory where one or more interface is required by the Authority.				
5.2.4	Tailorable				
5.3 - Interacting Interfaces					
5.3.1	Mandatory where one or more interacting interfaces is required by the Authority.				
5.3.2	Mandatory where one or more interacting interfaces is required by the Authority.				
5.3.3	Mandatory where one or more interacting interfaces is required by the Authority.				
5.4 - Contractor Environmental Audits and Reports					
5.4.1	Mandatory				
5.4.2	Mandatory				
5.4.3	Mandatory				
5.4.4	Mandatory				
5.5 - Independent Environmental Audit					
5.5.1	Mandatory				
5.5.2	Mandatory				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
5.6 - Remedial Action					
5.6.1	Mandatory				
5.6.2	Mandatory				
5.6.3	Mandatory				
6 - Environmental assessment and control					
6.1 - General					
6.1.1	Informative				
6.2 - Environmental Aspects and Impacts					
6.2.1	Mandatory				
6.2.2	Mandatory				
6.2.3	Mandatory				
6.2.4	Mandatory				
6.2.5	Mandatory				
6.2.6	Mandatory				
6.2.7	Tailorable				
6.2.8	Tailorable				
6.2.9	Mandatory				
6.2.10	Mandatory				
6.2.11	Mandatory				
6.2.12	Tailorable				
6.2.13	Mandatory				
6.2.14	Mandatory				
6.2.15	Mandatory				
6.2.16	Mandatory				
6.3 - Risk Assessment					
6.3.1	Mandatory				
6.3.2	Mandatory				
6.3.3	Mandatory				
6.3.4	Mandatory				
6.3.5	Mandatory				
6.4 - Environmental Case					
6.4.1	Mandatory				
6.4.2	Mandatory				
6.4.3	Mandatory				
6.4.4	Mandatory				
6.4.5	Mandatory				
6.4.6	Mandatory				
6.4.7	Mandatory				
6.4.8	Mandatory				
6.4.9	Tailorable				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
6.5 - Environmental Reports					
6.5.1	Mandatory				
6.5.2	Mandatory where production of an ECR is required by the Authority.				
6.5.3	Mandatory where production of an ECR is required by the Authority.				
6.5.4	Mandatory where production of an ECR is required by the Authority.				
6.5.5	Mandatory where production of a new ECR is required by the Authority.				
6.6 - Design for Environment					
6.6.1	Mandatory where design of the PSS is within the scope of contract.				
6.6.2	Mandatory where design of the PSS is within the scope of contract.				
6.6.3	Mandatory where design of the PSS is within the scope of contract.				
6.6.4	Mandatory where design of the PSS is within the scope of contract.				
6.6.5	Mandatory where design of the PSS is within the scope of contract.				
6.6.6	Tailorable				
6.6.7	Tailorable				
6.6.8	Mandatory where design of the PSS is within the scope of contract.				
6..6.9	Mandatory where design of the PSS is within the scope of contract.				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
6.7 - Systems Integration					
6.7.1	Mandatory where PSS System Integration is within scope of contract.				
6.7.2	Mandatory				
6.7.3	Mandatory				
7 - Maintaining Environmental Performance During Change					
7.1 - General					
7.1.1	Mandatory where a change to PSS is within the scope of contract.				
7.2 - Change Management					
7.2.1	Mandatory where change management is within scope of contact				
7.2.2	Mandatory				
8 - Environmental management responsibilities – in-service					
8.1 - Introduction					
8.1.1	Informative				
8.1.2	Informative				
8.1.3	Informative				
8.2 - In-Service Management of Environmental Related Data					
8.2.1	Tailorable				
8.2.2	Tailorable				
8.3 - In Service Monitoring and Reporting					
8.3.1	Tailorable				
8.3.2	Tailorable				
8.3.3	Tailorable				
8.3.4	Tailorable				
8.3.5	Tailorable				
8.3.6	Tailorable				
8.3.7	Tailorable				
8.3.8	Tailorable				
8.3.9	Tailorable				
8.3.10	Tailorable				
8.4 - In-Service Data Analysis					
8.4.1	Tailorable				
8.4.2	Tailorable				

00-051 Tailoring and Compliance Matrix					
Part 1 Extant Clauses (para no)	**Mandatory/ Tailorable/ Informative**	**Level of Compliance**			
		Full	**Full (AAMC)**	**Partial (provide detail)**	**Waiver**
8.4.3	Tailorable				
8.4.4	Tailorable				
8.4.5	Tailorable				
8.5 - In-Service Remedial Action					
8.5.1	Tailorable				
8.5.2	Tailorable				
8.5.3	Tailorable				
8.5.4	Tailorable				
8.6 - In-Service Environmental Case Report					
8.6.1	Tailorable				
8.6.2	Tailorable				
8.7 - In-Service Command Summary Information					
8.7.1	Tailorable				
8.7.2	Informative				
8.8 - Service Provision Planning					
8.8.1	Tailorable				
8.8.2	Tailorable				
8.8.3	Tailorable				
8.8.4	Tailorable				
8.9 - In-Service Environmental Risk Management					
8.9.1	Tailorable				
8.9.2	Tailorable				

00-051 Tailoring and Compliance Matrix				
	Level of Compliance			
	Full	Full (AAMC)	Partial (provide detail)	Waiver
Additional Clauses agreed:				
				N/A
				N/A
				N/A
				N/A
				N/A
				N/A
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				N/A
				N/A

Section 3

Normative References

1 The publications shown below are referred to in the text of this standard. Publications are grouped and listed in alpha-numeric order.

Note: Def Stan's can be downloaded free of charge from the DStan web site by visiting **<http://dstan.uwh.diif.r.mil.uk/>** for those with RLI access or **<https://www.dstan.mod.uk>** for all other users. All referenced standards were correct at the time of publication of this standard (see 2, 3 & 4 below for further guidance), if you are having difficulty obtaining any referenced standard please contact the UK Defence Standardization Help Centre in the first instance.

Def Stans

Number	Title
00-051, Pt 01, Iss 02	Environmental Management Requirements for Defence Systems - Requirements

STANAGs

Number	Title

Allied Publications

Number	Title

Other References

Standard Type	Standard Name
Other Civilian/Industry Standards	MIL-STD-882E Task 210 US Department of Defense Standard Practice - System Safety (Environmental Hazard Analysis)
BS / BS EN / BS ISO Standards	ISO/IEC Directives, Part 2 Principles and rules for the structure and drafting of ISO and IEC documents
BS / BS EN / BS ISO Standards	BS EN ISO 14001 Environmental management systems. Requirements with guidance for use

2 Reference in this Standard to any normative references means in any Invitation to Tender or contract the edition and all amendments current at the date of such tender or contract unless a specific edition is indicated. Care should be taken when referring out to specific portions of other standards to ensure that they remain easily identifiable where subsequent amendments and supersession's might be made. For some standards the most recent editions shall always apply due to safety and regulatory requirements.

3 In consideration of clause 2 above, users shall be fully aware of the issue, amendment status and application of all normative references, particularly when forming part of an Invitation to Tender or contract. Correct identification of standards is as defined in the ITT or contract.

4 DStan can advise regarding where to obtain normative referenced documents. Requests for such information can be made to the UK Defence Standardization Help Centre. Details of how to contact the Help Centre are shown on the outside rear cover of Defence Standards.

Definitions

For the purpose of this standard, ISO/IEC Guide 2 ‘Standardization and Related Activities – General Vocabulary’ and the definitions shown below apply.

Definition	Description
Accountable Person	is a MOD person who is in a key position and held accountable for the control of activities that could give rise to harm to the environment
ADS Group	ADS Group Limited, informally known as ADS, is the trade organisation representing the aerospace, defence, security and space industries in the United Kingdom
CADMID/T	reference to the acquisition lifecycle for capability, the term CADMID/T comes from the initial letters of its six phases, Concept, Assessment, Demonstration, Manufacture, In-service, Disposal/Termination
Command Summary	a report providing essential information for the in-service operational commanding officer or manager of a system, or operator of a service, to provide Assured Capability and manage Operational Risk
Defence Lines of Development (DLOD)	Training, Equipment, Personnel, Information, Doctrine & Concepts, Organisation, Infrastructure, Logistics
Environment	surroundings which a system or organisation affects, including air, water, land, natural resources, flora, fauna, and their interrelation with humans (third parties)
Environmental Aspect	an element of an organisation's activities or products or services that interacts or can interact with the environment
Environmental Case	represents a structured argument and body of evidence that supports a project's environmental claims. The Environmental Case will consist of the Environmental Impact Screening and Scoping report and associated Environmental Impact Statement or the Environmental Impact Management report along with its associated Environmental Impact Statement, the Environmental Management Plan, the Environmental Features Matrix and other pertinent information generated outside of the POEMS that might include a range of reports and documents such as a design for the environment study or a disposal plan.
Environmental Case Report (ECR)	provides a snapshot of the environmental protection performance of Products, Systems or Services at the time the report is published. It provides assurance at that time of the environmental performance and highlights areas of weakness in the environmental arguments
Environmental Impact	any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental Management Plan (EMP)	defines the strategy for implementing and maintaining the Product, Systems or Services Environmental Management System (EMS). The EMP better enables Project Teams to manage environmental performance and apply appropriate resources

Environmental Management System (EMS)	a structured framework for managing an organisation's significant environmental aspects
Environmental Protection	a practice of protecting the natural environment on individual, organisational or governmental levels, for the benefit of the environment, operational performance and capability
Environmental Requirement	relates to the legal requirements that an organisation has to comply with and any other requirements that an organisation has to or chooses to comply with
Environmental Risk	an uncertain future event, either arising from an environmental aspect of Defence activity or a change to the environment that could affect the Departments ability to achieve its objectives
Military Delta	the evidence shortfall or gap between civil and military needs arising from the use of civil and open standards or off-the-shelf solutions
Net Zero Emission	To enable MOD to achieve Net Zero emissions by 2050 (2008 Climate Change Act, amended 2019), appropriate consideration must be given in the procurement of products, systems and services.
Product, System or Service (PSS)	all the articles or artefacts that are being delivered as defined in the Contract
Sustainable Procurement	Integrating environmental sustainability principles is applicable to all Defence equipment, systems and services projects. Key areas include the need to embed resource efficiency, embracing eco-design and lean support approaches in order to minimise resource use, waste and reduce through life costs. The reduction of GHG emissions and adaptability to climate change should be a consideration in all types of acquisition.
Top Level Environmental Requirements	requirements that relate directly to the application of specific legislation, standards or policy, or the satisfaction of environmental outcomes defined within the User Requirement Document (URD)

Abbreviations

Abbreviation	Description
AAMC	Alternative Acceptable Means of Compliance
ADS	The Association of Aerospace, Defence, Security and Space companies
ASEMS	Acquisition Safety and Environmental Management System
BS	British Standard
CADMID/T	Concept, Assessment, Demonstration, Manufacture, In-service, Disposal/Termination
CONEMP	Concept of Employment
CONOPS	Concept of Operations
CONUSE	Concept of Use
COTS	Commercial Off The Shelf
DE&S	Defence Equipment and Support
DEDs	Disapplication, Exemption, Derogation
Def Stan	Defence Standard
DESA	Defence Equipment Sales Authority
DfEIR	Design for Environment Impact Report
DID	Data Item Description
DIN	Defence Instructions and Notices
DLOD	Defence Lines of Development
DoD	US Department of Defense
DSA	Defence Safety Authority
DSRP	Defence Safety Regulatory Publications
DStan	UK Defence Standardization
ECR	Environmental Case Report
EFM	Environmental Features Matrix
EIM	Environmental Impact Management
EIS	Environmental Impact Statement

EISS	Environmental Impact Screening and Scoping
EMP	Environmental Management Plan
EMS	Environmental Management System
F-Gas	Fluorinated Gas
FLC	Front Line Command
FMECA	Failure Modes Effects and Criticality Analysis
GHG	Greenhouse Gas
HS&EP	Health, Safety and Environmental Protection
HS&EP	Health, Safety and Environmental Protection
IEA	Independent Environmental Auditor
IRG	International Relations Group
ISES	Information Set Environmental Summary
ISO	International Standards Organisation
ITT	Invitation To Tender
MIL-STD	Military Standard
MOD	Ministry of Defence
OTS	Off-The-Shelf
POEMS	Project Orientated Environmental Management System
PSS	Product, Systems or Services
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RoHS	Restriction of Hazardous Substances
SofS	Secretary of State
SP	Sustainable Procurement
SQEP	Suitably Qualified and Experienced Person
SRD	System Requirement Document
URD	User Requirements Documrnt
WEEE	waste electrical and electronic equipment

Changes since previous issue

The changes incorporated in this issue are shown below. For more information please contact DStan through the UK Defence Standardization Help Centre. Details of how to contact the Help Centre are shown on the outside rear cover of Defence Standards.

Clause	Page	Change	Change Reason
		This standard has undergone a major rewrite, peer reviewed by an Environmental Working Group and endorsed via a Safety and Environmental Standards Review Committee. The high level summary of changes is detailed in the revision note in section 1 and a full record of documented changes is available upon request by contacting the DStan Help Centre (details on rear cover of standard).	

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Defence Standards are published by and obtainable from:

Defence Equipment and Support

UK Defence Standardization

Kentigern House

65 Brown Street

GLASGOW

G2 8EX

UK Defence Standardization Help Centre

Please direct any enquiries via the Standardization Management Information System (StanMIS) Help Centre.

To access the StanMIS Help Centre please select either http://stanmis.gateway.isg-r.r.mil.uk/ (for MOD and industry users with MOD Core Network (MCN) access) or https://www.dstan.mod.uk/StanMIS/ (for all other users), and, after logging in, please follow the link to the Help Centre. If required, users can also register for an account from the login screen.

File Reference

The DStan file reference relating to work on this standard is DStan 01070/2019

Contract Requirements

When Defence Standards are incorporated into contracts, users are responsible for their correct application and for complying with contractual and statutory requirements. Compliance with a Defence Standard does not in itself confer immunity from legal obligations.

Revision of Defence Standards

Defence Standards are revised as necessary by an up-issue or amendment. It is important that users of Defence Standards ensure that they are in possession of the latest issue or amendment. Information on all Defence Standards can be found on the DStan Websites https://www.dstan.mod.uk and http://dstan.gateway.isg-r.r.mil.uk/index.html, updated weekly. Any person who, when making use of a Defence Standard, encounters an inaccuracy or ambiguity is encouraged to notify UK Defence Standardization (DStan) without delay in order that the matter may be investigated, and appropriate action taken.