



Ministry  
of Defence

## **Defence Standard 00-051 Part 01**

Issue 2

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# **Environmental Management Requirements for Defence Systems Part: 01 : Requirements**

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## 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).

A root and branch review has been undertaken in order to address lessons learnt from experience in Issue 1's application to MOD projects and programmes. As a result of that review and additional engagement of subject matter expertise from across MOD and industry, the following significant updates were considered and undertaken as part of the consultation:

- The Def Stan at points was prescriptive against specific MOD processes. In-line with wider MOD and UK government procurement strategy, a number of changes were made throughout to remove specific MOD process and make the standard a more open architecture to facilitate the use and application of open and commercial standards to meet MOD environmental requirements.
- The use of commercially ambiguous phrases, for example 'should', were used throughout Issue 1 of the standard. This approach was originally to support tailoring. This provided challenges in determining the exact contractual requirement to be met if a 'should' was tailored in; therefore, all requirements to feature within the Def Stan were translated to a 'shall' requirement. Part II of the Def Stan will provide guidance on tailoring.
- The Def Stan contained unnecessary references to other Defence Standards. There was a number clauses which directly related to engineering practices, which added complexity, confusion and a number of conflicts with wider engineering practices captured within contracts. It is unlikely Def Stan 00-051 will be used on its own. The updated Def Stan removes references to other Defence Standards and engineering management. Part 2 will provide guidance.
- Feedback identified a number of challenges in obtaining through life legislative compliance evidence, as well as sufficiently ensuring that Defence Regulations were within scope. The Def Stan was updated to ensure the requirement was robust and included the defence Derogations, Dis-applications and Exemptions.
- The Def Stan contained a section on Information Sets. This was considered confusing and as such has been completely re-defined as integration, with additional bolstering throughout of the requirement to

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manage, produce and supply the evidence base relevant to the scope of contract. Further detail on the information set and the artefacts within can be found in 00-051 Part 2.

- A new informative clause has been introduced to reflect changing priorities to adapt to Net Zero and MOD's Climate Change and Sustainability Strategy.

### **HISTORICAL RECORD**

This standard supersedes the following:

Defence Standard 00-051 Part 1 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 Systems

#### Part 1: Requirements

##### 0 Introduction

##### 0.1 Environmental Management of the Products, Systems and Services

This Standard identifies requirements for environmental management of the Products, Systems and Services (PSS) by a Contractor, and sets out how the Authority expects the Contractor to demonstrate and provide assurance that these requirements have been met.

- 0.1.1 This Standard is intended to ensure that Contractors have established a robust approach to environmental management within the scope of the contract and an associated Environmental Management System (EMS) is in place.
- 0.1.2 The use of open standards is a straightforward and pragmatic means of meeting many of the requirements of this Standard. Annex A to Part 2 of this Standard provides an example of using BS EN ISO 14001.
- 0.1.3 It is intended that this Standard will be tailored relevant to scope of the PSS. Any tailoring will be documented to represent the specific requirements of the PSS and its operational and acquisition context. 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.
- 0.1.4 The purpose of this Standard is to place environmental management requirements on Contractors providing PSS to the Authority. This supports the Authority in meeting the requirements of any relevant and applicable environmental legislation, policy, and best practice as well as other relevant criteria including Ministry of Defence (MOD) policy, defence regulation and guidance throughout the Concept Assessment Demonstration Manufacture In-Service and Disposal/Termination (CADMID/T). This Standard is intended to be tailored to represent the specific scope of the PSS and the intended application and operational context.
- 0.1.5 It is MOD practice that Defence Standards are used as a contracting mechanism that also effectively can be applied in a military context. One of the goals of this Standard is that open standards are to be used as the basis of complying with its requirements. To ensure Open Standards fully address the requirements of the Defence Standard, Contractors need to carry out gap analysis and propose ways of addressing any shortfalls.
- 0.1.6 This Standard can be applied to any Authority project and in any phase of a project's life. Contractors shall use this Standard as required by the Contract. The effective application of this Standard requires close cooperation between all parties.
- 0.1.7 The intent is that compliance with the requirements within this Standard will facilitate Authority's discharge of its environmental protection duties.
- 0.1.8 To support the commitments outlined in the MOD's Climate Change and Sustainability Strategic Approach, including commitments to Net Zero carbon, there is an expectation that the Authority and its Contractors shall integrate the environmental elements of sustainability in provision of PSS.
- 0.1.9 The term PSS is used to describe all the articles or artefacts that are being delivered as defined in the Contract. This Standard is intended to capture a broad spectrum of deliverables, including, but not limited to:
  - a) **Product:** A platform, power unit, weapon system, or its components.
  - b) **System:** Air traffic control facility with integrated radar and radio equipment.

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- c) **Service:** Access to a commercially owned, commercially operated satellite communications system, catering, or a maintenance contract for military vehicles.

**0.1.10** This Standard will support compliance with The Secretary of State to Defence Health, Safety and Environmental Protection Statement which is applied throughout Defence.

**0.1.11** The Authority will discharge this environmental duty by placing contracts that ensure that:

- a) All environmental impacts are prevented or reduced to acceptable levels, as agreed with the Authority. The acceptable level will be determined through agreement between the Authority and the contractor to ensure compliance with extant environmental management standards, unless legislation, or Authority policy imposes a more stringent approach.
- b) All identified environmental aspects with impacts, including those associated with end of life/disposal, and the associated environmental impacts and risks mitigated. Positive environmental impacts are to be exploited where possible. Responsibility for the management of the aspects and impacts is to be clearly defined.
- c) All identified environmental aspects that may have an impact or risk to human life are further communicated to the appropriate organisation.

**0.1.12** Environmental management activities and assurance shall be proportionate to the level of technical, environmental impact and/or Authority business risk posed by the PSS through life. This Standard can be tailored to enable a proportionate approach.

**0.1.13** Traceability of evidence to support decisions is fundamental; without it, it is not possible to understand how the results of activities contribute to demonstrating satisfaction of requirements. If traceability is lost, then this can seriously undermine the validity of the approach to environmental management. Traceability is bi-directional (top-down and bottom-up).

**0.1.14** Environmental aspects that give rise to environmental impacts and risks will require formal and proportionate mitigation, control or exploitation. The aim of this will be to either prevent or make negative environmental impacts and risks less likely to occur, be less severe, and to exploit any positive environmental impacts.

**0.1.15** The requirements are grouped in this Standard as follows:

**1 & 2 - Scope and Applicability & Satisfaction of Requirements.** Covers the scope of this Defence Standard to clarify responsibilities between the Authority and the Contractor, and the management of requirements. This includes the management of deviations from requirements.

**3 – Environmental Management Requirements.** Covers the management requirements for organisations to ensure that environmental management practices are defined and documented throughout the scope of the Contract and, therefore, environmental protection requirements are met. This includes the requirements for legislation, guidance, Authority policy, best practice, deliverables, interfaces and audits that Contractors need to deliver throughout the whole lifecycle of the PSS to ensure that environmental aspects are identified and managed; and good environmental practice is applied in design of the PSS and its supply chain.

**4 – Roles and Responsibilities.** Covers the organisation, competency and awareness of the roles and responsibilities, including the role of the Environmental Committee.

**5 – Interfaces.** Covers the management of interfaces such as organisational, technical, and interacting. It also covers Contractor and Independent Environmental Audits, and remedial action.

**6 – Environmental Assessment and Control.** Covers the requirements for Contractors to undertake assessment of environmental aspects. This includes undertaking a proportionate approach to the identification, assessment of priority and control of environmental impacts and risks. This is to ensure through-life, that adverse and positive outcomes of the PSS are managed and communicated to the Authority. This includes requirements for environmental reporting, documentation, and change control.

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**7 – Maintaining Environmental Performance During Change.** Covers the requirements for change management, including the management of change.

**8 – Environmental Management Responsibilities - In-Service.** Covers the requirements for managing environmental protection where a Contractor is supporting the Authority by providing a service to deliver Assured Capability throughout the in-service life of a PSS.

**0.1.16** Authority acquisition programmes may take a common approach by combining safety and environmental management systems and, in many cases evidence or plans can be compiled into a single document, e.g. a Safety and Environmental Management Plan (SEMP).

### Notes:

1. This Standard cannot place requirements on the Authority.
2. Further guidance on the commitment to sustainability and Net Zero is detailed within Part 2.
3. Authority obligations are derived from extant government and departmental policy. Further details can be found within Part 2 of this Standard.
4. A proportionate approach to the management of environmental aspects is dependent upon the nature and scale of the PSS and its operating context, as well as the anticipated environmental impact and risk.

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## 1 Scope and Applicability

### 1.1 Environmental Management Assurance

- 1.1.1** This Part of the Standard sets out requirements for environmental management and associated assurance, and provides overarching objectives and principles that shall be complied with in meeting these requirements. Part 2 of this Standard provides guidance on establishing a means of compliance with the requirements for the management of environmental aspects that will drive reductions in negative environmental impacts and the optimisation of positive environmental impacts.
- 1.1.2** This Standard is tailorable in accordance with guidance in Part 2. It is the responsibility of the Authority to identify which Clauses shall apply to the scope of the contract. Where the Contractor is unable to fulfil a Clause, it is to engage with the Authority to agree or identify an alternative approach in meeting the requirement or for the Authority to adopt a proportional approach.
- 1.1.3** This Standard is to be applied to all PSS procured to meet diverse capabilities across all Defence domains and will therefore need to be tailored to reflect the needs of the PSS and contractual terms and conditions. The Authority will tailor the application of clauses and sub-clauses of this Standard or, in consultation with the Contractor, agree tailoring to reflect the following:
- a)** The scope of supply: the deliverable PSS and information.
  - b)** The scope of analysis: all the environmental management activities to be undertaken, which apply to more than or less than, the scope of supply.
- 1.1.4** Tailoring shall be applied to capture the environmental management requirements for a specific PSS.
- 1.1.5** The scope of contract encompasses the scope of supply and scope of analysis. It is negotiated during the early phases of a project where the scope of supply and the scope of analysis are determined. For the PSS identified in the scope of supply, the scope of analysis may be applied through-life. The scope of analysis may be greater than that applied to the scope of supply, e.g. where interfacing and integration with other PSS is required. In some cases, the scope of analysis may be less than the scope of supply, e.g. where equipment that has an Environmental Case is to be reused in a different operating environment.
- 1.1.6** This Standard provides the framework for the Contractor's organisation to direct and control its environmental management activities, including the organisational structure, processes, procedures, techniques, methodologies, ethical behaviours, and ethos in order to deliver sound environmental management for the PSS contract.

#### Notes:

- 1.** The guidance in Part 2 helps to analyse the different circumstances which can arise and to provide rationale for compliance with this Standard, as well as proportionality guidance.
- 2.** If the Contract does not include provision of services or products through-life by the Contractor, then the clauses contained in "Clause 8 – Environmental Management Responsibilities - In-Service" will not be applicable.
- 3.** The clauses can be tailored at a more detailed level, depending on the scope of contract, standards or the approach to legislation or policy in a particular sector. Tailoring will be initially conducted by the Authority. Tailoring can be proposed by Contractor, but the Authority must approve all proposals; Tailoring must also reflect the relevant specific domain regulatory requirements and regulatory arrangements.
- 4.** This Standard is not intended to be applied to consultancy contracts for independent environmental audit services or manpower substitution services.
- 5.** The introduction of scope of supply is intended to identify what is delivered and not delivered (including a service) to the Authority.
- 6.** This Standard intends to cover a broad range of contractual scenarios, including contracts providing support to operations; for example, a PSS delivered and maintained by Contractors in an operational environment. For all PSS to which this Standard applies, the Authority then Duty Holder (post equipment handover) will retain responsibility for operational risk management and would be accountable for environmental protection requirements.
- 7.** All PSS encompassed in the scope of analysis and/or scope of supply are expected to be legally compliant and evidenced as such.



## **2 Satisfaction of Requirements**

### **2.1 Environmental Evidence**

- 2.1.1** The Contractor shall carry out activities to provide evidence that all identified environmental requirements have been met.
- 2.1.2** The Contractor shall identify early in the process the most effective method, or methods, that are appropriate to the specific environmental requirements identified for showing satisfaction of environmental requirements being met by the PSS and agreed with the Authority. In the event that the Contractor identifies a shortfall or failure to meet environmental requirements, the Contractor shall establish any associated environmental impacts and risk and propose any controls and mitigations to be documented and agreed by the Authority.
- 2.1.3** Agreeing a scope of contract is intended to clarify responsibilities between the Authority and the Contractor. As the PSS and requirements evolve through-life, the scope of contract is likely to need to be revisited and may need to be re-negotiated.
- 2.1.4** Where there is any doubt over the validity of assumptions or the scope of analysis, the Contractor shall discuss and agree resolution with the Authority.
- 2.1.5** Depending on the scope of contract, both the Contractor and the Authority may have responsibilities for meeting the environmental protection requirements for the deliverable PSS. This Standard is intended to cover the full range of possibilities, including:
- a) Where the Contractor, due to the visibility and understanding of in-service PSS use and its operating environments, can design the PSS taking operation, maintenance, modifications, and disposal into account.
  - b) Where the Contractor does not have visibility of in-service use and its operating environments but is responsible for providing information to relevant stakeholders.
- 2.1.6** The Authority use Defence Lines of Development (DLOD – Training, Equipment, Personnel, Information, Concepts and Doctrine, Organisation, Infrastructure and Logistics) to understand full through-life costings and environmental performance of the PSS, as well as to maintain capability. All DLODs, therefore, need to be represented or taken into account in the design phase but these may not all be included in the scope of contract.
- 2.1.7** After acceptance of the PSS to which this Standard is applied, the Authority shall retain responsibility and accountability for environmental protection. The scope of contract is agreed between the Authority and the Contractor and would identify Accountable Person(s) and relevant stakeholders who are responsible for environmental management of the PSS. The relevant stakeholders may include representatives from Authority and other organisations (for other related PSS) that may impact the PSS environmental interfaces.

#### **Notes:**

1. Environmental Management processes are to be of an agreed standard to generate evidence if the design solution does not satisfy the environmental requirements. If the requirement has been incorrectly or poorly translated into design, then the engineering verification/review process is expected to identify the shortfall.
2. If an impact arises during in-service use, then this evidence could be an indication that the PSS's design and/or environmental processes were insufficient, or the in-service management system has not been followed and requires reporting to the Environmental Committee. Evidence can arise from incidents, impact, or changes in the operating environment.
3. Derived environmental requirements are those that result from the application of legislation, policy, and standards. Derived environmental requirements will also be applicable as a result of different PSS design options, or the operating and procurement context.
4. Where an open standard is applied to meet the demands of this Standard, and additional requirements are needed to meet the Military Delta, additional environmental management requirements can be derived. Further information on the application of open standards is provided in Part 2 to this Standard (Annex A).
5. The distinction between scope of supply and scope of analysis is intended to facilitate the clear definition of the Contractor's responsibilities. The scope of analysis, however, may be extended beyond the scope of supply particularly where the contracted activity is limited to early phases of the Authority acquisition cycle. The scope of analysis may need to cover the full lifecycle of the PSS.

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6. The scope of analysis is intended to be adapted to the wide range of possible Authority acquisition scenarios but needs to remain relevant to the PSS being procured. Whilst Contract life may be limited, this Standard considers the whole lifecycle of the PSS, including disposal/termination. During various phases of the life of the PSS, where evidence and data needs to be considered, this is expected to be stated within the scope of analysis. This information will be recorded by the Authority and used to support the PSS through-life. This applies to all in-service situations and scenarios including, but not limited to, trials, operations and training for operations as defined in the Contract.
7. Regardless of the scope of analysis agreed, it is recommended that the contractor ensures and documents compliance with legal requirements relevant to the scope of the PSS.

### 2.2 Deviation from Requirements

- 2.2.1 Any deviations from the mandatory requirements of this standard and agreed tailorable requirements of this standard shall be formally agreed between the Authority and the Contractor prior to implementation, and documented.
- 2.2.2 Prior to Contract award, the Contractor shall agree with the Authority a means of resolving any identified conflicts between the mandatory and agreed tailorable requirements of this Standard and those of any other Environmental Standard quoted by the contract.
- 2.2.3 In response to an Invitation to Tender (ITT), the tenderer shall specify how they intend to meet the tailored requirements of this Standard with their response to the ITT.
- 2.2.4 For any intended deviations, the tenderer shall indicate how their approach will meet the intent of this Standard or explain why compliance is not considered to be necessary.
- 2.2.5 The tenderer shall provide a completed tailoring and compliance matrix for this Standard with their response to the ITT.
- 2.2.6 At Contract award, the tailoring and compliance matrix will form part of the scope of contract and shall be maintained throughout the life of the Contract.

#### Notes:

1. No guidance is given on a means of resolving the conflicts, however, there must be an agreed solution in the scope of contract.
2. At Contract award, the relevant tailoring and compliance matrix will form part of the scope of contract and hence future variance will need to be agreed between the Authority and Contractor and would result in a Contract amendment.
3. The ITT may identify tailoring of this Standard as required by the Authority. Agreement to further removal or replacement of specific requirements of this Standard depends on the Contractor showing that there is no adverse environmental impact, or loss of evidence showing the environmental management requirements have been met. Further tailoring must be agreed by the Authority.
4. Part 2 of this Standard includes tailoring and contracting guidance and provides clause-by-clause tailoring and compliance matrix template(s) (Annex C).

### **3 Environmental Management Requirements**

#### **3.1 Environmental Management System**

- 3.1.1** The Contractor shall operate an EMS relevant to the supply of PSS, which defines the framework for the Contractor's organisation to direct, control and monitor its environmental management activities, in accordance with extant legislation and standards, where agreed in the contract.

**Notes:**

1. This Standard mandates an EMS but does not place requirements on the Contractor's environmental performance as that cannot be enforced through the Contract.
2. 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. Environmental management requirements identified in the scope of contract will be reflected in the scope of supply, or scope of analysis for the specific project, or as directed by the Authority and/or its Regulators.

- 3.1.2** The Contractor shall identify, and document environmental requirements generated as a result of legislation, application of standards, and associated with specific design options, throughout the life of the Contract, to provide traceability of the PSS through-life.

- 3.1.3** The Contractor shall maintain records in the Environmental Case which capture the source of and maintains traceability to each environmental requirement. Furthermore, the Contractor shall conduct periodic reviews and updates as agreed with the Authority.

- 3.1.4** The Contractor shall maintain records in the Environmental Case which captures how each environmental requirement has been met including environmental impact analyses, mitigation and control of potential impacts and/or how potential benefits are to be exploited.

- 3.1.5** The Contractor shall record the evidence which shows that the set of environmental requirements has been validated as being correct and complete in the Environmental Case.

- 3.1.6** The Contractor shall record the evidence which shows that each environmental requirement has been met or document any agreed shortfall or trade-offs as part of the body of evidence that forms the Environmental Case.

- 3.1.7** The Contractor shall identify those additional derived environmental requirements resulting from legislation and/or environmental assessment relevant to the Contract. The environmental management requirements not addressed by the application of an open standard, or from the operational context, are to be documented, as agreed with the Authority.

- 3.1.8** As agreed within the Contract, and throughout the acquisition lifecycle, the Contractor shall work with the Authority to establish and manage derived environmental requirements arising from legislation, standards and Authority Policy appropriate to the scope of supply and scope of analysis, addressing the domain and the technology used.

- 3.1.9** The Contractor shall identify and record all environmental requirements needed to ensure management of environmental aspects.

- 3.1.10** The Contractor shall identify and record environmental management requirements throughout the CADMID/T of the PSS, where necessary, to manage environmental aspects.

**Notes:**

1. Derived environmental requirements also include those developed by the Authority, based upon environmental assessments at the concept stage of the acquisition lifecycle.
2. The Contractor is responsible for assessing derived environmental requirements which are drawn from Authority policy, defence regulation and legislation as well as Front Line Command strategic environmental objectives and targets. Authority's policies will be made available and often be set out in general terms, and interpretation will be needed to produce documented requirements specific to the PSS and documented as agreed with the Authority. The extant defence regulations and Front-Line Command strategic environmental objectives and targets can be requested via the Authority.
3. In addition to legislation and policy, derived environmental requirements may also flow from operator strategic environmental objectives and targets, or be generated to capture the Military Delta where application of a commercial or open standard fails to meet the requirement of this Standard.

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4. Top-level environmental requirements are those that are specified directly by the Authority in this Standard, the System Requirements Document (SRD), or other contractual documentation.

### 3.2 Environmental Management Plan

- 3.2.1 The Contractor shall document and deliver to the Authority an Environmental Management Plan (EMP) for the PSS which is consistent with the Authority requirements, including, documenting/referencing any tailoring of the requirements of this Standard.
- 3.2.2 The contractor shall document within the EMP how it intends to meet environmental requirements. The content and structure is to be agreed with the Authority.
- 3.2.3 The Contractor shall define the EMP as part of their tendering process and formalise and agree the plan and how it will be matured through-life with the Authority at Contract award.
- 3.2.4 Where the Contractor has an EMS in place, the EMP shall draw upon it as appropriate to the PSS.
- 3.2.5 Where the Contractor does not have an EMS in place, the EMP shall address the requirements for environmental management, as defined by this Standard.
- 3.2.6 The Contractor shall review the EMP on a regular basis and at least annually, depending on the scale and stage of the Contract, or at significant events (such as change in supplier, major change to legislation or major equipment / systems the introduction of a new technology, changes to the mitigation strategy), as well as key points within the design phase. The Contractor shall identify these changes and agree them with the Authority before implementation.
- 3.2.7 The Contractor shall implement a coherent and proportionate approach to the management of all environmental aspects of their activities associated with the PSS, throughout the life of the Contract, and provide evidence of how that will be achieved in the EMP. This includes agreeing a definition of what constitutes a significant environmental aspect with the Authority.
- 3.2.8 The Contractor shall demonstrate within the EMP their approach to environmental sustainability and the UK's legally binding commitment to Net Zero carbon by 2050.
- 3.2.9 The Contractor shall identify, define, justify, and document within the EMP the most appropriate environmental assessment techniques used in all its decision-making processes, and agree with the Authority the techniques to be used.
- 3.2.10 The Contractor shall agree with Authority and record within the EMP a process for managing and communicating with stakeholders. This will describe how the stakeholder community will be consulted and informed by environmental management activities, and how environmental information will be promulgated.
- 3.2.11 The Contractor shall analyse the use of open or other standards, or good practice, where they are used in full or partial fulfilment of the requirements of this Standard; identify the divergences with this Standard, applicable defence regulations and legislation; and document the results of the analysis and their proposed means of resolving the deltas between them in the EMP. Supplementary activities identified must be agreed with the Authority.
- 3.2.12 The Contractor shall ensure that the EMP covers all environmental management activities to a level of detail that is proportionate to the complexity of the PSS and the anticipated environmental aspects arising from its use, as agreed with the Authority.
- 3.2.13 The EMP shall describe how the PSS Environmental Case is to be developed, maintained, and refined, including the production of evidence and reports, as required and/or agreed with the Authority.
- 3.2.14 Where the Contract includes provision of a service, the Contractor shall agree with the Authority the aspects managed through the service EMP, and those managed through related EMPs prior to commencement of the service.
- 3.2.15 Where the Contract includes in-service support, the Contractor shall ensure that all changes and environmental assessment of all changes in design and their implementation are managed through

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established change management arrangements and reflected in the EMP, or in subsidiary plans, together with mechanisms for safe and effective distribution and implementation of those changes.

- 3.2.16** Where the Contract includes the provision of materiel, the Contractor shall ensure that end of life and disposal activities are managed through the EMP, and other deliverables.
- 3.2.17** The Contractor shall report progress against the EMP to the Authority, as agreed, and shall report on any necessary actions to correct deviations or shortfalls from the EMP.
- 3.2.18** The EMP shall contain an Environmental Audit Plan and the Contractor shall report progress against an audit plan including any remedial action taken or required. Commercially sensitive information may be protected by a Non-Disclosure Agreement (NDA) in accordance with the Contract.
- 3.2.19** The Contractor shall ensure that progress reports highlight ongoing management of aspects and impacts, proposed objectives and targets, and current remedial actions, as well as documenting progress against planned tasks and audits scheduled within the EMP.

### Notes:

- 1. Relevant activities defined to manage the environmental aspects are to be agreed with the Authority. Where services are provided on the Contract, there may be additional plans which govern these activities.
- 2. The EMP will evolve through-life and the level of detail will reflect the level of maturity of the PSS design. Reviews and updates of the EMP need to be conducted on a regular basis, specifically at key project milestones and decision points. These may be internally generated by the Contractor or required to reflect Authority acquisition decision points across the CADMID/T cycle and promulgated in their Guide to Engineering Activities and Reviews (GEAR) stages.
- 3. Where deliverables and interim deliverables are required to support different stages of the CADMID/T cycle, the level of detail and completeness of documentation is expected to reflect the current level of understanding and future intent.
- 4. The Authority encourages the use of open standards where possible and further guidance is provided in Part 2 of this Standard (Annex A).
- 5. A Data Item Description (DID) for the EMP is provided in Part 2 to this Standard (Annex B).
- 6. The EMP can be combined with other relevant project document, including the Safety Management Plan, by agreement with the Authority.
- 7. What constitutes an environmentally significant aspect within the context of the PSS will be determined by undertaking environmental assessment activities as defined within this Standard and agreed with the Authority.
- 8. The EMP is a logical place to establish and document the strategies and approaches required throughout this Standard.
- 9. If the contract is not enhanced (para 2.1.9 refers) clarification needs to be provided who is responsible for delivering the EMP/SEMP requirements for different parts of the scope.

## 3.3 Disposal

- 3.3.1** The Contractor shall ensure that the evidence required to support extant Authority disposal policy, as identified by the Authority within the Contract and relevant legislation, is identified, documented and covers through-life data of the PSS, at all stages of the acquisition cycle.
- 3.3.2** From concept up to design, consideration shall be given to manufacturing techniques and the selection of materials in order to facilitate disposal throughout the acquisition cycle.
- 3.3.3** To inform contracted disposal activities throughout the acquisition lifecycle (starting when required at concept), the Contractor shall provide and maintain an updated bill of materials and hazardous materials list, detailing substances, quantities, and locations in the PSS.

### Note:

The minimum design requirement is to ensure and evidence compliance with legislative requirements relating to end-of-life.

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### 3.4 Environmental Assessment Strategy

- 3.4.1 The Contractor shall define and document their strategy for identifying, prioritising, and managing environmental aspects for all proposed activities for the delivery and use of the PSS within the scope of analysis, as part of the tendering process and within the EMP.
- 3.4.2 The Contractor shall record the environmental assessment activities and outputs, as agreed with the Authority.
- 3.4.3 The Contractor shall deliver such evidence to the Authority so that results of the environmental assessment activities can be developed, verified, and validated. Evidence shall be delivered in a manner that facilitates the through life management and reduction of the identified environmental impacts and risks with supporting evidence, which shall be documented and agreed with the Authority.

#### Notes:

- 1. A more detailed environmental assessment activity, may have to be undertaken where:
  - a) Identified aspects have medium and high priority impacts;
  - b) Failure to manage aspects would end or diminish positive environmental impacts.
  - c) There is insufficient information on the environmental impact to make a decision.
- 2. DIDs for environmental assessment report formats are provided in Part 2 to this Standard (Annex B).

### 3.5 Legislation, Defence Regulations, Standards and Policy

- 3.5.1 The Contractor shall identify all applicable and relevant environmental legislation, defence regulations, standards, policy and guidance relevant to the intended design, production, use and disposal of the PSS; agree with the Authority the criteria that shall be complied with; and document this information in a Register of Environmental Standards and issue at the earliest stage possible in the CADMID/T cycle.
- 3.5.2 The Contractor shall comply with all identified and agreed legislation, defence regulations, standards and policy captured in a Register of Environmental Standards, and provide arguments and evidence demonstrating compliance. This is to be made available to the Authority, as the Environmental Case develops.
- 3.5.3 The Contractor shall provide assurance that the delivered PSS throughout the life of the Contract is compliant with relevant and applicable legislation and standards.
- 3.5.4 The Contractor shall conduct risk-based assessments of changes to legislation. Where foreseeable changes to legislation, or conventions that may cause a risk to the performance of the PSS this shall be communicated formally to the Authority Environmental Committee via a contractor Progress Report. Once an agreed response has been determined by the Environmental Committee the action taken will be recorded in the Environmental Case and Standards Register.
- 3.5.5 The Contractor shall design the PSS to ensure that it complies with applicable and relevant legislation during all lifecycle phases.
- 3.5.6 The Contractor shall identify those substances required to manufacture, deliver, or support the PSS through life that are subject to legislative or convention restrictions or prohibitions as part of Design for Environment requirements. The Contractor shall notify the Authority where it has been identified that the availability of substances or products may impact on the through-life delivery or operational use of the PSS, and where practicable, propose and agree an intended resolution or substitution with the Authority.
- 3.5.7 Where Disapplication, Exemption or Derogation (DED) of legislation and/or convention is necessary to deliver or maintain the PSS during its lifecycle, the Contractor shall seek prior approval from the Authority, and provide support to any subsequent application by the Authority. Where the use of a DED has been agreed with the Authority, the contractor shall maintain arrangements that produce outcomes that are, so far as reasonably practicable, at least as good as those required by identified applicable and relevant legal requirements, and agreed with the Authority.

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- 3.5.8** Where compliance or non-compliance with environmental legislation or convention presents a potential capability risk this shall be communicated by the Contractor to the Authority.

### Notes:

1. The evidence of compliance with policy and standards is expected to include an explanation of how the Authority's commitments to environmental sustainability and Net Zero carbon have been considered by the Contractor.
2. If the Contractor requests to use a DED it must consider and document any through-life impacts on delivery, performance, reliability, availability, and risks associated with the supply chain.
3. The Contractor is required to inform the Authority of any change to circumstances that could affect the justification for the DED, for example an improvement in available technology.
4. The Contractor has responsibility for identifying relevant UK, as well as other national and international legislation as agreed with the Authority, and this will be dependent on the Contractor's chosen solution, e.g. where the legislation is applicable to a specific technology, the Authority will expect the Contractor to be fully aware of their obligations to deliver compliant PSS.
5. Authority guidance on application of legislation is delivered through Authority Publications and Defence Regulations as identified, and as agreed in the Contract.
6. The scope of assessment includes identifying any risks to operations from either compliance (where a technology or operating routine may compromise capability), or non-compliance (where lack of appropriate technology may forbid operations in environmentally sensitive areas). It is for the operator to assess these risks but the Contractor to identify potential risks as part of their legislative assessment.
7. There is a requirement on the Contractor to obtain agreement on DEDs, dependent on the applicable legislation to deliver the scope of the PSS. The contractor will propose how a DED will be enacted and what supporting activity will be required, as agreed with the Authority.
8. Defence exemptions are time-limited and reviewed annually by Authority. The Secretary of State has the right to revoke a Defence Exemption at any time.

## 3.6 Sub-Contracting

- 3.6.1** The Contractor shall identify their environmental management requirements to Sub-Contractors, appropriate to the Contractor's scope of supply and scope of analysis.
- 3.6.2** The Contractor shall place requirements on Sub-Contractors to ensure that the Contractor's compliance to the relevant requirements of this Standard are met.
- 3.6.3** The Contractor shall identify deliverables and audit mechanisms to provide assurance that the requirements of this Standard are met throughout the supply chain and record the evidence to demonstrate compliance in the Environmental Case.

### Notes:

1. This Standard has requirements for managing interfaces that must be addressed at the boundary with Sub-Contractors. This may lead to involving Sub-Contractors in the top-level Environmental Committee, or setting up special working groups, rather than key stakeholders becoming involved in the Sub-Contractor's Environmental Committee. Many of the requirements, therefore, relate to the relationship between the Authority and the Contractor.
2. It is the Contractor's responsibility to meet the requirements of this Standard and it would be expected that the Contractor would set their requirements on their Sub-Contractors that will enable the Contractor to meet their obligations.

## 3.7 Multiple Deliverables

- 3.7.1** The Contractor shall apply the clauses of this Standard identified as relevant to each element where there is a Multiple Deliverable and document the approach.
- 3.7.2** The Contractor and Authority shall discuss and agree where it is necessary to apply specific requirements of this Standard across each type of deliverable PSS.

### Notes:

1. These Multiple Deliverables clauses are intended to address the situations where the Contractor is asked to produce a variety of different PSS types, e.g. a fleet of different vehicle types, or supports product trials or demonstrations which are services, in the terms of this Standard. The aim is to make the environmental impact assessments specific enough to provide effective controls for each of the elements of the PSS without repeating work which is essentially identical for each of the elements.
2. In the case of PSS interfacing with other PSS as part of the Contract, there may be a need for separate environmental reports and/or artefacts for each interfacing PSS. For example, a demonstration, test, or trial could necessitate some additional environmental impact assessment resulting in an additional Environmental Case Report.

### **3.8 Information Management**

- 3.8.1** The Contractor shall provide the Authority with supporting evidence of the environmental design, support, and information management activities throughout the life of the Contract in accordance with extant International and National conventions or legislation.
- 3.8.2** The Contractor shall define and document the process for Information Management, including supply of information to stakeholders as agreed with the Authority.
- 3.8.3** The Contractor shall define and agree with Authority an Information Set which is sufficient to enable all environmental relevant design and environmental impact assessment activities to be reviewed.
- 3.8.4** The Contractor shall ensure that the Information is kept up to date as the design and analysis evolves, in accordance with requirements set out in Clause 7 of this Standard.
- 3.8.5** The Contractor shall preserve the Information Set for the life of the Contract plus a minimum of 10 years, or greater (as specified in the Contract or by law).
- 3.8.6** The Contractor shall ensure that the Information Set remains accessible to the Authority as techniques, methodologies, and tools change, throughout the life of the Contract.
- 3.8.7** The Contractor shall provide access to and where reasonable deliver the Information Set or a sub-set thereof to the Authority, Regulators and any other organisations identified in the Contract, where that information is necessary for other parties to be able to fulfil their environmental responsibilities. Commercially sensitive information may be protected by an NDA in accordance with the Contract.
- 3.8.8** Where the Contractor anticipates difficulties in preserving access to parts of the Information Set, they shall discuss and agree approaches and options with the Authority and implement the agreed actions.
- 3.8.9** The Contractor shall consider obsolescence of the technologies used for preserving the Information and evidence base.

#### **Notes:**

- 1. The Authority needs to be consulted about the cost-benefit trade-offs associated with obsolescence management. It is recognised that the cost to the Contractor, however, may be outweighed by the impact on the Authority, so the Authority need to be informed early when this is likely to be an issue.
- 2. The Independent Environmental Auditor (IEA), if appointed, would need access to data from the Information Set used as evidence to substantiate the Environmental Case and associated documentation throughout the life of the PSS.
- 3. The documents specified will be those required to support environmental management activities associated with delivery of the PSS.

### **3.9 Documentary Deliverables**

- 3.9.1** The Contractor shall agree with the Authority, the documentation to be delivered and record this information. The documentation shall be based on the list in Part 2 of this Standard (Annex B), with suitable tailoring to be agreed by the Authority. In a format agreed with the Authority, the information shall be delivered 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.
- 3.9.2** The Contractor shall agree with the Authority the format and content for all contracted deliverables, taking into account the DIDs and the requirements of Authority Policy and any open or other standards being used, as identified by the Contractor.



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- 3.9.3** The Contractor shall ensure the Authority has unfettered access to all contracted environmental deliverables and supporting evidence, as agreed.
- 3.9.4** The Contractor shall develop and update the deliverable plans, reports, and summaries at appropriate stages of the Contract as documented and agreed with the Authority.
- 3.9.5** The Contractor shall define the PSS to include all relevant elements across the DLODs, as contracted.
- 3.9.6** The Contractor shall define the boundaries and environmental envelope based upon Authority guidance of the operational context of the PSS, including any known interfacing or interacting PSS, whether extant or planned.
- 3.9.7** The Contractor shall record the definition of the PSS and the results of activities within the scope of analysis, in the Information Set and update it throughout the Contract to ensure that it accurately reflects the status of the design, environmental impact assessment and mitigation and control activities.
- 3.9.8** The Contractor shall provide the Authority with the evidence base that constitutes the Environmental Case, as agreed with the Authority.

### Notes:

- 1. The required documents set will be those which are deemed necessary to support the effective environmental management of the PSS and enable the communication of relevant parts of the Environmental Case with Authority and third-party stakeholders' through-life.
- 2. Some of the documents contain duplicated information summarised for specific stakeholder groups. In the case where there is significant duplication of content, "a write once use many times" policy is expected to be put in place.
- 3. Although Part 2 of this Standard includes DIDs (Annex B), it is anticipated that the definition of deliverable contents and format will be a key part of the EMP.
- 4. Authority requirements for deliverables to support the Authority EMS process can also be found within extant Authority environmental guidance listed in Part 2.
- 5. 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.

## **4 Roles and Responsibilities**

### **4.1 Organisation**

- 4.1.1** The Contractor shall define the environmental management roles and responsibilities (also noting those of the Authority) within their organisation that are relevant to the scope of the contract, including delegation, authority, and document them.
- 4.1.2** The Contractor shall identify the individuals responsible and accountable for environmental management of the PSS and their role and level within their organisation.
- 4.1.3** The Contractor shall keep the definition of roles and responsibilities of those individuals responsible for environmental management up to date.

#### **Notes:**

- 1. The roles and responsibilities need to describe the minimum level of competency that current or future incumbents within the role will be required to meet in order to undertake the role.
- 2. A clear definition of roles and responsibilities is essential to ensure that issues are owned at an appropriate management level.
- 3. Sufficient authority must be delegated within the Contractor's organisation to ensure that environmental management is given the appropriate priority and resources that are commensurate with the impact.
- 4. In practice, responsibilities will be shared between Authority, Industry, the Environmental Committee, Front Line Commands (FLCs) and other defined committees, as the primary mechanisms to ensure coordination and interfaces with other organisations and stakeholders.

### **4.2 Competency**

- 4.2.1** The Contractor shall determine the necessary competency of person(s) doing work under its control that affects its environmental performance and its ability to fulfil its compliance obligations. Competency of person(s) required to satisfy the requirements shall be described in the contract.
- 4.2.2** The Contractor shall ensure that all relevant tasks within their scope of contract are carried out and managed by individuals, teams or organisations that are competent to perform those tasks.
- 4.2.3** The Contractor shall record the evidence of competence, on an individual, team and organisational basis.
- 4.2.4** The Contractor shall undertake competence management, for all staff employed on the Contract.
- 4.2.5** The Contractor, via an appropriate combination of education, training and experience shall ensure that personnel appointed to positions with environmental management responsibilities are competent.
- 4.2.6** The Contractor shall determine training needs associated with their EMS and the PSS's environmental aspects.
- 4.2.7** The Contractor shall, where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken.
- 4.2.8** The Contractor shall name and document personnel and competence to fulfil key environmental roles. Where individuals in key roles are to be replaced, the Contractor shall notify the Authority.

#### **Notes:**

- 1. The competency requirements in this Standard apply to persons working under the Contractor's control who affect the environmental performance of the PSS.
- 2. Competency is defined as the skills, knowledge and experience that are required to perform certain activities to a required and defined standard, and which are critical to success in professional roles.
- 3. Publicly available competence frameworks may be utilised where required.

### **4.3 Awareness**

- 4.3.1** The Contractor shall ensure that persons doing work under the organisation's control are aware of:

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- a) The Contractor's Environmental Policy.
- b) The Authorities Environmental Policy.
- c) Register of Environmental Standards.
- d) The environmental aspects and related actual or potential environmental impacts associated with the Contract, both positive and negative.
- e) Their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental performance.
- f) The implications of not conforming to the EMS requirements, including not fulfilling the Contractor's or the Authority's compliance obligations.

### 4.4 Environmental Committees

- 4.4.1 The Contractor shall contribute to and support the Authority's Environmental Committees and other liaison activities for the contracted PSS, as directed by the Authority, to ensure effective coordination of environmental management with the Authority and other relevant stakeholders.
- 4.4.2 Where there is no appropriate committee, the Contractor shall work with or assist the Authority to establish an Environmental Committee.
- 4.4.3 The Contractor shall deliver information to the Environmental Committee, when requested, to enable it to oversee environmental management.
- 4.4.4 The Contractor shall support the Environmental Committee in recommending, endorsing, or providing guidance on environmental aspects, mitigation measures and controls.
- 4.4.5 The Contractor shall support the Environmental Committee in assessing, measuring, and providing assurance that relevant environmental mitigation measures and controls have been effective.
- 4.4.6 The Contractor shall support the Environmental Committee either directly, or through subsidiary committees in any additional roles/tasks as agreed with the Authority.
- 4.4.7 Where required, the Contractor shall staff and manage environmental sub-committees, if requested by the Environmental Committee and the Authority.
- 4.4.8 The Contractor shall send Progress Reports to the Environmental Committee at milestones as agreed by the Authority, as defined, and documented.
- 4.4.9 Where there is concurrent work on interfacing or interacting with the PSS, the Contractor shall collaborate with other Environmental Committees to manage interfaces, and shall refine the scope of analysis, if necessary, to minimise gaps in analysis, or overlaps and duplication of effort.
- 4.4.10 The Contractor shall define and document their support to the Environmental Committee and relevant environmental management meetings.

#### Notes:

- 1. To oversee the procurement and support of the PSS, and to meet its obligations regarding environmental protection, the Authority will normally set up a bespoke Environment Committee, which the Contractor uses as a mechanism for reporting, negotiation and raising issues. An Environmental Committee exercises, oversees, reviews, endorses, directs, and controls the activities necessary to meet environmental management requirements, environmental policy, and legislation objectives. In some cases, it may be appropriate for the Environmental Committee to sit under a combined Safety and Environmental Committee.
- 2. Where the Contract involves proposed changes to in-service PSS, the Environmental Committee may approve proposed changes to all PSS before they are implemented and ensure the proposed changes comply with Authority regulatory requirements.
- 3. It is best practice that the organisation managing the Environmental Committee will provide a Terms of Reference to aid governance.

## **5 Interfaces**

### **5.1 Organisational Interfaces**

- 5.1.1** The Contractor shall cooperate and, where relevant coordinate environmental activities with all relevant organisations identified, documented, and agreed with the Authority.
- 5.1.2** The Contractor shall define a process for managing organisational interfaces, e.g. to suppliers or to operators of interfacing and interacting PSS, document and agree them with the Authority. These processes shall cover the full scope of the Contract.
- 5.1.3** The Contractor shall ensure timely and accurate communication with all relevant organisations identified, documented, and agreed with the Authority, and to participate in relevant Environmental Committees to ensure coordination of environmental management and engineering activities.

#### **Note:**

- 1. There may be an urgent need for timely communication between stakeholders, e.g. to manage an emergent environmental risk that impacts in-service operations.
- 2. It is anticipated that the processes defined for managing organisational interfaces also includes the requirement for the Contractor to identify and consult with the relevant stakeholders (e.g. the user / defence estates / ports / dockyards etc.) to identify any environment constraints with the PSS and its activities.

### **5.2 Technical Interfaces**

- 5.2.1** The Contractor shall record all assumptions and information necessary to manage environmental aspects when integrated or interoperated with other known PSS.
- 5.2.2** The Contractor shall identify and record their assumptions about any known interfacing or interacting PSS, whether extant or planned, to enable them to carry out environmental management activities within the scope of contract.
- 5.2.3** The Contractor shall record, any known assumptions which other organisations are entitled to make about their deliverable PSS.
- 5.2.4** The Contractor shall define and manage the technical interfaces to each element which can be operated in a system of systems, and documented as agreed with the Authority.

#### **Notes:**

- 1. The intent is that the documentation of assumptions enables the Contractor responsible for one PSS to say what properties they can achieve (and assure) given the assumptions they can legitimately make about interacting or interfacing systems. Such a scheme will not be infallible, and there is a limit to the extent to which Contractors can anticipate usage and operating environment (air, land or sea), but the aim is to prevent or minimise the environmental impact without imposing an excessive burden on Contractors.
- 2. The aim is to ensure that the configuration of the elements is not constrained by the way in which they have been defined and analysed, e.g. by considering only a single possible configuration, thereby maximising the extent to which they can be deployed with confidence that the environmental issues have been properly understood.
- 3. Stakeholders responsible for interfaces with the PSS will need to be able to make reliable assumptions about the PSS behaviour at the interface and its wider impacts in order that they can meet their environmental obligations, or to provide guarantees to others.

### **5.3 Interacting Interfaces**

- 5.3.1** The Contractor shall review information provided by the Authority or other Contractors for products that interact with the PSS (internal to or external to the PSS boundary) as defined in the scope of analysis, and identify any aspects that need to be catered for within the PSS design.
- 5.3.2** The Contractor shall raise with the Authority any inconsistencies in the assumptions made at interfaces, that become apparent, and document in the evidence base.
- 5.3.3** The Contractor shall record and agree with the Authority the process to reconcile assumptions made at boundaries with other known PSS to ensure environmental requirements are maintained for the whole system or system of systems, recognising that changes may need to be made to PSS still under development, and to cater for limitations of other system elements.

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### Notes:

1. The focus is on what is known about interacting PSS, where there may be limited opportunity to redesign. Information provided about the environmental aspects of interfacing or interacting products may need to be analysed, and therefore must be defined in the scope of analysis.
2. This clause deals with the case where analysis identifies incompatibilities between assumptions, or difficulties in meeting environmental requirements, given all that can be reasonably assumed about interacting PSS.
3. The process for obtaining information made at boundaries will need to be initiated by information provided by the Authority to the Contractor.

### 5.4 Contractor Environmental Audits and Reports

- 5.4.1 The Contractor shall carry out environmental audits as documented and agreed with the Authority, to provide assurance of the EMS and environmental management activities.
- 5.4.2 The Contractor shall ensure that Contractor Environmental Auditors (CEAs) are independent from those areas within the Contractor's organisation, or any Sub-Contractors, that they audit. The scope of the Contractor Audit activity shall be aligned to the scope of environmental activity, within the scope of the contract, and the type of programme.
- 5.4.3 An Environmental Audit Report shall be produced following each environmental audit, which fully describes the findings of the environmental audit. All audit findings shall be assessed for significance and the need for remedial action identified.
- 5.4.4 Any audit findings which may have an impact on the environmental performance of the PSS or is relevant to the Contractor's ability to meet the requirements of this Standard, the Contractor shall notify the Authority and provide relevant information, as required. Where there is a potential impact identified the Contractor shall present to the Authority a plan for addressing any identified issues within timescales agreed with the Authority.

### Notes:

1. An Environmental Audit Report summarises the conduct of an environmental audit, identifying findings, actions, and recommendations.
2. There is no intent to imply that the Contractor cannot employ a third-party CEA to carry out audits on their behalf. The intent of the Contractor Environmental Audits is to show that the Contractor has implemented the EMP, or other agreed documentation, as defined, or to identify remedial action in the case of deviations.
3. The Environmental Committee will agree and action the findings from the audits, maintaining a traceable record. It may be helpful for the CEA to make recommendations on remedial action to the Contractor and, where appropriate, the Authority.

### 5.5 Independent Environmental Audit

- 5.5.1 The Contractor shall allow an Authority-appointed IEA reasonable access to the Information Set. Commercially sensitive information may be protected by an NDA in accordance with the Contract.
- 5.5.2 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.

### Notes:

1. An Independent Environmental Audit is only normally undertaken on complex projects.
2. An Independent Environmental Audit is the formation of a judgement, separate and independent from any PSS design, development or operational personnel, that the environmental management requirements for the PSS are appropriate and adequate for the planned application and that the PSS satisfies those environmental management requirements.
3. An Independent Environmental Audit is the assessment of activities undertaken on behalf of Authority in order to provide assurance that environmental activities comply with planned arrangements, are implemented effectively and are suitable to achieve objectives; and whether related outputs are correct, valid and fit for purpose.
4. If the Authority requires an Independent Environmental Audit, it will work with the Contractor and the IEA to overcome access obstacles, e.g. the possible establishment of Non-Disclosure Agreements and assistance with export control issues.

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### 5.6 Remedial Action

- 5.6.1 The Contractor shall identify and implement timely remedial actions to rectify any agreed non-conformities or issues.
- 5.6.2 The Contractor shall agree the remedial actions with the Authority through the Environmental Committee, and any other relevant stakeholders, as appropriate.
- 5.6.3 The Contractor shall update the relevant documentation, as appropriate, to reflect the agreed remedial actions.

#### Note:

- 1. It is important to agree changes with the Environmental Committee and other relevant stakeholders, to ensure that the most effective and efficient route is found regarding implementing any remedial action following an audit. Judgement will be required to identify what the nature and scale of remedial action needs to be incorporated into documentation, and how that must be done. If the audit shows that the environmental management of the PSS is significantly inadequate or inefficient, and a major redesign is required, then the impact will go beyond the environmental programme.

## **6 Environmental Assessment and Control**

### **6.1 General**

- 6.1.1** This Standard covers both the analysis of new (developmental) and pre-existing PSS, and any relevant integration as specified in the scope of contract.

**Note:**

1. The scope of analysis will specify the extent to which existing PSS need to be assessed and in what lifecycle stage.

### **6.2 Environmental Aspects and Impacts**

- 6.2.1** The Contractor shall identify environmental aspects defined in the scope of analysis, using expected PSS activities, including the activities associated throughout the acquisition cycle of the PSS, and integration into other PSS, as appropriate.
- 6.2.2** The Contractor shall assess the environmental impacts arising from the identified environmental aspects by undertaking appropriate environmental assessment activities, as agreed with the Authority, and documented.
- 6.2.3** The Contractor shall agree the criteria for evaluating the priorities of impacts with the Environmental Committee and record it.
- 6.2.4** The Contractor shall capture information on environmental impacts identified by the environmental assessment activities in an appropriate format agreed with the Authority, which shall include aspect, impact, and lifecycle stage as a minimum.
- 6.2.5** For each lifecycle stage, the Contractor shall identify all environmental aspects, impacts, and associated environmental risks, from all expected activities, identified by environmental assessment activities within the scope of analysis.
- 6.2.6** The Contractor shall capture the findings of the environmental assessment activities within the agreed report format. The contractor shall produce a high-level summary of the findings from all environmental reports.
- 6.2.7** The Contractor shall employ systematic environmental assessment processes for identification of environmental aspects, which may give rise to environmental impacts, as agreed with the Authority.
- 6.2.8** The Contractor shall employ systematic environmental assessment processes to assess the significance of the environmental impacts identified.
- 6.2.9** The Contractor shall ensure that human factors are taken into account throughout the identification of environmental aspects and the assessment of environmental impacts.
- 6.2.10** The Contractor shall ensure that the environmental aspects from normal, abnormal (both intended and unintended occurrences) and emergency functions (such as failure modes) are considered and incorporated as necessary when identifying environmental aspects. This is especially important for Contractors carrying out systems integration.
- 6.2.11** The Contractor shall update information on identified environmental impacts throughout the Contract to ensure that it accurately reflects the status of the design, environmental impact assessment and mitigation, control, or exploitation activities.
- 6.2.12** The Contractor shall use qualitative estimates where it is not practicable to quantify frequency, duration, and severity.
- 6.2.13** The Contractor shall ensure that the status of mitigation, control, or exploitation of all identified environmental aspects and impacts are managed, updated, and recorded throughout the Contract.
- 6.2.14** The Contractor shall identify potential measures, mitigations and controls which would enable the impact of environmental aspects to be avoided, prevented, minimised, or offset. In particular, they shall identify any attributes of the PSS, or its operation or use, which could be used as triggers to identify opportunities or innovations for mitigation or exploitation activities.

**6.2.15** The Contractor shall record the results of the environmental impact assessment and summarise in the Environmental Impact Statement (EIS).

**6.2.16** The Contractor shall record key assumptions, data, judgements, and calculations underpinning the assessment in the Environmental Case.

**Notes:**

1. The content of an EIS is to be agreed with the Authority.
2. There are established approaches to environmental aspect and impact assessment and assessment recording within the Authority. Further guidance on techniques is available in Part 2 to this Standard (Annex B).
3. Identification of environmental aspects, which may give rise to environmental impacts, is an important step in analysis to achieve the necessary mitigation, control of negative impacts or exploitation of positive impacts.
4. Knowledge of the functioning of the PSS is required to properly manage the potential interaction between different environmental aspects. The potential interaction between different environmental aspects and impacts associated with different functions need to be considered carefully. This is because focusing unduly on one environmental aspect and the associated environmental impact may decrease the effective management of other environmental aspects and associated environmental impacts. Where environmental aspects cannot be fully evaluated due to the Contractor not having access to the full information, or where aspects and impacts are particularly complex, the intent is to provide the Authority with credible estimates of the related environmental impacts severity and frequency and clearly list any assumptions made.
5. The cumulative effects of environmental impacts needs to be considered, where multiple environmental aspects contribute to the same impact, geographically or temporally.
6. The duration of the environmental impact needs to be considered when assessing environmental impacts, especially when considering cumulative effects and significance.
7. Where the Contract involves developmental work, environmental assessment by the Contractor must commence before the design is mature in order to help guide the design by establishing environmental requirements. The environmental assessment may discover sufficiently serious flaws in the design, resulting in cumulative effects of environmental aspects and impacts that it will lead to a re-design. Where there is re-design, the environmental assessment will need to be repeated or updated so that it reflects the environmental performance of the current design.
8. The Authority may delegate to the Contractor the requirement to 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, in accordance with the scope of contract.

**6.3 Risk Assessment**

**6.3.1** The Contractor shall carry out a risk assessment to estimate the probability and consequence of environmental aspects, or changes to the environment impacting upon Defence objectives as part of the environmental assessment of the PSS.

**6.3.2** The Contractor shall agree an assessment method and significance criteria for environmental impacts and risks with the Authority.

**6.3.3** The Contractor shall evaluate environmental risk for all identified aspects and impacts, and be cognisant of risks arising from compliance/non-compliance with relevant legislation, standards, defence regulations and requirements derived from Authority Policy, as defined in the EMP.

**6.3.4** Where the Contractor is unable to fully assess an environmental risk due to insufficient information regarding the operation of the PSS, this shall be highlighted to Authority at the earliest opportunity so that appropriate action can be taken.

**6.3.5** The Contractor shall record all assumptions, data, judgements, and calculations underpinning the risk evaluations in the Environmental Case, such that they can be reviewed and updated.

**Notes:**

1. Environmental aspects of PSS have the potential to pose risks to Defence outputs in addition to their effect on the environment (environmental impacts). Risks to Defence outputs arising from environmental aspects are termed environmental risks and these need to be captured as part of any environmental assessment of the PSS.
2. General guidance on the Authority approach to risk management is detailed on the Knowledge In Defence (KID).
3. External environmental issues affecting the PSS, which in turn could potentially cause an environmental impact, are to be considered.



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4. Risk within the supply chain associated with environmental aspects and legislation, and changes to the environment (for instance availability of resources) are to be considered as this may have an impact on the through-life operational use and maintenance of the PSS.

### 6.4 Environmental Case

- 6.4.1 The Contractor shall produce an Environmental Case or Environmental Cases for a PSS as defined in the Contract and agreed with the Authority in line with the scope of analysis.
- 6.4.2 The Contractor shall ensure that the Environmental Case consists of a structured argument supported by body of evidence that provides a compelling, comprehensible and valid case that the negative environmental impact of a PSS is reduced or minimised as far as is reasonably practicable, whilst positive impacts are maximised.
- 6.4.3 The Contractor shall ensure that the Environmental Case is drawn from the Information Set.
- 6.4.4 The Contractor shall ensure that the Environmental Case identifies how to address any residual shortfalls in meeting environmental management requirements, standards, and legal obligations.
- 6.4.5 The Contractor shall ensure that the Environmental Case provides evidence to demonstrate the competence of individuals and organisations responsible for tasks that have a bearing on environmental management of the PSS.
- 6.4.6 The Contractor shall ensure that the Environmental Case provides comprehensive arguments and evidence to demonstrate the adequacy and suitability of the methods and techniques used for environmental impact analysis and assessment.
- 6.4.7 The Contractor shall develop, maintain, and refine the Environmental Case as defined in the EMP and in developing the Environmental Case the Contractor shall address the scope of analysis of the PSS.
- 6.4.8 The Contractor shall provide evidence to ensure that the overall environmental argument is not compromised by errors or uncertainties in individual pieces of evidence.
- 6.4.9 The Contractor shall ensure that any related Environmental Cases or Information Sets already in existence and identified in the scope of analysis are utilised and integrated as necessary.

#### Notes:

1. 1. Information Set refers to data that Contractors would necessarily produce when developing and analysing PSS. The term Information Set is a label for what would be normally produced, not a new imposition.
2. The Environmental Case will include adherence to regulatory compliance, meeting environmental requirements and managing environmental aspects associated with the operation of the PSS operating within defined contexts.
3. The Contractor may not be employed through all phases of the lifecycle but will be required to consider all lifecycle stages within the contracted scope of analysis, including disposal. In all cases this requirement will be defined in the Contract.

### 6.5 Environmental Reports

- 6.5.1 The Contractor shall produce and deliver to the Authority Reports as documented and agreed with the Authority to support key PSS development and deliverable milestones.
- 6.5.2 When the Contractor is requested by the Authority to provide an Environmental Case Report (ECR), the Contractor shall ensure the ECR is an accurate representation of the Environmental Case at the time of production.
- 6.5.3 Where there are shortfalls in the evidence, the Contractor shall ensure that the ECR proposes the rationale for operating the PSS, as well as ways of mitigating and controlling the residual risk, negative impacts, or taking advantage of positive impacts.
- 6.5.4 The Contractor shall ensure that the ECR contains information on assumptions and limitations regarding the use of the PSS.
- 6.5.5 The Contractor shall update and reissue a new ECR when significant changes occur to the specification, requirements, or environmental management of the PSS, as contracted, to give the

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Authority visibility of progress in environmental management as documented and agreed with the Authority.

### Notes:

1. The ECR summaries the arguments and evidence of the Environmental Case and documents such progress against the environmental programme. The ECR will usually include the EIS and/or a Command Environmental Summary, as required.
2. Guidance on the concepts of Authority Environmental Cases and ECRs (including ECR DID) are available in Part 2 of this Standard (Annex B).
3. The ECR must be accepted by the Authority, Accountable Persons, and relevant stakeholders in the Environmental Committee, prior to commencement of operations.

### 6.6 Design for Environment

- 6.6.1 The Contractor shall design the PSS so it meets all environmental requirements, and identify potential design strategies for meeting environmental requirements as appropriate throughout the lifecycle of the PSS, including disposal. The Contractor shall identify any shortfalls in PSS performance against the environmental requirements and agree a resolution with the Authority.
- 6.6.2 The Contractor shall consider the environmental implications of significant design options, including environmental requirements, and assess their environmental impacts.
- 6.6.3 The Contractor shall apply appropriate methods to evaluate the environmental impact of options and assess these against impacts and other design considerations.
- 6.6.4 The Contractor shall define and implement a process for identifying and selecting mitigation, exploitation and control strategies and shall record the rationale for the selection of each strategy in the Information Set, and agreed with the Authority.
- 6.6.5 The Contractor shall identify and implement mitigation, control, and exploitation strategies to manage potential environmental impacts and meet environmental requirements, including derived environmental requirements.
- 6.6.6 The Contractor shall ensure that relationships between environmental requirements, related system requirements, and PSS design are recorded within the PSS design documentation.
- 6.6.7 The Contractor shall record the results of applying the mitigation, control and exploitation strategies, the evidence that environmental management requirements are met, and any residual shortfalls against environmental management requirements in the Environmental Case.
- 6.6.8 The Contractor shall record their rationale for each relevant design change or decision which affects environmental aspects. Where required by Authority this will be captured within a Design for Environment Impact Report (DfEIR).
- 6.6.9 The contractor shall maintain records to demonstrate that each assumption that influences the design of the PSS is reasonable and justified. Where evidence can be obtained to confirm or deny the validity of the assumption that evidence shall be recorded.

### Notes:

1. This Standard introduces the concept of a DfEIR Annex. The DfEIR Annex is intended to capture how the environmental requirements have been addressed when there have been competing demands between environmental requirements, and the design and development activities associated with other requirements.
2. A DfEIR Annex will only be required where complex trade-offs have been required which have resulted in a reduction in environmental requirements, or where it is important to demonstrate an achieved level of environmental performance (for instance to distinguish between tenders).
3. A description of the DfEIR Annex can be found in the ECR DID in Part 2 of this Standard (Annex B).

### 6.7 Systems Integration

- 6.7.1 The Contractor shall provide information which a system integrator or user needs to understand the environmental performance of the whole system/s, within a system of systems. This includes

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environmental assessment and risk analysis where the Contractor does not have enough knowledge (within the scope of analysis) to complete an environmental risk analysis.

- 6.7.2** The Contractor shall provide a concise summary of environmental information for use by third parties. The Contractor shall ensure that a summary contains sufficient to enable a system integrator or operator to discharge their environmental responsibilities.
- 6.7.3** The Contractor shall ensure that the environmental information is updated and reissued when new information becomes available throughout the contract, and as agreed with the Authority.

## **7 Maintaining Environmental Performance During Change**

### **7.1 General**

**7.1.1** The contractor shall ensure change that has the potential to affect the environmental performance of the PSS is managed in accordance with engineering management arrangements to be agreed with the Authority. This includes, but is not limited to:

- a) Build state definition.
- b) Change control.
- c) Planning for change.
- d) Management of changes.
- e) Maintenance of environmental performance during change.
- f) Monitoring change.
- g) Configuration control.
- h) Quality management.
- i) Legislative and Standard changes,

### **7.2 Change Management**

**7.2.1** The Contractor shall monitor all changes to the PSS with environmental implications; including changes to the requirements, design, and proposed change to use and operating context and agree with the Authority the monitoring channels to be used.

**7.2.2** Where undesired environmental impacts are identified, the Contractor shall notify the Authority and, where practicable, recommend mitigation or control.

#### **Notes:**

1. Throughout demonstration and manufacture, the Contractor will need to keep accurate build state configuration records of the PSS.
2. Change could include: changes to legislation, standards and policy, obsolescence, changes to concept of operations/use, changes to build/material state – both intended and unintended.

## **8 Environmental Management Responsibilities – In – Service**

### **8.1 Introduction**

- 8.1.1** Clause 8 relates to additional requirements when the PSS is in the in-service phase of the lifecycle and is concerned with Contractor support to in-service PSS and Contractor provided services. Clause 8 is to be tailored to meet the scope of contract and may be applied to trials and demonstrations, in-service support, maintenance, or disposal activities/contracts.
- 8.1.2** The boundary between what is provided in support of the in-service PSS and a Contractor managed service will depend on the scope of analysis or scope of supply, the in-service/operational scenarios and will form part of the agreed scope of contract. In all cases associated plans and supporting documentation, must delineate the roles, responsibilities, communication channels and decision-making mechanisms.
- 8.1.3** Regulators may have domain specific requirements for in-service support or service provision. The intent within this Standard is to set generic requirements on Contractors that are independent of those domain specific requirements or defence regulations. Contractors are expected to identify and adopt any domain specific requirements that are appropriate to the delivery and intended use of the PSS.

### **8.2 In-Service Management of Environmental Related Data**

- 8.2.1** Where required by Authority, the Contractor shall liaise with other Contractors to coordinate the management of environmental related in-service data where the deliverable PSS interface or interact with other PSS.
- 8.2.2** The Contractor shall exchange environmental related in-service data, or the results of analysing the data, with those responsible for the operation of interfacing and interacting PSS where they might be able to use it to help identify potential problems, and to determine remedial action or mitigation. Commercially sensitive information may be protected by an NDA in accordance with the Contract.

#### **Notes:**

1. Any Contractor requirements for data must be agreed in the scope of contract and captured in the scope of analysis.
2. As detailed earlier in this Standard, the Contractor will establish organisational interfaces with other stakeholders to the environmental management elements of this Standard.

### **8.3 In Service Monitoring and Reporting**

- 8.3.1** The Contractor shall define and operate a process for recording and analysing relevant data from operation of the PSS (including accident, incident reporting data), to control in-service environmental risk and to inform the Authority responsible for support activities.
- 8.3.2** The Contractor shall review the Environmental Case, in the light of the recorded data, to identify areas where operations vary from predictions or assumptions previously used, e.g. the actual environmental risk is significantly higher than the estimated risk, or a PSS is operated outside declared limitations.
- 8.3.3** The Contractor shall identify the results of analysis of the data and the review of the Environmental Case to determine situations which indicate the need for remedial action (such as a design change) and, once agreed with the Authority, shall implement those actions within their sphere of responsibility.
- 8.3.4** The Contractor shall inform all relevant stakeholders where they have identified the need for remedial action, and provide those stakeholders with sufficient information to enable them to take appropriate action.
- 8.3.5** The Contractor shall define and operate a process for collecting, analysing, and documenting environmentally relevant in-service data, including, but not limited to, use and operating environment.
- 8.3.6** The Contractor shall define and operate a process for collecting, analysing, and documenting environmental incident or accident data.

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- 8.3.7** The Contractor shall define and operate a process for collecting environmental incident, accident and near miss reports, and comparable data from other operations available to the Contractor or supplied by the Authority.
- 8.3.8** The Contractor shall analyse all collected data addressing both individual events and trends, to identify those events which require remedial action.
- 8.3.9** Where there is evidence that in-service monitoring of environmental performance will be of benefit, the Contractor shall monitor and analyse data within the agreed scope of analysis to ensure, where practical, environmental requirements are identified to address potential shortfalls.
- 8.3.10** Prior to PSS acceptance, the Contractor shall provide guidance and instruction to enable the Authority to continue the measuring and monitoring processes in-service.

### Notes:

- 1. Monitoring and reporting require coordination between operations and support, regardless of whether the support is provided by Authority, or industry (or both) and the boundaries of responsibilities will be defined clearly in the EMP, or in a different plan (as identified in an extant Def Stan) as agreed with the Authority.
- 2. 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.
- 3. There needs to be an agreed process of ownership and management for retrieval and analysis of reported data.

## 8.4 In-Service Data Analysis

- 8.4.1** The Contractor shall define and operate a process, agreed with the Authority, for specifying and prioritising reported data from the in-service use of the PSS to identify remedial action to preserve or improve environmental performance.
- 8.4.2** The Contractor shall liaise with the Authority to ensure that support is based on accurate and timely data from operations, as far as practicable.
- 8.4.3** The Contractor shall investigate and analyse reported accidents, incidents, and near-misses, in order to ascertain root cause. This includes those resulting from human errors, across all relevant DLODs, as agreed with the Authority, for their impact on the environment. The purpose is so that remedial action to preserve, or improve, environmental performance can be identified.
- 8.4.4** The Contractor shall analyse reported incident, accident and near miss reports, and comparable data from other operations available to the Contractor or supplied by the Authority, for their root causes to identify remedial action to improve environmental performance.
- 8.4.5** Where the Contractor supports in-service PSS the Contractor shall, so far as is reasonably practicable, use information relating to the PSS to efficiently and effectively manage environmental performance.

### Note:

- 1. It is likely that much of the analysis of in-service data will require operational or engineering judgement, rather than being based on statistical analysis.

## 8.5 In Service Remedial Action

- 8.5.1** The Contractor shall have a duty to notify relevant stakeholders if they identify that immediate remedial action is required. Domain specific requirements or legislation, regulations or defence regulations will be captured in the scope of contract.
- 8.5.2** The Contractor shall identify and implement remedial actions to preserve or improve environmental performance, agreed with the Authority, and prioritised accordingly.
- 8.5.3** The Contractor shall plan remedial actions taking into account the need for efficient change management, to enable updates to the in-service PSS with minimum disruption.

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- 8.5.4** The Contractor shall plan remedial actions taking into account the need to deal with foreseeable changes, as well as those driven by analysis of in-service events.

**Note:**

1. Remedial actions are important where designs are changed, to remedy problems, as implementation plans based on environmental risk analysis will be the responsibility of the Accountable Person. The Environmental Committee will prioritise such remedial action and arrangements will be defined in the EMP.

### **8.6 In-Service Environmental Case Report**

- 8.6.1** The Contractor shall produce an ECR for in-service operations and deliver it to the Authority.
- 8.6.2** The Contractor shall update and maintain the Environmental Case to reflect changes to the system and its operating context, so they are accurate representations of the PSS through-life.

### **8.7 In-Service Command Summary Information**

- 8.7.1** The Contractor shall support the Authority in writing or updating the environmental information required within a Command Summary.
- 8.7.2** Consideration of environmental risk and aspect management may be mission or sortie specific. Therefore, the production of more than one Command Summary may be required by the Authority. The Command Summaries and associated ECRs will be reviewed and accepted by the Authority Accountable Persons and relevant stakeholders, prior to commencement of operations.

**Note:**

1. The Command Summary is intended to provide essential environmental information on the provided service for the mission commanding officer or manager to manage a PSS in-service. The Command Summary needs to include information on the environmental implications of operating the PSS; any In-Service limitations and constraints imposed by design parameters, certification, material state (including concessions) and environmental risk assessment; and information that may assist in making balanced risk-based decisions where there is an unforeseen requirement to operate outside the design envelope.

### **8.8 Service Provision Planning**

- 8.8.1** The Contractor shall produce plans for the environmental management of service provision operations, covering all reasonably foreseeable situations including normal, abnormal, and emergency situations.
- 8.8.2** The Contractor shall ensure that the plans cover the environmental aspects of the full range of normal services, including but not limited to defining standard operating procedures, resourcing, training, and oversight arrangements.
- 8.8.3** The Contractor shall ensure that the plans cover the environmental impacts of emergency situations, including but not limited to defining emergency response, coordination and decision making, including liaison with the PSS Accountable Person and relevant stakeholders.
- 8.8.4** The Contractor shall ensure that the communications plan, detailed in the EMP, includes processes for delivery of in-service data and build state definition.

**Note:**

1. The Service Provision Plans may form part of the EMP, or be delivered in a separate plan, as agreed with the Authority where the Contractor provides a service that supports an operational capability. It is essential that the coordination mechanisms between relevant roles, responsibilities and delivery communication mechanisms are clear.

### **8.9 In-Service Environmental Risk Management**

- 8.9.1** The Contractor shall support the Authority in managing environmental risks associated with in-service operation, maintenance and use of the PSS.
- 8.9.2** Where necessary, the Contractor shall implement immediate action to manage and control emerging environmental risks before a longer-term resolution is identified, gaining the Accountable Person's agreement as soon as practicable.

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### Notes:

1. Environmental risk management requirements relate to a service upon which a Authority military capability may depend and where there is an explicit requirement on the Contractor to support the management of environmental risk. The intent here is for the Contractor to actively manage the relevant environmental aspects to reduce the associated risk to Authority objectives.
2. It is also important to identify, manage and mitigate risks to the PSS as a result of changes to the environment such as those caused by the effects of climate change.
3. It is essential, therefore, that all plans ensure that the roles, responsibilities, communications and decision and action mechanisms are in place to manage the emergent environmental risk. This is particularly essential where immediate action is necessary.



## 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 02, Iss 02	Environmental Management Requirements for Defence Systems - Guidance

#### STANAGs

Number	Title
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#### Allied Publications

Number	Title
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#### Other References

Standard Type	Standard Name
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
Assured Capability	the capability or ability to achieve an operational effect when required and throughout the intended operational lifecycle
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
Derived environmental requirements	Derived environmental requirements are those that result from the application of legislation, regulation, policy and standards. Derived requirements will also be applicable as a result of different PSS design options, or the operating and procurement context.
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

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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
Independent Environmental Auditor	An individual or team, from an independent organisation, that undertakes audits and other assessment activities on behalf of MOD to provide assurance that environmental management activities comply with planned arrangements, are implemented effectively and are suitable to achieve objectives; and whether related outputs are correct, valid and fit for purpose.
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.
Notifiable Materials and Substances	materials or substances that are essential to the Product, System or Service but subject to legislative controls and restrictions (whether political, supply, cost, environmental or legislation). Restricted materials is one that is banned or controlled by legislation but is still permitted for specific use
Operating environment	The total set of all external natural and induced conditions to which a system is exposed at any given moment.
Product	An engineered artefact. Products can be from the small scale, eg a pump or a digital map, to the large scale, eg an aircraft carrier or a geographically distributed logistics application program.
Restricted materials	Restricted materials is one that is banned or controlled by legislation but is still permitted for specific use
Service	The operation or usage of a system in a defined operating environment to achieve a specific purpose or purposes. A service can be any activity using a system, eg maintaining/updating military vehicles.
Sustainable Procurement	Sustainable Procurement is a process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation,

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	<p>but also to society and the economy, whilst minimising damage to the environment.</p> <p>[In the context of this Def Stan, the focus of Sustainable Procurement is the environmental elements of sustainability including the reduction of GHG emissions and adaptability to climate change which shall be a consideration in Defence acquisition.]</p>
System	A combination, with defined boundaries, of elements that are used together in a defined operating environment to perform a given task or achieve a specific purpose. The elements may include personnel, procedures, materials, tools, products, facilities, services and/or data as appropriate.
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
BS	British Standard
BS EN	British Standard European Norm
CADMID/T	Concept, Assessment, Demonstration, Manufacture, In-service, Disposal/Termination
CEA	Contractor Environmental Auditor
DED	Disapplication, Exemption, Derogation
Def Stan	Defence Standard
DfEIR	Design for Environment Impact Report
DID	Data Item Description
DLOD	Defence Lines of Development
DStan	UK Defence Standardization
ECR	Environmental Case Report
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMS	Environmental Management System
FLC	Front Line Command
GEAR	Guide to Engineering Activities and Review
IEA	Independent Environmental Auditor
IEC	International Electro-technical Commission
ISO	International Organisation of Standardization
ITT	Invitation To Tender
KiD	Knowledge in Defence
MOD	Ministry of Defence
NDA	Non Disclosure Agreement
POEMS	Project Orientated Environmental Management System
PSS	Products, Systems or Services

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PSS	Products, Systems and Services
RLI	Restricted LAN Interconnect
SEMP	Safety and Environmental Management Plan
SRD	System Requirement Document
UK	United Kingdom
URD	User Requirements Document



## 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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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 01054/2019.

### **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.