

This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>



Ministry
of Defence

JSP 454
Land Systems Safety and Environmental
Protection

Part 1: Directive

JSP 454 Part 1 (V7.0 Jul 16)

Foreword

The Secretary of State for Defence (SofS) through their Health, Safety & Environmental Protection (HS&EP) Policy Statement requires Top Level Budget Holders and Trading Fund Chief Executives to conduct defence activities with high standards of HS&EP. They are expected to achieve this by implementing robust, comprehensive Health, Safety & Environmental Management Systems.

As Director General of the Defence Safety Authority (DSA), I am responsible for providing MOD regulatory regimes for HS&EP in the land environment principally where there are exemptions, derogations or dis-applications from legislation. The regulations set out in this JSP are mandatory and full compliance is required. It is the responsibility of commanders and line managers at all levels to ensure that personnel, including contractors, involved in the management, supervision and conduct of defence activities are fully aware of their responsibilities.

The Defence Land Safety Regulator is empowered to enforce the regulations contained within this Directive.

Dick Garwood, AM, CB, CBE, DFC, MA, RAF
Director General Defence Safety Authority
Defence Authority for Health, Safety and Environmental Protection

Preface

How to use this JSP

1. JSP 454 sets out the Defence Regulations and supporting Defence Codes of Practice for land systems safety and environmental protection within MOD. It is designed to be used by staff responsible for land systems. This JSP contains the direction, guidance and good practice to be followed when managing the safety and environmental aspects of land systems. This JSP will be reviewed at least annually.
2. The JSP is structured in two parts:
 - a. **Part 1 - Directive**, which provides the direction that must be followed in accordance with Statute, or Policy mandated by Defence or on Defence by Central Government. Part 1 contains the Defence Regulations and provides details on the organisation, arrangements and responsibilities for safety and environmental protection within the land environment.
 - b. **Part 2 - Guidance**, which provides the Defence Codes of Practice (DCoPs) that provide an acceptable means of compliance with the Defence Regulations. If the DCoPs are followed then this will be considered sufficient to demonstrate compliance. However, alternative approaches may be utilised where this produces an outcome as good as required by the Regulation. Justification may be required when alternative approaches are employed. Adherence to a DCoP may be used as evidence during enforcement action. General guidance material is also included in Part 2 which itself is not compulsory but may be considered 'good practice' to further support the Defence Regulations and DCoPs.

Related JSPs	Title
JSP 454 V7.0 Pt 2	Land Systems Safety and Environmental Protection

Coherence with other Defence Authority Policy and Guidance

3. Where applicable, this document contains links to other relevant JSPs, some of which may be published by different Defence Authorities. Where particular dependencies exist, these other Defence Authorities have been consulted in the formulation of the policy and guidance detailed in this publication.

Further Advice and Feedback- Contacts

4. The owner of this JSP is the DSA-DLSR-LSSR. For further information on any aspect of this guide, or questions not answered within the subsequent sections, or to provide feedback on the content, contact:

Job Title/E-mail	Project focus	Phone
DSA-DLSR-LSSR-Group Mailbox	CONTACT	-
DSA-DLSR-LSSR-Reg	REGULATORY LEAD	030 679 35386

Record of Changes

Serial	Amendment	Date
01	Formatting changes and amendment of footnotes	Jul 16

Equality & Diversity Impact Assessing Statement

This JSP has been equality and diversity impact assessed in accordance with Departmental policy. No direct discrimination or adverse impact was identified.

SUPERSEDED AUG 17

Contents

Glossary: Acronyms	vi
Glossary: Definitions	viii
1 Introduction	1
Applicability and Scope	1
Land system Definition	2
2 Organisation and Arrangements	3
Roles and Responsibilities	3
Safety and Environmental Committee Hierarchy	5
Reporting Committees to the DLSR SC	5
Safety and Environmental Documentation Hierarchy	6
3 Safety and Environmental Law	7
UK Legislation	7
Application of Legislation to MOD	8
Failure to Comply	9
4 Defence Regulations	11

Glossary: Acronyms

The following acronyms are used throughout this publication:

AINC	Army Incident Notification Cell
ALARP	As Low As Reasonably Practicable
AoR	Area of Responsibility
ASEMS	Acquisition Safety and Environmental Management System
ASG	Acquisition System Guidance
BCS	British Computer Society
BPEO	Best Practicable Environmental Option
BTE	Bespoke Trading Entities
CAE	Claims, Arguments and Evidence
CBA	Cost Benefit Analysis
COI	Conflicts of Interest
DG DSA	Director General Defence Safety Authority
Def AIB	Defence Accident Investigation Branch
DCoP	Defence Code of Practice
DDH	Delivery Duty Holder
DE&S	Defence Equipment and Support
DEDs	Disapplications, Exemptions or Derogations
Def Stan	Defence Standard
DfT	Department for Transport
DG DSA	Director General Defence Safety Authority
DH	Duty Holder
DINs	Defence Instructions and Notices
DLSR	Defence Land Safety Regulator
DLIMS	Defence Lessons Identified Management System
DMR	Defence Maritime Regulator
DNSR	Defence Nuclear Safety Regulator
DOSR	Defence Ordnance Safety Regulator
DSA	Defence Safety Authority
DSC	Defence Safety Committee
EA	Environment Agency
EISS	Environmental Impact Screening and Scoping
EMS	Environmental Management System
EPA	Environmental Protection Act
FGSR	Fuel and Gases Safety Regulator
FLC	Front Line Command
HF	Human Factors
HS&EP	Health Safety & Environmental Protection
HSE	Health and Safety Executive
HSG	Health and Safety Guidance
HSWA	Health and Safety at Work etc. Act 1974
IEE	Institution of Electrical Engineers
IET	Institution of Engineering and Technology
ILS	Integrated Logistic Support
ISA	Independent Safety Auditor
JAMES	Joint Asset Management and Engineering Solutions
JSP	Joint Service Publication
LAIT	Land Accident Investigation Team
LCA	Legislation Compliance Assessment
LEC	Land Exemptions Committee
LEES	Land Equipment Engineering Standards
LEUMS	Land Equipment User Maintenance Standards
LFE	Learning From Experience

This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

LFSO	Land Forces Standing Order
LSSR	Land Systems Safety Regulator
LSSR SWG	Land Systems Safety Regulator Stakeholder Working Group
MAA	Military Aviation Authority
MOD	Ministry of Defence
MRP	MAA Regulatory Publications
ODH	Operating Duty Holder
POEMS	Project Oriented Environmental Management System
POSMS	Project Oriented Safety Management System
PUS	Permanent Under Secretary
R2P2	Reducing Risks Protecting People
S&EP	Safety and Environmental Protection
SD	Sustainable Development
SDH	Senior Duty Holder
SEF	Serious Equipment Failure
SEMP	Safety and Environmental Management Plan
SEMS	Safety and Environmental Management System
SFAIRP	So Far As Is Reasonably Practicable
SofS	Secretary of State for Defence
TFA	Trading Fund Agency
TLB	Top Level Budget
ToRs	Terms of Reference
UDR	Urgent Defence Requirements
UOR	Urgent Operational Requirements
UK	United Kingdom
USUR	Urgent Statement of User Requirement
VPF	Value of Preventing a Fatality

Glossary: Definitions

The following terms are used throughout this publication:

Term	Definition	Source
Accident	An event, or sequence of events, that causes unintended harm.	Def Stan 00-056 Issue 6
Active Systems	These management systems monitor performance in order to reduce the probability of undesirable events occurring.	
ALARP	As Low As Reasonably Practicable – A risk is ALARP when it has been demonstrated that the cost of any further Risk Reduction, where the cost includes the loss of defence capability as well as financial or other resource costs, is grossly disproportionate to the benefit obtained from that Risk Reduction.	Adapted from Def Stan 00-056 Issue 5
Ancillary	Providing necessary support to the primary activities or operation of a system.	
Aspect (Environmental)	Elements of an organisation's activities, products or services that interact or can interact with the environment.	ISO 14001:2015
Assurance	Adequate confidence and evidence, through due process, that safety and environmental requirements have been met.	Adapted from Def Stan 00-056 Issue 4
Audit	A systematic and independent examination to determine whether safety 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.	Adapted from Def Stan 00-056 Issue 4
Best Practicable Environmental Option	The outcome of a systematic consultative and decision making procedure which emphasises the protection and conservation of the environment.	The Royal Commission on Environmental Pollution
Competent	Describes a person who has sufficient training, qualifications and experience to carry out their role to an appropriate standard.	The Management of Health & Safety at Work Regs 1999
Derogation	A relaxation of a legal requirement to allow the law be applied differently with caveats that are specified within the legislation itself, or not at all.	
Dis-application	Where specific legislation or a part thereof does not apply to the Military or Ministry of Defence and is expressly stated as such within the piece of legislation.	
Environment	Surroundings which a system or organisation affects, including air, water, land, natural resources, flora, fauna, and their interrelation with humans (third-parties).	Adapted BS EN ISO 14001
Environmental Hazard	A threat to the environment posed by an environmental aspect.	ASEMS POEMS
Environmental Impact	Change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects	ISO 14001:2015
Environmental Management System	An Environmental Management System (EMS) is a formal, structured approach to managing the aspects of a sites activities, products or services that have, or could have an impact upon the environment.	JSP 418 Leaflet 1 Environmental Management Systems
Environmental Protection	Prevention of harm to the natural environment.	JSP 430 Part 1 Issue 4
Environmental Risk	A rating of the severity of an environmental hazard against the likelihood of its occurrence.	ASEMS POEMS
Exemption	Where legislation allows SofS to authorise an exemption from all, or part of that legislation. Exemption is conditional on SofS granting a certificate, in writing.	

**This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection**

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

Term	Definition	Source
Exemption Case	A demonstrable justification for exemption(s) from legal requirements on the basis of its expected operational and national security benefits.	
Failure	Failure (of an item) is the loss of ability to perform as required.	(Def Stan 00-49 issue 3)
Hazard	Potential to cause harm, e.g. A physical situation or state of a system, often following from some initiating event that may lead to an accident.	Def Stan 00-056 Issue 6
Hazard Log	The continually updated record of the hazards and accidents associated with a system. It includes information documenting risk management for each hazard and accident.	Def Stan 00-056 Issue 6
Incident	An accident or a near miss.	
Independent Safety Auditor	An individual or team, from an independent organisation, that undertakes audits and other assessment activities on behalf of MOD to provide assurance that safety 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. Note: The term Independent Safety Auditor encompasses environmental aspects as well as Safety.	Def Stan 00-056 Issue 6
Land systems	Refer to Paragraph 8 of JSP 454 Part 1.	
Legislation Compliance Assessment	A systematic process that enables the identification and assessment of legislative requirements.	
Near Miss	An unintended event, or sequence of events that had the potential to cause unintended harm, but did not.	Def Stan 00-056 Issue 5
Operating Environment	The total set of all external natural and induced conditions to which a system is exposed at any given moment.	Def Stan 00-056 Issue 6
Platform	A series of integrated systems or components designed to carry out a function. For example a Vehicle, a Communications network etc.	
Reactive Systems	These management systems monitor and investigate occurrences of undesirable events in order to reduce the probability of recurrence.	
Residual Risk	The risk remaining after risk reduction.	Def Stan 00-056 Issue 4
Risk	Combination of the likelihood of harm and the severity of that harm.	Def Stan 00-056 Issue 6
Risk Management	The systematic identification, evaluation and reduction of risk.	Def Stan 00-056 Issue 6
Risk Tolerability	A level of risk that may be tolerated when it has been demonstrated to be ALARP.	Adapted from Def Stan 00-056 Issue 4
Safety	The freedom from unacceptable risks to personnel.	
Safety Assessment	A term used to refer to the whole assessment used to identify hazards, analyse those hazards, estimate risk, validate and verify compliance with requirements.	
Safety Case	A structured argument, supported by a body of evidence that provides a compelling, comprehensible and valid case that a system is safe for a given application in a given operating environment.	Def Stan 00-056 Issue 6

**This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection**

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

Term	Definition	Source
Safety and Environmental Case Report	A report that summarises the arguments and evidence of the Safety and Environmental Case, and documents progress against the safety and environmental programme. This can be separated into two documents – Safety Case Report and Environmental Case Report.	Adapted from Def Stan 00-056 Issue 5
Safety and Environmental Management Committee	A group of stakeholders that exercises, oversees, reviews and endorses Safety management and Safety engineering activities.	Def Stan 00-056 Issue 4
Safety and Environmental Management Plan	A document that defines the strategy for addressing safety and environmental protection and documents the Safety and Environmental Management System for a specific project.	Adapted from Def Stan 00-056 Issue 5
Safety and Environmental Management System	The organisational structure, processes, procedures and methodologies that enable the direction and control of the activities necessary to meet safety and environmental requirements and policy objectives.	Def Stan 00-056 Issue 5
Safety Integrity	Properties of the system that contribute to resistance to dangerous failure, including (but not limited to) reliability, availability, robustness, timeliness and use of resources.	Adapted from Def Stan 00-056 Issue 4
Safety Management System	The organisational structure, processes, procedures and methodologies that enable the direction and control of the activities necessary to meet safety requirements and safety policy objectives.	Def Stan 00-056 Issue 6
Serious Equipment Failure	An incident that results in, or has the potential to result in, serious personal injury, loss of life or serious damage to property or the environment, in which the failure of equipment is a proximate causal factor.	
SFAIRP	So far as is reasonably practicable (SFAIRP) is the term most often used in the Health and Safety at Work etc. Act and in Statutory Regulations. Broadly equivalent to ALARP.	Health and Safety at Work etc. Act 1974
Shall	Describes an activity that is mandatory.	
Should	Describes an activity that is considered to be best practice. If the activity is followed then this will be considered sufficient to demonstrate compliance with a Regulation. However, alternative approaches may be utilised where this produces an outcome as good as required by the Regulation.	
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.	Def Stan 00-056 Issue 6
System of Systems	A system that includes more than one element that are themselves systems, and which are interdependent but are not necessarily controlled by the same authority or mechanism.	Def Stan 00-056 Issue 6
Theatre	A specific geographical area of conduct of armed conflict.	
Those holding safety and environmental responsibilities	This describes personnel (responsible persons) that have a duty of care for safety and environmental protection. This includes the three levels of Duty Holder defined in JSP 815 – Senior Duty Holder, Operating Duty Holder and Delivery Duty Holder.	JSP 815, Defence Health, Safety and Environmental Protection.

This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

Term	Definition	Source
UDR / UOR	The Urgent Defence Requirements / Urgent Operational Requirements process enables rapid procurement to address equipment capability shortfalls that have arisen as a result of current or imminent operations. The funding arrangements determine whether such procurement is a UOR or UDR.	DIN 2010DIN04-195: UOR SI V6

SUPERSEDED AUG 17

1 Introduction

1. The Ministry of Defence (MOD) has a duty to protect its employees, those that may be affected by its activities and the environment. Effective safety and environmental protection is crucial to force protection and maximising operational capability.

2. The MOD is an authority engaged in the acquisition, support, training, transportation, storage, use¹, maintenance and disposal of systems², these activities are conducted worldwide by TLBs, TFAs or Defence contractors employing military, MOD civilian or contractors' personnel. It is incumbent on the MOD to ensure that their systems, which are often very complex, are acceptably safe to people and do not significantly impact on the environment. It is therefore important that the MOD as an organisation has effective management systems in place in order to achieve this.

Applicability and Scope

3. Joint Service Publication (JSP) 454 specifies the Land Systems Safety Regulator's (LSSR) Regulations, Codes of Practice and supporting guidance for safety and environmental protection in response to the Secretary of State Policy Statement on Health, Safety and Environmental Protection in Defence, and provides a framework for ensuring that acceptable levels of safety and environmental protection are being achieved and sustained through life. It is intended for all those engaged in the activities described in paragraph 2 above.

4. This JSP takes precedence over all other documents relating to the management of land systems safety and environmental protection in MOD. Where there are interfaces with other regulatory domains these **shall** be identified.

5. LSSR is empowered to enforce JSP 930 (Generic Maintenance, Inspection Certification and Testing of Vehicles). The requirement for JSP 930 lies under Regulation 15 of JSP 454 Equipment Care and Configuration Control.

6. This JSP is **not** intended to:

- a. Address hazards associated with enemy or hostile action.
- b. Address the requirements for users of land systems to put in place safe systems of work to manage residual risk in the workplace. This is managed in accordance with JSP 375 MOD Health and Safety Handbook and Top Level Budget (TLB) procedures.
- c. Address Sustainable Development (SD). SD is increasingly understood to be important in protecting the environment, but it is not governed by the environmental protection elements of this JSP.
- d. Be used for contracting purposes in its own right. Contracting for safety is in accordance with Defence Standard 00-056³, however, specific Defence Regulations can be included within contracts.

¹ The term 'use' within this document includes peacetime and operational scenarios

² The term 'system' when used in this context as opposed to a 'Management System' is explained further in the 'Land System Definition' section in this part of the JSP

³ Defence Standard 00-056, Safety Management Requirements for Defence Systems

Land System Definition

8. A land system can be defined as any system designed to be operated and maintained in the land environment, where the output and the activity does not primarily impact on Air or Sea worthiness.

a. This includes:

- (1) People, vehicles, integrated weapons, communication systems, information systems and support equipment;
- (2) Rail systems, rolling stock and power units, owned and operated by or on behalf of MOD⁴.

b. This excludes:

- (1) Rail track, points, signals and buildings owned and maintained by DIO⁴;
- (2) Permanent infrastructure⁵ owned and maintained by DIO;
- (3) Adventurous training (non-land system elements);
- (4) Simulators or Emulators of Aircraft / Rotorcraft / MOD Shipping⁶.

9. Land environment refers to the environment in which a system operates, not the institutional part of the UK's Armed Forces that provides the system. Land systems may operate in the littoral zone, this straddles both the maritime and land environments⁷.

10. The determination of whether a land system primarily impacts on Air or Sea worthiness should be agreed with the relevant TLBs and recorded. Where there is ambiguity this should be discussed and agreed with the relevant domain regulator.

⁴ JSP 790 MOD Rail Safety Management, sets out the policy, guidance and criteria for the safe operation and management of all MOD rail activities

⁵ These are permanent installations, for example, structures, systems, and facilities that provide a Defence capability. Installations that do not have a planned permanent use are outside of this definition, such as deployable installations..

⁶ MOD Shipping is defined in JSP 430

⁷ Adapted from JCN 2/12, Future Land Operating Concept

2 Organisation and Arrangements

Roles and Responsibilities

11. The Secretary of State (SofS) for Defence in their policy statement declares that safety and environmental protection is both a line management and individual responsibility. A series of delegations are in place to ensure that authority and accountability for safety and environmental protection are clearly defined. In the MOD these are supplied in the format of a formal 'letter of delegation'. Such delegations can only be made to those staff that are competent and have sufficient resources to undertake those duties that have been delegated. Land system users will have their own processes within their respective TLBs.

12. The diagram at Figure 1 shows how authority and accountability for regulation of land systems is delegated:

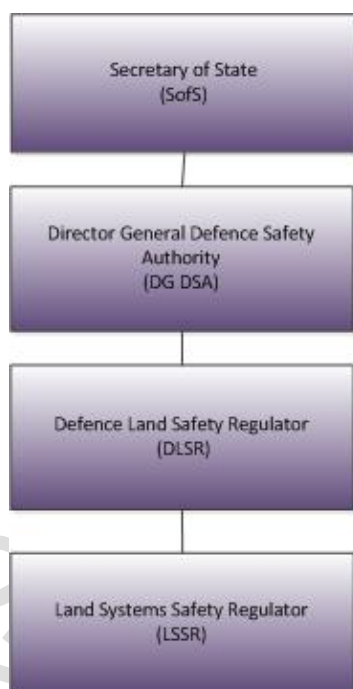


Figure 1: Safety and Environmental Delegations

13. **Secretary of State.** The SofS has responsibility for, and is answerable to Parliament on matters of safety and environmental protection within the MOD.

14. **Director General Defence Safety Authority.** On 1 April 2015, the Defence Safety and Environmental Authority and the Military Aviation Authority merged to establish the Defence Safety Authority (DSA). DSA is responsible for the Defence regulation of Health, Safety and Environmental Protection (HS&EP). DSA provides SofS with independent advice and evidence based assurance that policy is being promoted and implemented in the conduct of all Defence activities. DSA is headed by the Director General (DG DSA), a 3-star military officer responsible for championing Defence safety. DG DSA is the Defence Safety Technical Authority, setting mandatory and proportionate rules and standards for all organisations within Defence.

15. **Defence Land Safety Regulator.** The Defence Land Safety Regulator (DLSR) is accountable to DG DSA for independent regulation and evidence based assurance of land systems, fuel and gases and movement and transport in the land environment.

**This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection**

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

16. **Land Systems Safety Regulator.** The Land Systems Safety Regulator (LSSR) is appointed by DLSR to provide independent regulation of safety and environmental protection across all defence activities⁸ involving the acquisition and use of land systems, in the land environment. LSSR also provides assurance that effective S&EP Management Systems are in place. Failure to comply with these Regulations, can lead to enforcement action being undertaken. LSSR liaises with other DLSR Regulators, Defence Ordnance Safety Regulator (DOSR), Defence Maritime Regulator (DMR), Defence Nuclear Safety Regulator (DNSR) and Military Aviation Authority (MAA) in addition to safety and environmental professionals across Defence to ensure coherence in areas of joint interest. When appropriate, other Government Departments and statutory regulators (e.g. Health and Safety Executive (HSE) and Department for Transport (DfT)) are consulted. LSSR provides secretariat support to the Land Systems Safety Regulator Stakeholder Working Group (LSSR SWG), inputs to its committee structure and maintains this publication. The LSSR SWG reports to the Defence Land Safety Regulator Stakeholder Committee (DLSR SC).

17. **Responsible Persons.** All personnel have responsibilities for safety and environmental protection. Some personnel may have additional responsibilities within their Area of Responsibility (AoR). This includes a personal duty of care for all people, including contractors and members of the public, who come within their AoR. This personal duty of care extends to environmental protection not just within their AoR, but also for other areas affected by activities in their AoR. All responsible persons are accountable for ensuring that safety risks from activities are reduced to a level that is As Low As Reasonably Practicable (ALARP) and that risks to the environment are appropriately managed by selection of the Best Practicable Environmental Option (BPEO). In MOD, some personnel are also authorised to be Duty Holders (DHs). DHs are nominated at discrete levels in each TLB or TFA, in parallel with the command or management hierarchy, in order to provide a necessary separation and a degree of beneficial tension between safety / environmental protection and delivery.

18. JSP 815⁹ Defence Health, Safety and Environmental Protection defines the three levels of DH as follows:

- a. **Senior Duty Holder (SDH).** The SofS Policy Statement identifies the TLB Holder or TFA Chief Executive as the Senior Duty Holder (SDH) for activities in their AoR;
- b. **Operating Duty Holder (ODH).** An ODH is personally responsible for ensuring that resources are adequate to conduct activities safely, that effective management arrangements are implemented and that personnel (in particular DHs) under their command / management are suitably qualified, experienced, trained and equipped. An ODH typically oversees all defence lines of development (e.g. approved equipment / materiel, trained and competent staff) that contribute to activities, and they may own the Safety Case for a significant defence activity in their AoR, being personally satisfied that risk to life has been reduced ALARP. An ODH is accountable, and has right of access, to their appointing SDH;
- c. **Delivery Duty Holder (DDH).** A DDH is personally responsible for ensuring that resources are adequate to conduct activities safely, that effective management arrangements are implemented and that personnel under their command / management are suitably qualified, experienced, trained and equipped. A DDH owns the Safety Case for their defence activity, if this is not owned by the ODH or others, being personally satisfied that risk to life has been reduced ALARP. By virtue of their position in the command / management hierarchy and their proximity, the DDH provides for the supervision of the defence activity being conducted. A DDH is accountable and has right of access to their appointing superior DH.

⁸ Refer to Para 4

⁹ JSP 815 is due to be replaced by DSA 01 during FY 16/17. However, JSP 815 was extant at the time of updating JSP 454.

19. JSP 454 refers to four other significant stakeholders:

a. **Capability Sponsor / Lead User / Duty Holder facing SMEs** – The Capability Sponsor / Lead User / Duty Holder facing SMEs¹⁰ are the owners of the In-Service Safety and Environmental Case (for example a Part 3 Safety and Environmental Case¹¹), on behalf of the Front Line Commands (FLCs). Their responsibilities include setting safety and environmental protection requirements during the planning stages of a land system's life and ensuring that these are met throughout a land system's life. They must ensure that capability can be fielded safely, "Operate Safely" and that suitable and sufficient training exists for the capability at all times throughout its service life;

Note: It is important to ensure that the Lead User is identified at early stages of the new land system, to avoid ambiguity at in-service stage.

b. **Acquisition Team** – The Acquisition Team (for example DE&S) are responsible for the delivery of the land system to the FLCs, ensuring that it meets the capability requirements set by the Capability Sponsor. In addition, they are responsible for the development of the "safe to operate" Safety and Environmental Case (for example Parts 1 and 2 of the Safety and Environmental Case¹¹);

c. **Front Line Command** – The FLCs are responsible for ensuring that the land system is operated by the end user in accordance with the safe operating envelope defined within the Safety and Environmental Case;

d. **Industry** – Delivers the products and services defined by contractual agreements.

Safety and Environmental Committee Hierarchy

20. The hierarchy of Defence bodies for safety and environmental protection related to land systems begins with the Defence Safety Committee (DSC) and flows down to the DLSR SC and its reporting committees.

21. **Defence Safety Committee.** The Defence Safety Committee (DSC) has replaced the Defence Environment and Safety Board and is chaired by DG DSA. The DSC is the lead committee in MOD for the governance of safety and environmental protection.

22. **Defence Land Safety Regulator Stakeholder Committee.** The DLSR SC is chaired by DSA Chief Technical Officer to provide a consultative forum where stakeholders can consider high-level land systems performance matters, express their views on the regulatory regime, comment on proposed regulatory changes and be informed about emerging legislation and the outcome of regulatory activities.

23. The members of the DLSR SC are those stakeholders responsible for the acquisition, support, training, transportation, storage, use, maintenance and disposal of land systems, fuels and gas, movements and transport, together with the central MOD civilian and Service policy authorities. To ensure consistency and an integrated approach to safety across MOD, the secretaries of the other regulatory stakeholder committees are also members.

Reporting Committees to the DLSR SC

24. **Land Exemptions Committee (LEC).** The LEC meets to assess requests to invoke legal exemptions from certain equipment related legislation on behalf of the SofS for Defence. The

¹⁰ A DH Facing SME is an expert within their field who resides in the TLB HQ and will act as the conduit for TLB HQ advice to Duty Holders

¹¹ Refer to the DCoP for Regulation 4 - Safety and Environmental Cases

committee makes recommendations to DG DSA, as the delegated signatory, as to the robustness of the arguments made and the suitability for exemptions. The committee also reviews and consults on forthcoming legislation that has the potential to significantly impact on land systems, fuels, gases, movement, transport and Dangerous Goods. The Terms of Reference (ToRs) for the LEC are contained in the DLSR SC Manual.

25. **Land Systems Safety Regulator Stakeholder Working Group.** The LSSR SWG provides a consultative forum to determine, comment and agree proposed policy or regulatory changes and be informed about emerging legislation and the outcome of regulatory activities. Working alongside similar working groups for the two other DLSR regulatory domains of fuels and gas and movements and transport.

26. **JSP 454 Editorial Committee.** The purpose of the JSP 454 Editorial Committee is to provide a forum for knowledgeable review and update of Regulations, Defence Codes of Practice and guidance contained in JSP 454 on behalf of the LSSR SWG and DLSR SC.

27. **JSP 930 Editorial Committee.** The purpose of the JSP 930 Editorial Committee is to provide a forum for knowledgeable review and update of policy and guidance contained in JSP 930¹² on behalf of the LSSR SWG and DLSR SC.

Safety and Environmental Documentation Hierarchy

28. MOD produces publications (which are typically JSPs) on HS&EP, in a hierarchy of four levels:

- a. **Level 1 – Departmental Policy.** Departmental policy, e.g. JSP 815 Defence Health, Safety and Environmental Protection is a Level 1 Joint Service Publication which contains the SofS policy statement and describes in high-level terms the corporate system for the management of environmental protection and safety in the MOD. It also provides strategic direction to Defence Regulators charged with developing environment and safety policy and TLB holders and TFA Chief Executives responsible for implementing it;
- b. **Level 2 – Defence Regulations.** Defence Regulations¹³ owned by MOD Regulators, e.g. JSP 454 Part 1. These MOD wide, domain specific publications expand upon the requirements of JSP 815 to enable the MOD and those responsible to demonstrate that acceptable levels of safety and environmental protection are achieved;
- c. **Level 3 – Guidance.** Guidance (including, where appropriate, Defence Codes of Practice, e.g. JSP 454 Part 2) provided by MOD Regulators on legislation and MOD regulations; they provide practical advice on how to comply with a regulation;
- d. **Level 4 – Procedures and Arrangements.** Procedures and arrangements, normally produced within TLBs and TFAs, containing more detailed advice for line management on how implementation of Levels 1-3 can be achieved.

¹² Maintenance, inspection, certification and testing of vehicles.

¹³ Movements and Transport (JSP 800), Fuel and Gas (JSP 309), Ordnance, Munitions and Explosives (OME) (JSP 520), Sea (JSP 430), Air (MAA Regulatory Publications (MRP)) and MOD Rail Safety Management (JSP 790).

3 Safety and Environmental Law

UK Legislation

29. **The Health & Safety at Work etc. Act 1974.** All sections of the Health and Safety at Work etc. Act 1974 (HSWA) **shall** apply to MOD, including the Armed Forces, unless stipulated otherwise. MOD discharges its duty under this Act through the SofS Policy Statement.

30. The following sections of HSWA are of particular relevance to the instructions contained within this JSP:

a. Section 2 - which imposes general duties on every employer to ensure, so far as is reasonably practicable, the health, safety and welfare at work of all their employees; this duty extends to include the provision and maintenance of 'plant' (which includes any machinery, equipment or appliance) and systems of work that are, so far as is reasonably practicable, safe and without risks to health. Note: the HSE consider the two terms 'So Far As Is Reasonably Practicable (SFAIRP)' and 'ALARP' to mean essentially the same thing, and at their core is the concept of 'reasonably practicable';

b. Section 3 - which imposes a duty on every employer to conduct their undertaking in such a way as to ensure, so far as is reasonably practicable, that persons not in their employment who may be affected are not thereby exposed to risks to their health or safety;

c. Section 6 - which imposes a duty on any person who designs, manufactures, imports or supplies any 'article for use at work' to ensure, so far as is reasonably practicable, that the article is so designed and constructed that it will be safe and without risks to health when it is being properly used, set, cleaned or maintained by a person at work; furthermore that necessary research is carried out with a view to discovery and, so far as is reasonably practicable the elimination or minimisation of any risks to health or safety to which the design or article may give rise;

d. Section 7 - which imposes a duty on every employee to take reasonable care for the safety of themselves and of other persons who may be affected by their acts or omissions at work. Also, as regards any duty imposed on their employer, they must co-operate with the employer to enable that duty to be performed or complied with.

31. **Environmental Protection Act 1990.** The Environmental Protection Act 1990 (EPA) is the centrepiece of current UK legislation on environmental protection. There are three environmental issues which place statutory duties on employers and are directly related to the health and safety function, these are: air pollution, water pollution and waste disposal. These statutory duties are contained in the EPA.

32. **The Environment Act (1995).** The Environment Act (1995) sets out the function and role of the Environment Agency (EA) in England and Wales, and the Scottish Environment Protection Agency for Scotland.

33. **Corporate Manslaughter and Corporate Homicide Act 2007.** The Corporate Manslaughter and Corporate Homicide Act 2007 enables the prosecution of companies and other organisations where there had been a gross failing in the management of health and safety with fatal consequences. The Act itself does not give rise to personal liability. MOD has no exemption in respect of this Act when operating under normal conditions, however because of its unique role the MOD has exemptions (in respect of this Act) in the following areas:

a. Operations, including peacekeeping operations and operations for dealing with terrorism, civil unrest or serious public disorder, in the course of which members of the Armed Forces come under attack or face the threat of attack or violent resistance;

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

- b. Activities carried out in preparation for, or directly in support of, such operations;
- c. Training of a hazardous nature, or training carried out in a hazardous way, which is considered to be necessary in order to improve or maintain the effectiveness of the Armed Forces with respect to such operations;
- d. Any duty of care owed by MOD in respect of activities carried out by members of Special Forces. Special Forces means those units of the Armed Forces the maintenance of whose capabilities is the responsibility of the Director of Special Forces or which are for the time being subject to the operational command of that Director.

34. The Defence exemption for training relates only to those activities of a hazardous nature. Basic, and trade training for example is not covered. MOD has a duty of care to ensure that its employees are trained to carry out the tasks required of them. Where those tasks are of a hazardous nature (e.g. operations) then the training will, of necessity, also be hazardous. To lessen that training would mean that MOD would be failing in its duty of care through not providing its employees with sufficient means to carry out the task required. This does not however negate the requirement to assess the risks of that training and ensure that all reasonable care is taken.

Application of Legislation to MOD

35. The requirements in SofS policy statement and those set out in the above Acts of Parliament, are applied in MOD through the application of JSP 375¹⁴, JSP 418¹⁵ and this JSP.

36. Within MOD the responsibilities and duties set out in section 2 are discharged by a number of various people throughout the life of a system. The assurance that the system provided meets the safety and environmental requirements, and that risks have been controlled at an acceptable level, is demonstrated through a Safety and Environmental Case(s). The following principal duties are discharged on behalf of MOD by those with responsibilities for the acquisition, support, training, transportation, storage, use, maintenance and disposal of land systems. They **shall**:

- a. Ensure that all suppliers or designers who are involved in the project are competent in their field, and that they fully understand the application of the system¹⁶;
- b. Ensure that there is evidence and it can be demonstrated that any risks associated with the safety of the system have been eliminated or reduced to a level that is ALARP and potential risks to the environment are managed as far as reasonably practicable;
- c. Ensure that operators and maintainers are fully aware of the risks (including risks to the environment), and that adequate instructions, training and maintenance arrangements are in place to control those risks within defined limits;
- d. Ensure the level of support is sufficient so that the system remains in a good and acceptably safe condition throughout its service life;
- e. Ensure adequate means are in place to monitor the safety and environmental performance of the system to ensure continual improvement;

¹⁴ MOD Health and Safety Handbook

¹⁵ MOD Corporate Environmental Protection Manual

¹⁶ Security considerations often mean that suppliers and designers cannot be permitted to fully understand the application of the system, especially for COTS systems originally developed for the civilian market. Responsible MOD staff must account for any lack of understanding arising from security constraints and ensure that there is a suitable level of competent review, early enough in the project to influence the design when necessary.

f. Ensure the system is managed in accordance with the Safety and Environmental Management System¹⁷ and the recommendations and controls stipulated in the Safety and Environmental Case(s);

g. Ensure that operation is in accordance with instructions and training in as safe a manner as is reasonably practicable, drawing the attention of those authorities responsible for upkeep and/or operation of any deficiencies or shortfalls in safety performance;

h. Ensure that when the system is disposed of, MOD fulfils its duty of care to those agents and authorities acquiring the system and the environmental implications of waste are captured.

Failure to Comply

37. **Notices and Censures.** Where an allegedly offending Defence activity is conducted by Crown servants (i.e. members of the Armed Forces or MOD civilians), statutory regulators' (e.g. HSE) powers are, in general, modified to issuing a Crown Improvement or Prohibition Notice (instead of an Improvement or Prohibition Notice) or a Crown Censure (instead of a prosecution); further detail of these processes as applied under HSWA are described in JSP 815.

38. The EA has a Memorandum of Understanding with MOD to deal with issues of environmental protection. JSP 418 provides full details of the EA enforcement and prosecution policy.

39. **Criminal Proceedings.** Under Section 48(2) and (3) of the HSWA, persons in the service of the Crown may be prosecuted for offences (notably under Sections 7, 36 & 37) and, if convicted, can be fined or imprisoned. However, an individual Crown Servant would not be prosecuted in substitution for the Crown body or for an honest mistake or because of defects in the management organisation. A prosecution might, however, result if it is alleged that an individual Crown Servant has committed a deliberate act or omission, imperilling their own or other's safety, or if that individual has wilfully or recklessly disregarded health and safety requirements.

40. **Civil Proceedings.** Irrespective of whether MOD is censured or an employee is prosecuted, civil claims may be brought against both. However, it is unlikely that individual employees will be sued where the act / omission which allegedly gave rise to the damage in respect of which the claim is brought occurred whilst the employee was acting appropriately in the course of their employment.

41. **Disciplinary Action.** In any event MOD employees could face disciplinary action if they have been reckless or negligent, or failed to carry out the duties imposed upon them by Law and/or MOD.

42. **DSA Regulatory Action.** Failure to comply with any regulation set out in this JSP may result in enforcement action which may be applied incrementally and at any time during the lifecycle of a land system. The DLSR Enforcement Policy can be found in the DLSR Standing Instruction, but in summary:

a. A **LSSR Improvement Notice (IN)** is served on an Accountable Person where the Regulator has identified a non-compliance with Defence Regulations and/or the response to Corrective Action Requirements (CARs) is unsatisfactory. The recipient of the IN is required to demonstrate to the Regulator that the required improvements have been made before the IN is lifted. There are 2 levels of IN, differentiated by the level of risk associated with the non-compliance(s) and therefore the speed with which the Regulator feels corrective action should be taken:

¹⁷ Refer to the DCoP for Regulation 2 – Establish a SEMS

This document has been superseded by
DSA02.DLSR.LSSR: Land systems Safety
and Environmental Protection

<https://www.gov.uk/government/publications/land-system-safety-and-environmental-protection-regulations>

(1) **LSSR Improvement Notice.** An IN would be appropriate if the level of risk associated with the non-compliance is low and therefore requires the corrective action to be taken in a more routine timescale.

(2) **LSSR Urgent Improvement Notice.** An Urgent IN would be appropriate if the level of risk associated with the non-compliance is considered high and therefore requires urgent corrective action to be taken;

b. **A LSSR Prohibit Notice (PN)** is served on the Accountable Person where the Regulator feels that the risk associated with a given activity is not ALARP and/or tolerable. A PN does not have to be attributed to non-compliance with Defence Regulations; the trigger is the Regulator's perception of the risk of harm. The PN requires the activity to cease while the corrective action is completed. The recipient of the PN is required to demonstrate to the Regulator that the risk has been reduced to ALARP and tolerable before the PN is lifted and the activity can commence.

43. **Appeals.** Where recipients are in disagreement with any recommendation(s) issued in the warning letter or formal notice they may appeal against the recommendation(s) within 21 days. An appeal in writing must be submitted and if the appeal remains unresolved, a further appeal may be made to DG DSA. Where the matter remains unresolved an appeal can be made to the PUS and ultimately to the SofS.

SUPERSEDED

4 Defence Regulations

44. There are two key definitions that apply to the implementation of the Defence Regulations:
- a. **Shall.** Describes an activity that is mandatory;
 - b. **Should.** Describes an activity that is considered to be good practice. If the activity is followed then this will be considered sufficient to demonstrate compliance with a Regulation. However, alternative approaches may be utilised where this produces an outcome as good as required by the Regulation.
45. These Defence Regulations are to be read in conjunction with the Defence Codes of Practice (DCoPs) contained in JSP 454 Part 2, Defence Codes of Practice.
46. There are 15 Defence Regulations for land systems. These are detailed overleaf and all are mandatory.

SUPERSEDED AUG 16

Safety and Environmental Protection (Supported by DCoP A)	
Regulation 1	Safety and Environmental Protection Those holding safety and environmental responsibilities shall ensure that land systems meet the requirements of all applicable safety and environmental MOD policy.
Safety and Environmental Management System (Supported by DCoP B)	
Regulation 2	Establish a SEMS Those holding safety and environmental responsibilities shall document, maintain and use a suitable and sufficient Safety and Environmental Management System (SEMS) for the management of safety and environmental protection throughout the lifecycle of all land systems.
Competence (Supported by DCoP C)	
Regulation 3	Competence Those holding safety and environmental responsibilities shall have the competence to undertake the roles for which they are engaged.
Safety and Environmental Case Development (Supported by DCoP D)	
Regulation 4	Safety and Environmental Cases Those holding safety and environmental responsibilities shall establish, use and maintain a valid Safety Case and Environmental Case, including summary reports, for land systems.
Regulation 5	Safety and Environmental Case Interfaces Those holding safety and environmental responsibilities shall ensure that all interfaces relating to safety and environmental protection between land systems and other systems are identified, assessed and managed effectively.
Regulation 6	Transferring a Safety and Environmental Case Those holding safety and environmental responsibilities shall ensure that due diligence is exercised when responsibility for a safety and environmental case is transferred.
Safety and Environmental Risk Management (Supported by DCoP E)	
Regulation 7	As Low As Reasonably Practicable (ALARP) Those holding safety responsibilities shall ensure that the residual risk posed by the land system(s) has been reduced to a level that is ALARP.
Regulation 8	Best Practicable Environmental Option (BPEO) Those holding environmental responsibilities shall ensure that the environmental risk posed by the system(s) has been reduced or managed as far as reasonably practicable by selection of the BPEO.
Legislation Compliance (Supported by DCoP F)	
Regulation 9	Legislation Compliance Assessment Those holding safety and environmental responsibilities shall undertake a suitable and sufficient legislation compliance assessment for each land system prior to use.
Regulation 10	Exemption Cases Those holding safety and environmental responsibilities shall present a formal exemption case to the Land Exemption Committee for each land system, where a legal exemption is necessary and permitted, prior to use.

Operational Dispensation (Supported by DCoP G)	
Regulation 11	<p>Operational Dispensation Those holding safety and environmental responsibilities shall ensure that an Operational Dispensation is in place if an operational imperative arises that necessitates the use of the land system(s) outside its safe operating envelope.</p>
Safety and Environmental Performance Monitoring, Review and Audit (Supported by DCoP H)	
Regulation 12	<p>Incident Reporting Those holding safety and environmental responsibilities shall ensure that all incidents involving land systems are reported, recorded and appropriately investigated.</p>
Regulation 13	<p>Monitoring and Reviewing Performance Those holding safety and environmental responsibilities shall have in place an effective means of monitoring, reviewing and reporting safety and environmental performance.</p>
Regulation 14	<p>Audit Requirements Those holding safety and environmental responsibilities shall undertake suitable and sufficient safety and environmental protection audits.</p>
Equipment Care and Configuration Management (Supported by DCoP I)	
Regulation 15	<p>Equipment Care and Configuration Management Those holding safety and environmental responsibilities shall ensure effective processes and procedures are in place for equipment care¹⁸ and configuration management for land systems.</p>

¹⁸ For Land System vehicles: TLBs **shall** also ensure compliance with the requirements of JSP 930 [Generic Maintenance, Inspection, Certification and Testing (MICaT)].