



Defence
Safety
Authority

DSA 02 DLSR

Fuel and Gas Safety and Environmental Regulations (Previously JSP 309)

Fuel and Gas Safety
Regulator

Defence Land Safety
Regulator

DLSR

Amendment Table

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Foreword

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

Director General of the Defence Safety Authority (DG DSA) is responsible for providing policy and regulatory regimes for S&EP across Defence. The MOD policy for S&EP is set out in DSA 01.

DG DSA has directly delegated to me, the Defence Land Safety Regulator, the authority to regulate MOD activity in the Land domain in accordance with DSA 01. The regulations set out in this document the minimum standards to be adopted for Fuel, Lubricant and Gas Storage; they are mandatory and full compliance is required. It is the responsibility of those planning, managing, supporting or undertaking activity within scope of these regulations to ensure that personnel, including contractors, involved in the conduct of Defence activities are fully aware of their responsibilities. Where non-compliance is identified, the Fuel and Gas Safety Regulator is empowered to enforce the regulations.

R P Cosgrove

Colonel R P Cosgrove
Defence Land Safety Regulator
Defence Safety Authority

Glossary: Acronyms

The following acronyms and abbreviations are used throughout this publication:

AAR	Annual Assurance Report
ACOP	Approved Code Of Practice
AESP	Army Equipment Support Publication
ALARP	As Low As Reasonably Practicable
AoR	Area of Responsibility
AP	Accountable Person
AP(Elec)	Authorised Person (Electrical)
AP(Pet)	Authorised Person (Petroleum)
AP(Px)	Authorised Person (Pressure Systems)
APEA	Association for Petroleum and Explosives Administration
AST	Ancillary Storage Tank
Asst	Assistant
AVGAS	Aviation Gasoline
BCGA	British Compressed Gas Association
BFI	Bulk Fuel Installation
BFCV	Bulk Fuel Carrying Vehicle
BPEO	Best Practicable Environmental Option
CA	Competent Authority
CAR	Corrective Action Requirement
CESO	Chief Environment and Safety Office
COMAH	Control of Major Accident Hazards
DDH	Delivery Duty Holder
DIO	Defence Infrastructure Organisation
DE&S	Defence Equipment and Support
Def Stan	Defence Standard
DSC	Defence Safety Committee
DFRMO	Defence Fire Risk Management Organisation
DH	Duty Holder
DIN	Defence Instructions and Notice
DLSR	Defence Land Safety Regulator
DMR	Defence Maritime Regulator
DNSR	Defence Nuclear Safety Regulator
DOSR	Defence Ordnance Munitions and Explosives Safety Regulator
DSA	Defence Safety Authority
DG DSA	Director General Defence Safety Authority
DSFA	Defence Strategic Fuel Authority
DSEAR	Dangerous Substances and Explosives Atmospheres Regulations
E2E	End-to-End
EA	Environmental Agency
EIGA	European Industrial Gas Association
EN	Enforcement Notice
EPA	Environmental Protection Act
F&GS	Fuel (Lubricant) & Gas Storage
FGSR	Fuel and Gas Safety Regulator
FLC	Front Line Command
FSAA	Fuel Safety and Assurance Assessment
HASAWA	Health and Safety at Work Act 1974
HS&EP	Health, Safety and Environmental Protection
HSE	Health and Safety Executive

HSG	Health and Safety Guidance
IN	Improvement Notice
ISN	Immediate Stop Notice
JOFS	Joint Operational Fuel System
JSP	Joint Services Publication
LSSR	Land Systems Safety Regulator
LPG	Liquefied Petroleum Gas
MAA	Military Aviation Authority
MACR	Major Accident Control Regulations
MOD	Ministry Of Defence
MOU	Memorandum of Understanding
MTFI	Motor Transport Fuel Installation
MTSR	Movement and Transport Safety Regulator
NATO	North Atlantic Treaty Organisation
ODH	Operating Duty Holder
OFD	Oil Fuel Depot
PEA	Petroleum Enforcement Authority
PFI	Private Finance Initiative
PJHQ	Permanent Joint Headquarters
PJOB	Permanent Joint Operating Base
PN	Prohibit Notice
PPE	Personal Protection Equipment
PPG	Pollution Prevention Guidelines
PPP	Public Private Partnership
PSD	Petroleum Storage Depot
PUS	Permanent Under Secretary
RAF	Royal Air Force
RN	Royal Navy
SC	Stakeholder Committee
SDH	Senior Duty Holder
SFAIRP	So Far as is Reasonably Practicable
SME	Subject Matter Expert
S of S	Secretary of State
SQEP	Suitably Qualified and Experienced Person
STANAG	NATO Standardization Agreement
TFA	Trading Fund Agency
TL	Team Leader
TLB	Top Level Budget holder
UIN	Urgent Improvement Notice
UK	United Kingdom
ULGAS	Unleaded Gasoline
UN	United Nations
WG	Working Group

Glossary: Definitions

The following terms are used throughout this publication:

Term	Definition	Source
Accident	An unintended event, or sequence of events, that causes harm.	Def Stan 00-56/4 (Ref L)
Accountable Person	An individual who is to be held accountable to the Regulator for reducing risk of harm and, where applicable, complying with Defence Regulations. The Accountable Person can be from an Operational, Duty Holding or Duty Holder-facing organisation.	DSA 01.1
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 00-56 Issue 5
Assurance	Adequate confidence and evidence, through due process, that safety and environmental requirements have been met.	Adapted from Def Stan 00-56 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 00-56 Issue 4
Authorised Person	An individual who has been deemed competent by the MMO to undertake the practical implementation of a specific discipline for the defined area of appointment. The APs implement the rules and procedures at site level and are responsible for the control of activities through the issue of Safety Documentation.	JSP 375 Vol 3 Chapter 1 - Policy
Best Practicable Environmental Option (BPEO)	The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits for the least damage to the environment, as a whole, at acceptable cost through life. Individual environmental protection legislation refers to terms such as 'As Low As Reasonably Achievable', 'Best Available Techniques', 'Best	JSP 815, Defence health, Safety and Environmental Protection. Adapted from

Term	Definition	Source
	Practicable Environmental Option (BPEO)' which have subtle variations of meaning. For brevity in this JSP, 'selection of BPEO' is used to describe the acceptable reduction of environmental risk.	an explanation by the Royal Commission on Environmental Pollution
Competence	Describes a person who has sufficient training, qualifications and experience to carry out their role to an appropriate standard.	The Management of Health and Safety at Work Regulations (1999)
Could	Describes an activity that is considered to be good practice but recognises that there are other methods available to the practitioner that provide an equally safe outcome.	
Enforcement Notice	Formal notification of enforcement action	
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 Management Plan	A document that defines the strategy for addressing environmental protection and documents the Environmental Management System for a specific system.	
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
Exemption	The three types of exemption are as follows: a. 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; b. 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; c. 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.	
Fuel & Gas Storage (F&GS)	A term used for the purposes of this publication to define bulk fuels, lubricants and gas storage facilities (including bulk LPG, cryogenic liquid	

Term	Definition	Source
	storage facilities, and transportable gas cylinder storage compounds) on the MOD estate.	
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 00-56 Issue 5
Hazard Log	The continually updated record of the hazards, accident sequences and accidents associated with a system. It includes information documenting risk management for each hazard and accident.	Def Stan 00-56 Issue 5
Incident	An accident or a near miss.	
Independent Environmental Auditor	An individual or team, from an independent organisation, that undertakes audits and other assessment activities 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.	JSP 430 Part 1 Issue 4
Independent Safety Auditor	An individual or team, from an independent organisation, that undertakes audits and other assessment activities 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.	Def Stan 00-56 Issue 5
Land Domain	The Land domain in this context is an operated system(s) that does not primarily impact on Air or Sea worthiness (Permanent infrastructure is excluded from this definition).	
Maintenance Management Organisation (MMO)	The organisation responsible for planning, organising and managing the operation maintenance and repair of equipment, and may include the design and construction of new works. The MMO may be a Contractor, DIO, or Military	JSP 375 Vol 3
Must	Describes an activity that is mandatory AND descends directly from national legislation.	
Near Miss	An unintended event, or sequence of events that had the potential to cause unintended harm, but did not.	Def Stan 00-56 Issue 5
Operating on	Activity that covers both the operation and maintenance of the system including those activities carried out by the Operator, Contractor, DIO, or Military.	
Operating Authority,	Those who operate the facility where fuel or gas is stored	

Term	Definition	Source
Operating Environment	The total set of all external natural and induced conditions to which a system is exposed at any given moment.	Def Stan 00-56 Issue 5
Reactive Systems	These management systems monitor and investigate occurrences of undesirable events in order to reduce the probability of recurrence.	
Regulator	In the context of Defence, the Regulator is the appointed body empowered by the SofS to enforce statutory regulations, provide assurance and ensure compliance with SofS' Policy Statement.	
Residual Risk	The risk remaining after risk reduction.	Def Stan 00-56 Issue 4
Risk	Combination of the likelihood of harm and the severity of that harm.	Def Stan 00-56 Issue 5
Risk Management	The systematic identification, evaluation and reduction of risk.	Def Stan 00-56 Issue 5
Risk Tolerability	A level of risk that may be tolerated when it has been demonstrated to be ALARP.	Adapted from Def Stan 00-56 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 00-56 Issue 5
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 00-56 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 00-56 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 00-56 Issue 5
Safety and Environmental	The organisational structure, processes, procedures and methodologies that enable the direction and control of the activities necessary to	Def Stan 00-56 Issue 5

Term	Definition	Source
Management System	meet safety and environmental requirements and policy objectives.	
Safety Management Plan	A document that defines the strategy for addressing safety and documents the Safety Management System for a specific project.	Def Stan 00-56 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 00-56 Issue 4
Safety Panel	A group of stakeholders that exercises oversees reviews and endorses safety management and safety engineering activities.	
Serious Equipment Failure	Defined as an incident with equipment that results in, or has the potential to result in, personal injury, loss of life or serious damage.	
So Far As Is Reasonably Practicable	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 but stems from Defence Regulations in the absence of National Legislation	
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, equipment, facilities, services and/or software as appropriate.	Def Stan 00-56 Issue 5
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 00-56 Issue 5
Theatre	A specific geographical area of conduct of armed conflict, bordered by areas where no combat is taking place.	
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	JSP 815, Defence Health, Safety and

Term	Definition	Source
	Duty Holder, Operating Duty Holder and Delivery Duty Holder.	Environmental Protection.
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

Preface

Authority

1. The MOD has a duty to protect its employees, other personnel and the environment from the effects of its activities. Effective Health, Safety and Environmental Protection (HS&EP) is crucial to force protection and maximising operational capability.

2. Overall responsibility for safety within the MOD rests with the Secretary of State (SofS) for Defence. The overarching SofS Policy Statement (Safety, Health and Environmental Protection in Defence) is laid down in DSA 01.1 – Defence Safety, Health, Environmental Protection. The DSA 01.1 Policy Statement and the DSA Charter¹ authorises the Director General, Defence Safety Authority (DG DSA) to:

- a. Empower suitably qualified and experienced Crown servants to regulate HS&EP activity across Defence where it enjoys disapplication's, exemptions or derogations from statutory requirements, where there is no statutory requirement or where assurance of specific hazardous activities is required;
- b. Provide independent investigation of accidents and be the primary Convening Authority (CA) for safety-related Service Inquires (SIs), and
- c. Be the Defence Authority for HS&EP.

3. The strategic principles set by the SofS policy statement and its ministerial expectations are to be applied by all organisations within the MOD to all Defence activities. SofS for Defence has delegated to the DG DSA the duty of ensuring that effective management arrangements are in place for ensuring compliance with his Policy Statement. DG DSA ensures that the MOD achieves and maintains high standards in safety and environment performance through the Holding to Account (H2A) process. As directed by the SofS, DG DSA has appointed Defence Regulators to develop and maintain a consistent system of policies, standards, Defence regulations and work practices.

4. Due to the specialist nature and inherent hazards associated with the bulk storage of *Fuels (lubricants) and Gas Storage* (F&GS) throughout the MOD Estate, FGSR regulations provide additional requirements with specific procedures, assessments and technical requirements.

¹ Charter for the Defence Safety Authority - http://defenceintranet.diif.r.mil.uk/libraries/0/Docs1/20150325.1/20150325-DSA_Charter.pdf

5. The storage and handling of bulk fuel and industrial gases incurs specific hazardous activities and risks that are subject to both general HS&EP legislation and also specific legislation to control the hazards associated with fuel and gas storage. The hazards associated with fuels and gases include: fire and explosion, toxic and asphyxiant effects of chemicals, the physical hazards of bulk liquids and pressurised gases, and environmental pollution from fuels or controlled gases. These regulations ensure that Defence meets the requirements by assigning standards to specific hazardous activities involving the storage of fuels, lubricants, and gases within the MOD.

6. These regulations apply to all Defence activities within the UK and overseas.

7. These regulations apply to all persons involved in the operation of F&GS facilities whilst conducting Defence activities within the UK and overseas.

Citation

8. These regulations will be referred to as the Fuel and Gas Safety & Environmental Regulations.

Interpretation

9. The Acronyms and Definitions used throughout this document are aligned, wherever possible, with ISO, NATO, Def Stan 00-56 and other MOD publications. Definitions of phrases or words that are specific to DSA 02 FGSR Fuel and Gas Safety and Environmental Regulations and the conduct of fuels and gas storage activity are contained in the Glossary section of this publication. Note that any crosscutting or generic definitions will be in the DSA or Defence Glossary.

Supporting Information - How to use this Defence Safety Regulatory Publication

10. The FGSR is part of the Defence Land Safety Regulator (DLSR) in the Defence Safety Authority (DSA). DSA 02 FGSR Fuel and Gas Safety and Environmental Regulations form part of the DLSR regulatory framework, they are to be used by staff responsible for planning, management, supervision and execution of F&GS activity worldwide, including all members of the Armed Forces, civilian employees and others, including contractors. These regulations do not replace legislative obligations and full reference is to be made to national and international regulation and legislation and where applicable Host Nation requirements. In addition to DSA 02 FGSR Fuel and Gas Safety and Environmental Regulations, other regulatory publications in the DLSR domain include:

a. DLSR Level 2 Documents:

- (1) DSA 02 Adventure Training Safety Regulations.
- (2) DSA 02 Fuel and Gas Safety & Environmental Regulations.
- (3) DSA 02 Land Systems Safety Regulations.
- (4) DSA 02 Movement and Transport Safety Regulations

b. DLSR Level 3 Documents:

(1) DSA 03 FGSR Fuel and Gas Safety and Environmental Regulations Defence Codes of Practice.

(2) DSA 03 Regulatory Manuals

FGSR Management Arrangements

11. The FGSR Management Arrangements provides the framework of mandated regulations, processes and procedures required to ensure safety risks are either broadly acceptable or tolerable and ALARP and environment risks as Best Practicable Environmental Option (BPEO).

12. It comprises the elements of policy, planning, implementation, operation, performance assessment, improvement, and management review to achieve those objectives.

13. FGSR safety and environmental regulations apply to all activities conducted by, or on behalf of the MOD and shall be applied at all stages of the F&GS activity. The regulations and standards assess risk to MOD personnel, third parties, materiel, or the environment and specify how levels of inherent F&GS safety and environmental protection shall be established and demonstrated.

FGSR Antecedents

14. DSA 02 DLFGSR Fuel and Gas Safety & Environmental Regulations replace the “Part 1 - Regulations” from the following JSPs:

a. JSP 309

15. FGSR Safety & Environmental Regulations are organised as follows:

a. DSA 02 Fuel and Gas Safety & Environmental Regulations contain the overarching regulations and requirements that are applicable across the whole spectrum of F&GS activity. In addition, it provides the overarching structure for the FGSR regulatory regime and for regulations associated with the safe conduct of F&GS activity worldwide including the Organisation and Arrangements, Roles and Responsibilities and Environmental requirements for the safe conduct of F&GS activity.

b. DSA 03 FGSR Defence Codes of Practice (DCOP) provides regulatory standards, advice and guidance in support of F&GS regulations (including good practice where appropriate) that will assist the user to comply with the regulations. FGSR DCOPs are designed to clarify legislative requirements, set Defence standards, and identify roles and responsibilities. The DCOPs provide Defence regulatory advice, which if followed, 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, and the requirements and advice of a DCOP may be used as evidence during Enforcement Action (EA).

Responsibilities

16. The regulations contained in this document do not absolve any person from using their best judgement to ensure the safety of personnel, equipment, and the environment. Where authorised individuals issue their own amplifying orders or instructions, they shall be based on regulations and shall not be more permissive.

Coherence with other Defence Authority Policy and Guidance

17. Where applicable, this document contains links to relevant JSPs and DSA regulatory publications, 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

18. The owner of DSA 02 Fuel and Gas Safety & Environmental Regulations is the FGSR. 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-FGSR	FGSR SO1	030 679 83803
DSA-DLSR-FGSR-SO2	Management of FGSR regulatory regime	030 679 83804
DSA-DLSR-FGSR- Compliance	Bulk Fuels safety and environmental compliance	030 679 83802
DSA-DLSR- FGSR- Gas	Storage of Bulk gases, cryogenic liquids, transportable gas cylinders	030 679 83797

Status

19. All hard copies of DSA 02 Fuel and Gas Safety & Environmental Regulations are to be regarded as uncontrolled copies. To check the latest amendment status, reference should be made to the following website:
http://defenceintranet.diif.r.mil.uk/Reference/DINsJSPs/Pages/JSP309_FuelsandGases_Environment.aspx.

Disclaimer

20. Nothing contained in the FGSR suite of publications removes the requirement for personnel to comply with all applicable legislation, other Defence Regulations, Defence Policy or the Secretary of State's HS&EP Policy Statement.

Application

Scope

1. Fuel and Gas Safety & Environmental Regulations mandate the F&GS Safety and Environmental Management Arrangements framework for Defence to meet its legal obligations. They:
 - a. Contain the requirements by which the FGSR ensures that F&GS and arrangements comply with the SofS Policy Statement.
 - b. Specify the Fuel and Gas Safety & Environmental Regulations, Defence Codes of Practice and supporting guidance against which compliance will be assessed.
 - c. Are intended for all personnel engaged in the storage of bulk fuel and gas throughout the MOD estate.
 - d. Outline the means by which Defence and those responsible for F&GS systems and arrangements manage and demonstrate that acceptable levels of inherent risk to people and the environment are being achieved and sustained through-life.
 - e. Describe, for F&GS activity, the acceptable levels of safety risk as either Broadly Acceptable or Tolerable and As Low As Reasonably Practicable (ALARP) and environment risk as Best Practicable Environmental Option (BPEO).
2. Fuel and Gas Safety & Environmental Regulations take precedence over all other Defence documents relating to the safety and environmental management of F&GS activities.

Applicability

3. DSA 02 Fuel and Gas Safety & Environmental Regulations:
 - a. Shall be applied to all F&GS activity (worldwide) conducted by TLBs, TFAs or Defence contractors employing military, MOD civilian or contractors' personnel.
 - b. Identify areas that shall be managed in order that the inherent risks to personnel, third parties, materiel, or the environment are assessed.
 - c. Shall cover the End to End process for F&GS activities which is from the point where fuel / gas is receipted from the delivery vessel into MOD infrastructure for the following facilities:

- (1) Bulk Fuel Installations (BFIs).
 - (2) Motor Transport Fuel Installations (MTFIs).
 - (3) Oil Fuel Depots (OFDs); including Petroleum Storage Depots (PSDs).
 - (4) Bulk Fuel Carry Vehicles (BFCV) parking areas.
 - (5) Bulk Transportable Industrial Gas Cylinder Stores.
 - (6) Bulk Liquid Petroleum Gas (LPG) Storage Installations.
 - (7) Bulk Cryogenic Liquid Storage Installations.
 - (8) Ancillary Storage Tanks (ASTs) such as heating oil and standby generator fuel tanks.
 - (9) Packed Fuel & Lubricant Storage Facilities.
 - (10) Bulk Waste Installation.
 - (11) Joint Operational Fuel Systems (JOFs)
4. DSA 02 Fuel and Gas Safety & Environmental Regulations are not intended to:
- a. Be used for fuel/gas once dispensed from bulk storage into equipment, vehicles, or platforms and used as power generation, work processes, and / or motive power. These should be covered by other JSPs or MARPs appropriate to that domain that would have influenced the Safety Case for that equipment. For example, JSP 454 for Land Systems and JSP 430 for Maritime systems.
 - b. Be used for the technical specifications, design, and construction of bulk fuels and gases infrastructure. These are covered by other JSPs managed by Defence Infrastructure Organisation.
 - c. Be used for the technical specifications of the fuel and gas. These are covered by Defence Standards, British, or International Standards; and are managed by the Defence Strategic Fuel Authority (DSFA).
 - d. Be used for the storage and handling of fuels at sea. This area is governed by the Defence Maritime Regulator (DMR), with liaison and interfaces with FGSR.
 - e. Be used for the storage and handling of fuels in air to air refuelling platforms. This area is governed by the Military Aviation Authority (MAA), with liaison and interfaces with FGSR.
 - f. Be used for fuels and gases that are in-carriage. This area is governed by the Movement and Transport Safety Regulator (MTSR), with liaison and interfaces with FGSR.

- g. Be used as an authority for contracting purposes. Contracting for safety shall be in accordance with Defence Standard 00-56; however, specific Defence Regulations may be included within contracts.

5. The requirements mandated within these regulations are intentionally generic and therefore relevant to the large majority of F&GS activities. However, there are instances within the Defence environment where standard regulatory requirements may not be appropriate. This is particularly relevant to systems reliant on novel technologies and compositions. Where this is the case, those responsible for the system shall justify their reasons for divergence from regulation via the appropriate Safety Panel.

Risk

General

6. Where F&GS activity systems comprise a number of infrastructure systems / equipment's and/or sub-systems that are the responsibility of more than one equipment or process owner², consideration should be given to the appointment of a single DH or individual with overarching responsibility for co-ordinating and resolving pan-equipment or activity related safety issues.

Risk based approach

7. Risk assessment is a careful examination of what can cause harm to people so it may be determined whether sufficient precautions have been implemented or whether more should be done to prevent harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures.

8. Those responsible for the safe conduct of activities will be held to account for any activity not in compliance with Defence regulations. It is accepted that it is impossible to mitigate all hazards encountered during the conduct of military operations and judgements will have to be made in the scenarios examined (related to the military role and capability requirement) and the application of the ALARP principle. Specific criteria from MOD requirements may be waived if, in the judgement of the appropriate DH or Delegated Officer, the operational risks or associated penalties outweigh the safety benefits [the Defence imperative].

Responsibilities

9. The following principal duties are discharged on behalf of the MOD by those with responsibilities for the provision, support, training, use, and conduct of F&GS activity. They are to ensure that:

- a. All suppliers or designers who are involved in the project are competent in their field, and that they fully understand the application of safety systems.

² For example where JOFS are constructed on sites to support existing bulk fuels infrastructure, either as a standalone facility, or when physically connected to an existing BFI.

- b. There is evidence to demonstrate that any risks associated with the safety arrangements are either Broadly Acceptable or Tolerable and ALARP and potential risks to the environment are Best Practical Environmental Option (BPEO).
- c. 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. Levels of support are sufficient so that safety arrangements remain in an acceptably safe condition throughout its service life.
- e. Adequate means are in place to monitor the safety and environmental performance of the safety arrangements to ensure continual improvement.
- f. Activities are managed in accordance with the Safety and Environmental Management Arrangements and the recommendations and controls stipulated in any safety and environmental case(s).
- g. Operation is in accordance with instructions and training in as safe a manner as possible, drawing the attention of those authorities responsible for upkeep and/or operation of any deficiencies or shortfalls in safety performance.
- h. When fuel / fuel waste / equipment is disposed of, the MOD fulfils its duty of care to those agents and authorities acquiring the fuel/ waste / equipment and the environmental implications of waste are captured.
- i. To manage F&GS activity acquisition safety arrangements integrally with other safety and environmental management processes as part of a system of systems.
- j. F&GS inherent safety and environmental protection is managed through all stages of the equipment or system lifecycle, in conjunction with identified DHs.
- k. The roles and responsibilities of authorities and personnel are defined, whether the MOD or acting at the direction of the MOD, involved in the management of F&GS inherent safety.
- l. Evidence of F&GS inherent safety is documented in the Safety and Environmental Case and its validity maintained.
- m. Interfaces with associated authorities and policies are identified.
- n. The DSA 02 Fuel and Gas Safety & Environmental Regulations are implemented and followed.
- o. FGSR safety notices, prior to the issue of formal updates to DSA 02 Fuel and Gas Safety & Environmental Regulations are complied with.

Governance

1. The Defence Regulation of fuel and gas storage within the MOD is governed by a hierarchy of committees:

a. **Defence Safety Committee.** The DSC is chaired by DG DSA and is part of MOD corporate governance structure. It supports PUS in carrying out his duties for ensuring that effective organisational structures and management arrangements are in place for ensuring compliance with the SofS Policy Statement. It provides direction, sets objectives, monitors, reviews and reports on performance. The Head of each Regulator receives a letter of delegation from the DG DSA, personally and in writing, detailing their duties.

b. **DSA Management Groups.** A number of Management Groups meet within the DSA to develop Defence Regulatory policy on behalf of DG DSA and direct and guide the Defence Regulators in their activities.

c. **Defence Land Safety Regulator Stakeholder Committee (DLSR SC).** The DLSR SC is chaired by the DSA Chief Technical Officer (CTO) to provide a consultative forum where stakeholders can consider high-level strategic Land Safety matters. The DLSR SC encompasses MTSR, ATSR, LSSR, ATSR and FGSR. Stakeholders express their views on the regulatory regime, comment on proposed policy changes and are informed about emerging legislation and the outcome of regulatory activities. The members of the DLSR SC are those stakeholders responsible for HSEP within the MOD, 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. The DLSR SC meets twice a year, one meeting is focussed on reviewing the draft HS&EP Annual Assurance Report (AAR), and the second reviews progress towards resolving the issues identified in the AAR

d. **Reporting Committees to the DLSR SC.** Within the fuel and gas domain there are two Working Groups that report to the DLSR SC:

(1) **FGSR SWG.** The FGSR SWG is chaired by the Defence Land Safety Regulator (DLSR TL) and attended by the same organisations represented at the DLSR SC. The FGSR WG is a medium for developing work directed by the DLSR SC, to discuss fuel and gas safety issues with the TLBs and to escalate issues from the TLBs to the DLSR SC.

(2) **DSA 02 Editorial Working Group.** The DSA 02 Editorial WG provides a forum for knowledgeable review and update of policy and guidance contained in DSA 02 on behalf of the FGSR SC.

e. **Land Exemptions Committee (LEC).** The LEC meets to assess requests to invoke legal exemptions from Land Systems (e.g. equipment and platforms) related legislation on behalf of the S of S for Defence. The 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.

2. **Annual Assurance Report (AAR).** The DSA produces an AAR that reviews and measures the HS&EP performance of each TLB for that year. FGSR contribute to a fuel and gas specific element to the DLSR Report, which in turn feeds the DSA AAR. The content of the report is the main agenda item for the DLSR SCs.

Certification of Defence Bulk Fuels Infrastructure

3. **Certificates for Continued Operation.** The principle function of FGSR is to provide regulation and third-party safety assurance of Defence activity in the fuel and gas domain. FGSR carries out the function and role of Local Authorities with regard to the certification of petrol storage facilities against national legislation. FGSR also conducts inspections on Defence bulk fuel facilities worldwide and issues Certificates for Continued Operation (CCO; the 'Licence to Operate').

4. There is an inter-dependency between the award of a CCO and the issue of possible regulatory / enforcement action. Without an in-date CCO, a facility is to cease operations. If any of the conditions of certification lapse then the certificate is invalidated and again the facility is to cease operations. The CCO is valid for 1, 3 or 5 years, depending on the risk of the facility assessed by the FGSR inspector. This is fully explained in Regulation 9. There is no certification scheme for gas facilities but if an inspection identifies breaches of Defence Regulations then enforcement action can be applied.

5. **Fuel and Gas Safety Assurance Assessment.** The Fuel and Gas Safety Assurance Assessment (FGSAA) is an inspection checklist used to assess whether a fuel or gas facility complies with civilian legislation and Defence Regulations. Failure to comply with the Defence Regulations will incur enforcement action, and / or possible restrictions to certification of sites. The FGSAA is also used by units to self-assess their facility in the intervening years between FGSR inspections. The CCO is dependent on compliance with Defence Regulations even during the self-assessment. TLB Duty Holders shall have a CCO to be able to operate a fuel facility within the MOD safety case. Any in-year lapse of a regulatory condition will invalidate the CCO and the DH should stop operating the facility.

6. **Self-assessments.** In the years between FGSR inspections, each unit shall conduct a self-assessment using the FGSAA. Self-assessments must be completed by suitably qualified and experienced personnel (SQEP) embedded within the unit and within the Duty Holder construct. Any breaches of Defence Regulations identified by a self-assessment can invalidate the CCO, the facility should be expected to close and FGSR may apply enforcement action. TLBs provide second-party assurance, primarily through their Chief Environment and Safety Officer organisations, augmented by the Command's logistic fuel specialists in Army and Air command. First-party HS&EP assurance is provided by the units themselves.

The Regulated Defence Community

7. The SofS's Policy Statement reiterates the legal requirement that TLBHs/CEs, Line Managers, Commanding Officers and Heads of Establishment, Duty Holders and anyone else with responsibilities for managing Defence activities comply with UK legislation in managing HS&EP risk. Further details on these requirements are provided in DSA 01.1 and DSA 01.2. Some personnel have additional specific responsibility for the management of health safety and environmental protection risks 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. In addition the 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 these 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).

8. In the MOD, some personnel are also appointed 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 necessary separation and a degree of beneficial tension between safety and delivery. DSA 01.1 defines the levels of DH.

9. **Accountable Person.** The Accountable Person (AP) is an individual who will be named in person for any Enforcement action awarded and who is to be held accountable to the Regulator for reducing the risk of harm and, where applicable, complying with Defence Regulations. The AP will be the person accountable for carrying out any improvements required to comply with Defence Regulations. The AP will be the most appropriate person from an Operational, Duty Holding or Duty Holder-facing organisation. This will typically be the nominated DDH or ODH, but can be a 3rd party dependent on contractual/unit/theatre arrangements.

(Note: the term "Accountable Person (AP)" is not to be confused with the term "Authorised Person" which is a specific role within an MMO)

Regulations

Legislative Foundation

1. The Defence regulations are developed utilising principles installed in European and UK legislation. This provides FGSR with a reputable framework in which to underpin specific regulations that ensures MOD protects its personnel and the environment. The advantage of establishing defence regulations on existing legislative principles is the easy recognition across the MOD, industry partners, Health & Safety Executive (HSE), Environment Agency (EA) and Other Government Departments (OGD).

Legal Requirement

2. The MOD has legal and moral responsibilities to its employees and to other people who could be affected by its activities, with the SofS for Defence having overall responsibility for Health, Safety, Environmental Protection and Sustainable Development in the MOD. As such, the MOD shall comply with all applicable legislation and statutory provisions, covering safety as well as those that apply to environmental protection and sustainable development.

3. DSA 01.1 Defence Policy for Health, Safety and Environmental Protection, requires that Top Level Budgets (TLB), Trading Fund Agencies (TFA), Chief Executives (CE), Commanding Officers (CO) and Heads of Establishment (HoE), Duty Holders (DH) and anyone else with responsibilities for managing Defence activities comply with UK legislation in managing HS&EP risk.

4. The SofS policy statement requires that where there are disapplication's, exemptions, or derogations from either domestic or international law, MOD shall maintain Departmental arrangements that produce outcomes that are, as far as is reasonably practicable, at least as good as those required by legislation. To comply with SofS policy, the MOD requires evidence within any Safety and Environmental Case, that the management and technical standards adopted, are consistent with best civil and international good practice as a minimum. To achieve maximum harmonization it is current MOD policy to utilize civil standards where appropriate and an agreed order of precedence is as follows.

- a. International standards.
- b. European standards.
- c. UK civil standards.
- d. Commercial standards widely recognised by industry.

- e. International Military Alliance standards
- f. UK MOD Defence Standards.
- g. UK MOD Departmental standards and specifications.
- h. Other Nations military standards.
- i. Recognised industry/partnership/consortium standards.

Military Law and Civil Service Code of Conduct

5. Armed forces personnel are additionally subject to Military Law and may be prosecuted if it is alleged that they have committed a disciplinary offence. If it is alleged that gross negligence or the failure of a Commanding Officer or Manager to address or refer HS&EP issues within his Area of Responsibility (AoR) has occurred, disciplinary action may be taken under the Armed Forces Act or Civil Service Code of Conduct.

DSA 02 Fuel and Gas Safety & Environmental Regulations

6. DSA 02 Fuel and Gas Safety & Environmental Regulations does not seek to duplicate national legislation. It seeks to establish the Regulatory framework and define standards on behalf of the S of S that the MOD is complying with legislation on F&GS activities as far as is reasonably practical. The Fuel and Gas Safety & Environmental Regulations establish the basis for FGSR to regulate and inspect F&GS facilities.

7. F&GS activity covers a wide and varied range of functional disciplines that often require pan-department cooperation, with tasks routinely involving military activity interfacing directly with Management Maintenance Organisations (MMOs) or other Contractors supporting either / or military operations or DIO infrastructure maintenance support. The requirements in SofS policy statement are applied in the MOD through the application of the FGSR regulations. The FGSR regulatory regime focuses on those areas where:

- a. There is an absence of statutory requirement.
- b. DG DSA has authorised through the Charter to empower FGSR to regulate fuels and gases HS&EP activity across Defence where a Regulatory standard is required for specific hazardous activities, even though statutory requirements exist.
- c. F&GS activities are undertaken overseas. In these circumstances, Defence FGSR regulations and arrangements will apply as a minimum, taking into account Host Nation requirements.
- d. The law does not apply to the MOD, i.e. where it has a Disapplication, Exemption or Derogation (DEDs) from statute. In which case, FGSR shall maintain Departmental arrangements that produce outcomes that are, so far as reasonably practicable, at least as good as those required by UK legislation.

Compliance

8. Compliance with the requirements of DSA 02 Fuel and Gas Safety & Environmental Regulations is mandated by SofS and will bring about through-life savings by consideration of hazards, reducing the frequency of incidents (including accidents and near misses) and mitigating their consequences. In turn, sound safety management principles help to generate increased confidence in F&GS activity, resulting in improved morale and operational capability. Importantly, in the event of an incident, assurance authorities will be looking for evidence, which demonstrates that those in a position of responsibility have fulfilled their safety obligations via compliance with relevant regulations and standards. The audit trail that the FGSR regulatory processes generate will provide evidence of good practice in the management of F&GS safety.

Failure to Comply with Legislation

9. Most Defence activities in the UK are subject fully to relevant HS&EP legislation and are regulated by a statutory regulator. Failure to comply with statutory requirements may result in enforcement action, usually through Criminal Proceedings, Public Censure, Civil Proceedings or Enforcement Notices. In any event, MOD employees could face disciplinary action if they have been reckless or negligent, or have failed to carry out the duties imposed upon them. Further information can be found in DSA 01.1 Defence Policy for Health, Safety and Environmental Protection and supporting documentation. FGSR is to be informed immediately of any Enforcement Notice issued by an external regulator in relation to F&GS activities.

FGSR Enforcement Action

10. The overarching purpose of an enforcing body is to ensure that risks are managed and controlled effectively. Full details of the DSA Enforcement Model is contained in DSA 01.1 Defence Policy for Health, Safety and Environmental Protection and supporting documentation. In summary, the main purpose of enforcement is to ensure that those responsible:

- a. Take appropriate action to deal immediately with serious risks.
- b. Achieve sustained compliance with Defence regulations.
- c. Are held to account for failing in their HS&EP duties.

11. FGSR enforcement action will follow the DSA Enforcement Policy. Regulatory action can range from advice and guidance, through to requiring corrective action, and ultimately the Regulator can demand the Duty Holder stop an activity.

12. Failure to comply with any F&GS safety regulation may result in FGSR enforcement action and possible withdrawal of CCO if applicable. In line with the DSA Enforcement Model, FGSR has a number of enforcement action measures available, dependent upon the level of risk identified. It is important to note that although these measures can be applied incrementally, a higher level of enforcement notice can be served immediately where appropriate. In summary the enforcement action available to FGSR comprises:

- a. **FGSR Advice and Guidance/Advisory letter.** Where the evidence does not indicate that there are non-compliances with Defence Regulations, but improvements could be made, FGSR may provide advice and/or guidance in the form of observations or recommendations for change.
- b. **Corrective Action Requirement (CAR).** Where FGSR has evidence of indirect non-compliance with Defence Regulations, it would be normal in the first instance for CARs to be issued. CARs give the Accountable Person the opportunity to take short-term corrective action, usually within a period of months. There are two levels of CAR, the higher [Level 1] being used where the risk associated with the non-compliance is more significant.
- c. **FGSR Immediate Stop Notice (ISN).** An FGSR Inspector may serve an ISN where, in the opinion of the Inspector, there is an immediate requirement to stop an unsafe activity, or there is a risk associated with unsafe infrastructure that will lead to imminent personal injury, damage or environmental harm.
- d. **FGSR Improvement Notice.** FGSR may serve an Improvement Notice (IN) if he is of the opinion that there is a direct non-compliance with one or more Defence Regulations and/or the response to a CAR or ISN is unsatisfactory. There are 2 levels of IN, differentiated by the level of risk associated with the non-compliance(s) and therefore the speed with which FGSR feels corrective action should be taken:
 - (1) **FGSR Urgent Improvement Notice (UIN).** 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.
 - (2) **FGSR Improvement Notice (IN).** 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.
- e. **DLSR Prohibit Notice (PN).** Should FGSR feel that the risk associated with a given activity is not ALARP and tolerable, the issue will be raised to the DLSR to consider the serving of a DLSR PN on the Accountable Person. 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.

Direct / Indirect Non-Compliance

13. Failure to comply with Defence Regulations can occur directly, or indirectly.
14. A direct non-compliance is one where the activity is directly contrary to the subject Defence Regulation. An indirect non-compliance is one where the activity is incidentally contrary to the subject Defence Regulation.
 - a. An example of a direct non-compliance of a Defence Regulation would be a unit not having a process risk assessment. (Direct non-compliance of Defence Regulation 3).

b. An example of an indirect non-compliance of a Defence Regulation would be a unit using an out of date MoD Form 5010 (Risk Assessment Form) for a process risk assessment. (Indirect non-compliance of Defence Regulation 3).

15. Bulk fuel storage facilities. A direct non-compliance of any Defence Regulation shall result in a limitation / restriction / withdrawal of the CCO, as well as subsequent enforcement action being raised for the subject activity.

16. An indirect non-compliance of any Defence Regulation shall result in minor enforcement action being raised for the subject activity. However, an accumulation of indirect non-compliances throughout the FGSA, or indirect non-compliances identified in a particular area (e.g. environment) will result in a limitation / restriction / withdrawal of the CCO, as well as an elevation in subsequent enforcement action.

17. Gas / bulk gas /cryogenic storage facilities. Direct / indirect non-compliance of any Defence Regulation shall result in subsequent enforcement action being raised for the subject activity

Operational Imperative

18. Where the Regulator has issued a PN or ISN, it may not be appropriate for the activity to cease due to the Defence imperative, in which case the following shall be considered:

a. An Operational Commander³ may decide to continue with operational activity where he/she judges that the operational benefits gained from a specific operational act outweigh the high residual risk that has been mitigated to ALARP. In arriving at such a decision, where time and security constraints permit, the assessment of the risk, its mitigation and justification of the benefits should be made in consultation with the Force Generator and discussion with the relevant Regulator.

b. It might also be appropriate for the Force Generator, when preparing force elements for a specific operation, to make such a judgement. This judgement should be made in discussion with the Regulator and future Operational Commander to ascertain that the output of the force preparation activity is essential to the operational capability required for that specific operation and consider alternative means of delivering that operational capability.

19. In both cases, the decision to continue the activity should be taken at least one command/management level above that upon which the PN/ISN has been served. The person taking the decision should personally assess, accept and document the risk being taken.

Dynamic Enforcement

20. The divergent and challenging nature of defence activities means that FGSR may adopt a “dynamic” approach to enforcement, particularly during inspection activity

³ As authorised in a CDS Operational Directive.

where enforcement action, both verbal and in writing, may be issued and lifted in relatively short time frames.

Appeals

21. There may be occasions where the AP does not agree with enforcement action being taken by FGSR, either on the basis of the evidence used or the process followed. In such cases, informal engagement between the AP and the FGSR should be used in the first instance, preferably before the enforcement notice is served. If disagreement remains:

- a. The AP should raise a formal appeal in writing with the Regulator, usually within 14 days of the enforcement notice being served. The FGSR will investigate the appeal and respond to the AP within 30 days of the appeal being received⁴.
- b. If the AP is not satisfied, they may escalate the appeal up their command/management chain to appeal to the DLSR TL. In such cases, the appeal should be raised in writing within 30 days of the response to the original appeal being received by the AP. DLSR TL should investigate the appeal and respond within 30 days of the appeal being received.
- c. In the case of an appeal against a FGSR Stop Notice or a PN, the requirement to cease activity remains extant while the appeal is being considered, unless an operational; imperative exists.

22. There may also be circumstances where FGSR does not feel that the operational imperative is being used appropriately to enable activity to continue while subject to a FGSR Stop Notice or DLSR PN. Informal engagement between the Regulator and Operational Commander/Force Generator should be used in the first instance. However, if the FGSR remains concerned, the matter will be escalated to DLSR TL for engagement at a higher level in the Operational Commander/Force Generator's command/management chain.

Regulator Escalation Process

23. FGSR will conduct regular reviews of extant enforcement action to ensure that they remain appropriate to the current risk and adequate progress is being made against the agreed corrective action plans. A formal review on long-standing enforcement action will be conducted annually. If, in the opinion of FGSR, there is no/insufficient progress made by the AP to address the enforcement action, the FGSR may:

- a. Where the level of risk has changed FGSR may escalate the level of enforcement (e.g. from UIN to PN).
- b. Where unsatisfactory progress has been made by the AP, FGSR may elevate the issue to DLSR TL to engage with the AP command/management

⁴ 30 Days is the maximum response time, and it is likely that appeals will be answered prior to the 30 day limit.

chain to seek assurance that the appropriate corrective actions will be taken in an acceptable timeframe.

24. If following engagement with the AP, failure to resolve enforcement action has not increased the risk of harm then the FGSR will elevate and not escalate the level of enforcement.

Measuring Performance

25. Performance measurement is an essential ingredient of any continuous improvement programme. The effectiveness of F&GS activities shall be measured continually through active and reactive monitoring methods. TLB and TFA should ensure that arrangements are in place to measure performance as required by DSA 02 Fuel and Gas Safety & Environmental Regulations and as a minimum cover:

- a. Planning.
- b. Compliance with legislation and Defence regulations.
- c. Employment of Suitably Qualified and Experienced Personnel (SQEP).
- d. Management and Supervision of F&GS activities.
- e. Management of Risk.
- f. Incident Management and Learning Accounts.

Audit and Inspection

26. Auditing, inspection and performance review are the final steps in the safety management control cycle. They constitute the feedback that enables an organisation to reinforce, maintain and develop its ability to reduce risks to Broadly Acceptable, or Tolerable and ALARP, and to ensure the continued effectiveness of any safety arrangements. Auditing and reviewing performance can be defined as:

- a. Auditing and Inspecting is the structured process of collecting independent information on the efficiency, effectiveness and reliability of all F&GS safety arrangements and drawing up plans for corrective action.
- b. Reviewing performance is the process of making judgements about the adequacy of performance and taking decisions about the nature and timing of the actions necessary to remedy deficiencies.

27. FGSR internal and external assurance and compliance requirements are:

- a. **Internal Assurance (Level 1 and Level 2).** The TLB conducting or enabling F&GS activities, shall undertake compliance reviews throughout their organisation to provide assurance that F&GS processes, procedures and facilities are maintained in accordance with legislation and Defence regulations, policies and standards, as follows:

- (1) Level 1. Compliance assessments undertaken by the unit/establishment conducting F&GS activity.

(2) Level 2. Audit and Inspection undertaken by the TLB of unit/establishment conducting F&GS activity.

b. **External Regulation (Level 3).** FGSR will undertake independent inspection of F&GS activities throughout the MOD estate to assess levels of compliance with applicable legislation, DSA 02 Fuel and Gas Safety & Environmental Regulations, and standards. FGSR reports, in conjunction with assurance reporting from TLB will inform SofS as to the levels of compliance with current legislation, F&GS regulations and departmental policy.

Investigation

28. The Management of Health and Safety at Work Regulations 1999, Regulation 5, requires employers to plan, organise, control, monitor and review their health and safety arrangements. Safety investigations form an essential part of this process. A Commanding Officer or Manager is to conduct an appropriate investigation into an HS&EP incident or accident occurring during a F&GS activity in his Area of Responsibility (AOR).

29. In cases where an incident is considered significant, the DSA Defence Accident Investigation Branch (DAIB) conducts independent safety investigation to determine causal factors and make targeted recommendations to improve safety. For incidents in the F&GS domain, FGSR will provide SME support to the DAIB as required.

30. For those incidents outside of the remit of the DAIB, the FGSR will use discretion in deciding whether incidents or complaints should be investigated. To maintain a proportionate response, most resources available for investigation of incidents will be devoted to the more serious circumstances. FGSR recognises that it is neither possible nor necessary to investigate all issues of non-compliance that are uncovered in the course of preventive inspection, or in the investigation of reported events.

Assurance Reporting

31. Evidence gathered from TLB/TFA reviews / audits and inspections will be used to support the departmental performance management process, as required by DSA 01.1 Defence Policy for Health, Safety and Environmental Protection. The evidence will be presented in a common format and include commentary by FGSR.

32. FGSR will provide input into the DLSR Annual Assurance Report (AAR), drawing out issues that may need common action by DH, Duty Holder-Facing organisations or TLB Functional Leads. The FGSR AAR provided to DLSR TL will include details of any enforcement action taken and summarise regulatory activity. The FGSR AAR will be consolidated into a single DLSR report and will be tabled at the DLSR Stakeholder Committee meeting prior to submission.

FGSR Regulations

33. In order to manage F&GS safety arrangements integrally with other safety and environmental management processes as part of a system of systems, due consideration shall be given to the regulatory requirements of other Defence Regulators.

34. There are four key definitions that apply to the implementation of the Defence Regulations:

- a. **Must.** Describes an activity that is mandatory and descends directly from National Legislation.
- b. **Shall.** Describes an activity that is mandatory but stems from Defence Regulations in the absence of National Legislation
- c. **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.
- d. **Could.** Describes an activity that is considered to be good practice but recognises that there are other methods available to the practitioner that provide an equally safe outcome.

35. DSA 02 Fuel and Gas Safety & Environmental Regulations are to be read in conjunction with the Advice and Guidance contained in DSA 03 F&GS Defence Codes of Practice (DCOP) and DSA 03 Operating Manuals. These give practical advice regarding compliance on how to achieve the standards required for F&GS activities and have a special regulatory status. If someone is found to be in breach of the Defence regulations and did not follow the relevant provisions of a DCOP, then the onus is on them to demonstrate that they complied with the regulations in some other way.

36. The 10 Defence Regulations for F&GS activities all are mandatory and are detailed in table 1.

Table 1: F&GS Safety Regulations 1-10

Regulation	Heading	Definition
Regulation 1	Safety Management Systems (SMS)	Those operating on Fuel & Gas Storage (F&GS) facilities shall implement a suitable and sufficient Safety Management System to manage the fuel and gas safety risks.
Regulation 2	Environmental Management Systems (EMS)	Those operating on Fuel & Gas Storage (F&GS) facilities shall implement a suitable and sufficient Environmental Management System to manage the fuel and gas environmental risks.
Regulation 3	Risk Assessment	Those operating on Fuel & Gas Storage (F&GS) facilities must complete suitable and sufficient Risk Assessments for all processes and activities involving gases, fuel and lubricants, which shall be reviewed on a regular basis. Where a risk assessment identifies a requirement, the finding shall be acted upon.
Regulation 4	Emergency Arrangements	Those operating on Fuel & Gas Storage (F&GS) facilities must produce suitable and sufficient Unit Emergency Arrangements.
Regulation 5	DSEAR	<p>Those operating on Fuel & Gas Storage (F&GS) facilities must complete a suitable and sufficient Risk Assessment that complies with the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).</p> <p>If the findings of the risk assessment identify sufficient risk then a plan that identifies the hazardous area is to be implemented. The plan must also demonstrate that all electrical and mechanical machinery and portable equipment used in hazardous areas is identified as fit for purpose for the respective zones, is correctly maintained and is asset tracked in accordance with DSEAR</p>
Regulation 6	Roles and Responsibilities	Those operating on Fuel & Gas Storage (F&GS) facilities shall appoint appropriate persons to manage and facilitate on behalf of the Head of Establishment. All staff with responsibilities shall have their roles and responsibilities formally arranged so that they are clear and understood by both the person and the staff who interact with them.
Regulation 7	Training and Competence	Those operating on Fuel & Gas Storage (F&GS) facilities must only allow personnel who are suitably trained, qualified, experienced, and competent to operate the facility; This

		requirement must be formally managed and documented to ensure compliance.
Regulation 8	Infrastructure	Those operating on Fuel & Gas Storage (F&GS) facilities must ensure the infrastructure facilities are sited, designed, constructed, operated and decommissioned in a manner that is safe, environmentally sound, and fit for purpose. This fitness for purpose must be actively maintained throughout the life of the facility.
Regulation 9	Maintenance & Inspection	<p>Those operating on Fuel & Gas Storage (F&GS) facilities must ensure that the infrastructure facilities are properly maintained, inspected and, where necessary, provided with certificates to guarantee that they are fit for continued use, or taken out of service (decommissioned). This shall include an in-date FGSR CCO where applicable.</p> <p>Where fitness for continued use is not possible, those operating Defence fuel and industrial gas facilities must ensure that the facilities are made safe until such time as they are repaired or taken out of service.</p>
Regulation 10	Operation	Those operating on Fuel & Gas Storage (F&GS) facilities must ensure that they are in possession of appropriate, current, and concise procedures that detail normal, abnormal, and emergency activities.