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Ministry
of Defence

JSP 309
Fuel and Industrial Gas Health, Safety and
Environmental Protection

Part 1: Directive

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Foreword

The Secretary of State for Defence (SofS) through his 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 & Environment 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 domain 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 these regulations. Units should destroy previous editions of this publication.

R.F. Garwood

Air Marshal R.F. Garwood CB CBE DFC MA RAF
Director General Defence Safety Authority
Defence Authority for Health Safety and Environmental Protection

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Preface

How to use this JSP

1. JSP 309 sets out Defence Regulations and supporting codes of practice for the safety assurance for the storage of fuels, lubricants and gases within the MOD. It is designed to be used by staff responsible for managing the storage of fuels, lubricants and gases on MOD sites. This JSP contains the regulations, policy and direction on the safety assurance process and guidance on the processes involved and best practice to apply when managing safety and environmental protection in the MOD fuel and gas domain. 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.
 - b. Part 2 - Guidance, which provides the guidance and best practice that will assist the user to comply with the Defence Regulations detailed in Part 1.

| Related JSPs | Title |
|--------------|---|
| JSP 815 | Defence Health, Safety and Environmental Protection |
| JSP 418 | Management of Environmental Protection in Defence |
| JSP 317 | Joint Services Safety Policy for the Storage and Handling of Fuels and Lubricants |
| JSP 319 | Joint Services Safety Policy for the Storage and Handling of Gases |

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 MOD Fuel and Gas Safety Regulator (FGSR) which is part of the Defence Land Systems Safety Regulator (DLSR) in the Defence Safety and Authority (DSA). 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:

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|-----------------------------|----------------------|---------------|
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Contents

| | |
|--|----|
| Glossary: Acronyms | iv |
| Glossary: Definitions | vi |
| 1 Introduction | 1 |
| 2 Organisation and Arrangements | 3 |
| 3 Safety and Environmental Law | 8 |
| 4 Defence Regulations | 10 |

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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 |
| 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 |
| 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 |
| EPA | Environmental Protection Act |
| 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 |
| 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 |

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| | |
|--------|---|
| 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 |
| 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 |
| UK | United Kingdom |
| ULGAS | Unleaded Gasoline |
| UN | United Nations |
| WG | Working Group |

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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. | |
| 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 |
| 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 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. | JSP 815, Defence health, Safety and Environmental Protection. Adapted from 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. | |

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| Term | Definition | Source |
|-----------------------------------|---|--|
| 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. | |
| 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). | |

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| Term | Definition | Source |
|--|---|-------------------------------------|
| 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 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. | |
| 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 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 00-56 Issue 5 |
| 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 |

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| Term | Definition | Source |
|---|--|---|
| 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 Duty Holder, Operating Duty Holder and Delivery Duty Holder. | JSP 815, Defence Health, Safety and 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 |

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1 Introduction

Overview

1. The MOD has a duty to protect its employees, those who may be affected by MOD activities, and the environment. Effective Health Safety and Environmental Protection (HS&EP) is crucial to force protection and operational capability. The Secretary of State for Defence (S of S) states the overarching MOD policy on S&EP in Joint Service Publication (JSP) 815: Safety, Health Environmental Protection and Sustainable Development in the Ministry of Defence.
2. The storage and handling of fuel and industrial gases incurs hazards 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.
3. The purpose of JSP309 is to define the role, responsibility and authority of the Defence Fuel and Gas Safety Regulator (FGSR) within the Defence Safety Authority to regulate the storage and handling of fuel and gases within the MOD. FGSR is to provide assurance to S of S that the MOD is operating as safely as reasonable practical, and is complying as far as is reasonably practicable with national legislation.

Applicability

4. JSP 309 applies to all those engaged in storage and handling of bulk fuels and industrial gases within the MOD. Most MOD personnel will be divided into one of two organizations: the Operating Authority, those who operate the facility where fuel or gas is stored; and the Maintenance Management Organisation, those who maintain the infrastructure and equipment. Both organizations are governed by the Duty Holder construct outlined in JSP 815 which identifies the responsibilities for the personnel conducting the activity. There is no specified 'Fuel Duty Holder' within the MOD. The application of Defence Regulations, including JSP 309, to Defence activities contracted out to a third party provider must be addressed within the contract, in particular the Public Private Partnership (PPP) and Private Finance Initiative (PFI) contracts that operate and maintain MOD estate where fuel facilities are operated.

Scope

5. The Defence Regulations stated in JSP 309 cover the End to End process for the storage and handling of fuel and industrial gases within the MOD for the following facilities:
 - a. Bulk Fuel Installations (BFIs).
 - b. Motor Transport Fuel Installations (MTFIs).
 - c. Oil Fuel Depots (OFDs); including Petroleum Storage Depots (PSDs).
 - d. Bulk Fuel Carry Vehicles (BFCV) parking areas.

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- e. Bulk Transportable Gas Cylinder Stores.
- f. Bulk Liquid Petroleum Gas (LPG) Storage Installations.
- g. Bulk Cryogenic Liquid Storage Installations.
- h. Ancillary Storage Tanks (ASTs) such as heating oil and standby generator fuel tanks.

Exclusions

- 6. JSP 309 is not intended to apply to:
 - a. The use of fuel/gas once dispensed from bulk storage into equipment, vehicles or platforms. 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. 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).
 - c. The storage and handling of fuels at sea. This area is governed by the Defence Maritime Regulator (DMR), with liaison and interfaces with FGSR.
 - d. 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.
 - e. 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.

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2 Organisation and Arrangements

Organisation

7. Figure 1 illustrates the organizations both within and outside the MOD that influence the safe storage and handling of fuels and gases within the MOD. A linear organizational chart would mask the complexity of these organizational arrangements and influences. The key point to note is the delegated authority of FGSR within the Defence Safety Authority, and the relationship with the Regulated Community.

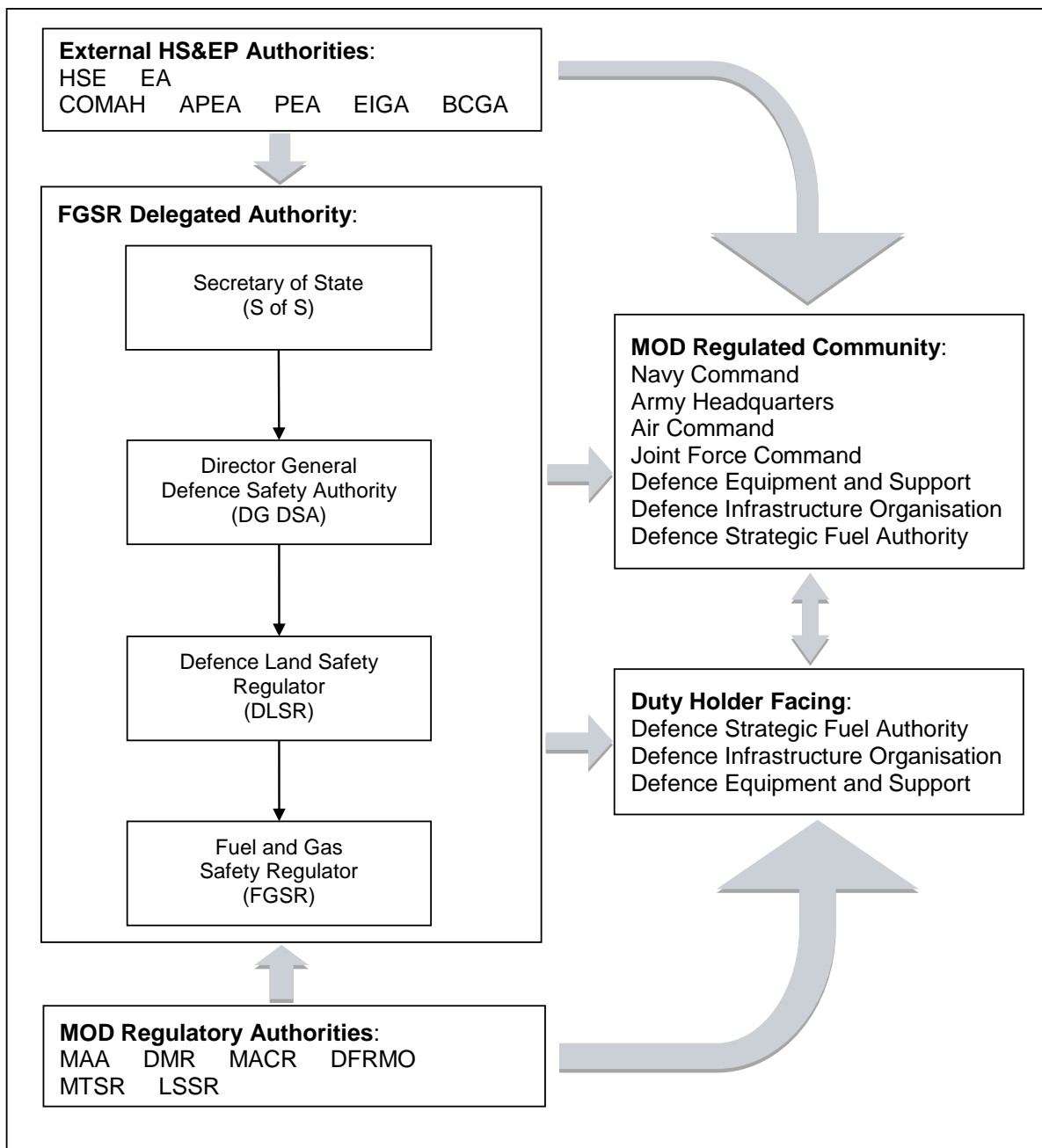


Figure 1: Defence Fuel and Gas Regulation within the MOD

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Roles and Responsibilities

8. **Secretary of State.** The S of S has responsibility for, and is answerable to Parliament, on matters of Safety and Environmental Protection within the MOD.

9 **Director General Defence Safety Authority.** Director General Defence Safety Authority (DG DSA) is personally appointed by PUS to carry out his duties for health safety and environmental protection in all Domains. DG DSA's primary role is to provide regulation and independent evidence-based assurance that TLBs and Trading Fund Agencies (TFAs) are operating effective and joined-up health safety and environmental protection management systems.

10. **Defence Land Safety Regulator.** The Defence Land Safety Regulator (DLSR) is delegated by DG DSA to provide regulation and independent assurance within the Land Domain, specifically: Land Systems, Fuel and Gases and Movement and Transport. DLSR also appoints suitably qualified and experienced Crown Servants to regulate health safety and environmental protection within each of the three sub-domains.

11. **Fuel and Gas Safety Regulator.** The Fuel and Gas Safety Regulator (FGSR) is appointed to provide independent regulation of health safety and environmental protection across all Defence activities, regarding fuel and gas storage, in the Land Domain. FGSR also provides assurance that effective HS&EP Management Systems are in place. Failure to comply with these Regulations, can lead to enforcement action being undertaken. FGSR liaises with other DLSR Regulators and the 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 within the various TLBs to ensure coherence in areas of joint interest. When appropriate, other Government Departments and statutory regulators (e.g. Health and Safety Executive (HSE) and the Environment Agency (EA)) are consulted. FGSR provides secretariat support to the FGSR SWG, supports inputs to its committee structure and maintains this publication.

12. **The Regulated Community.** All personnel have responsibilities for health safety and environmental protection. 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). 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. JSP 815 defines the three levels of DH as follows:

a. **Senior Duty Holder (SDH).** The S of S Policy Statement identifies the TLB Holder or TFA Chief Executive as the Senior Duty Holder (SDH) for activities in their AoR.

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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;

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 competent. A DDH owns the safety case for their defence activity if this is not owned by their ODH, being personally satisfied that risk has been reduced to an acceptable level.

13. **Accountable Person.** The Accountable Person (AP) is an individual 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.

Governance

14. 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 Safety matters. The DLSR SC encompasses MTSR, LSSR 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

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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) **JSP 309 Editorial Working Group.** The JSP 309 Editorial WG provides a forum for knowledgeable review and update of policy and guidance contained in JSP 309 on behalf of the FGSR SC.

e. **Land Exemptions Committee (LEC).** The LEC meets to assess requests to invoke legal exemptions from certain equipment 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.

Documentation

15. **JSP Hierarchy.** The DSA produces JSPs on Health, Safety and Environmental Protection (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 JSP which contains the S of S 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 Regulations owned by MOD Regulators, e.g. JSP 309. 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 and Defence Codes of Practice provide practical advice on how to comply with the Defence Regulations laid out in Level 2. In the Fuel and Gas Domain, Level 3 JSPs have been devolved to the user community, for example JSP 317 and JSP 319 have been devolved to the Defence Strategic Fuel Authority.

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. Level 4 documents may be in the form of Defence Standards or technical support publications.

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16. **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 of that Report. The content of the report is the main agenda item for the DLSR SCs.

17. **Certificates for Continued Operation.** The principle function of FGSR is to provide third-party safety assurance of Defence activity in the fuel and gas domain. FGSR replicates UK national legislation that requires fuel storage facilities to be certificated by a local Authority. FGSR conducts inspections of fuel facilities and issues **Certificates for Continued Operation** (CCO; the 'Licence to Operate'). Without an in-date CCO, a DH should not allow a facility to operate. If any of the conditions of certification lapse then the certificate is invalidated and the DH should stop operating the facility. The CCO is valid for 1, 3 or 5 years, depending on the risk of the facility assessed by the FGSR inspector. There is no certification scheme for gas facilities but if an inspection identifies breaches of Defence Regulations then enforcement action can be applied.

18. **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 MOD Regulations. The Defence Regulations contained in this JSP are conditions of certification in the FGSAA that will allow a CCO to be issued. Failure to comply with the Defence Regulations will normally incur enforcement action. 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.

19. **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.

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3 Safety and Environment Law

UK Legislation

20. **The Health & Safety at Work etc. Act.** All sections of the Health and Safety at Work etc. Act 1974 (HASAWA) must apply to MOD, including the Armed Forces, unless stipulated otherwise either in the Act itself or through an application for exemption through the LEC. The MOD discharges its duty under this Act through the S of S Policy Statement. The HASAWA is a framework Act that enables the legislation of a number of health and safety regulations that pertain to fuel and gas storage including but not exhaustively:

a. **Management of Health and Safety at Work Regulations.** These provide detailed regulations that mirror and expand on the HASAWA, with a particular focus on managing H&S in the workplace environment. These Regulations apply to the management of fuel and gas hazards.

b. **Petroleum Consolidation Regulations.** The 2014 Regulations evolve from the Petroleum Consolidation Act of 1928 which recognised the hazardous flammable properties of petroleum and sought to control aspects of its storage. These Regulations impose the requirement to license the storage of petrol (ULGAS and AVGAS), the primary function undertaken by FGSR.

c. **Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).** DSEAR was introduced in 2002 following a number of catastrophic industrial accidents involving the release of a flammable product into the atmosphere that was then ignited by an unexpected source of ignition. DSEAR imposes the requirement to conduct an appropriate risk assessment that then identifies potential hazardous areas and mitigates the risk of ignition sources. DSEAR clearly applies to fuel and flammable gas storage but also to other substances and activities within the MOD.

d. **Pressurised Systems Safety Regulations (PSSR).** PSSR is one example of health and safety Regulations that relate specifically to the storage and handling of industrial gases.

21. **Environmental Protection Act.** 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. The EPA is also a Framework Act that has enabled further legislative regulations and guidance including:

a. **Oil Storage Regulations.** These Regulations control the manufacture of oil storage tanks and the use of fittings, instrumentation and safety features.

b. **Prevention of Pollution Guidelines (PPG).** The PPGs are a series of documents, some such as PPG3 relate specifically to fuel interceptor design and maintenance, a prevalent issue within the MOD complicated by third party contractual responsibilities. The status of PPGs has been reduced; some have been withdrawn in England but not universally across the UK. PPGs generally reinforce

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British, European and/or International Standards that are normally followed by the MOD.

22. **The Environment Act.** 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.

Failure to Comply

23. **Notices and Censures.** The MOD has a Memorandum of Understanding (MOU) with the HSE and EA. The MOU recognises the primacy of HSE and EA who, in turn, recognise MOD enforcement models and inquirey/investigative functions such as the Service Inquirey. The HSE and EA can use Crown Improvement Notices or Crown Prohibition Notices where they are considered necessary following an inspection of MOD premises (including processes, practices and controls). Failure to comply with the requirements of a Crown Notice can lead to a Crown Censure. A Crown Censure will only be applied where a private company would be prosecuted had they committed the same offence. JSP 815 provides full details of the official agreements between MOD and the HSE; JSP 418 provides full details of the EA enforcement and prosecution policy.

24. **Criminal Proceedings.** Under Section 48(2) and (3) of the HASAWA, 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 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.

25. **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.

26. **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.

27. **Application to Training Activities.** 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.

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4 Defence Regulations

28. JSP 309 does not seek to duplicate national legislation. It seeks to establish the Regulatory framework that provides assurance to S of S that the MOD is complying with legislation as far as is reasonably practical. The Defence Regulations set out in JSP 309 establish the basis for FGSR to inspect and licence MOD fuel and industrial gas storage facilities; and conduct other Regulatory functions as shown in Figure 2.

29. These Defence Regulations are to be read in conjunction with the Defence Codes of Practice (DCoPs) contained in JSP 309 Part 2, Defence Codes of Practice.

30. 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.

31. Failure to comply with any regulation set out in this JSP may result in regulator enforcement action. 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.

32. There are 12 Defence Regulations for fuel and gas storage and handling in the MOD; all are mandatory. The Regulations below are presented under the headings of the 11 Elements of HS&EP Management Arrangements.

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| Risk Assessments and Safety Cases | |
| Regulation 1 | Those operating Defence fuel and industrial gas facilities must complete a suitable and sufficient Risk Assessment for all processes and activities involving gases, fuel and lubricants, which shall be reviewed on an annual basis. |
| Regulation 2 | Those operating Defence fuel and industrial gas facilities shall implement a suitable and sufficient Environmental Management System to manage the fuel and gas environmental risks identified in the site Risk Assessment. |
| Applicable Legislation, Defence Regulations, Policy and Guidance, Information Management | |
| Regulation 3 | Those operating Defence fuel and industrial gas facilities must complete a suitable and sufficient Risk Assessment that complies with the Dangerous Substances and Explosive Atmospheres Regulations. |
| Regulation 4 | If an explosive atmosphere could exist then those operating Defence fuel and industrial gas facilities must implement a plan that identifies the Hazardous Areas. |
| Regulation 5 | Those operating Defence fuel and industrial gas facilities must 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. |
| Emergency Arrangements Incident Management and Learning from Experience | |
| Regulation 6 | Those operating Defence fuel and industrial gas facilities shall produce a suitable and sufficient Unit Spillage Response Plan. |
| Regulation 7 | Those operating Defence fuel and industrial gas facilities shall practice the Unit Spillage Response Plan on an annual basis |
| Supervision and Control of Activities | |
| Regulation 8 | Those operating Defence fuel and industrial gas facilities shall appoint an appropriate person to manage the facility on behalf of the Duty Holder. |
| Personnel Competence and Training Organisational Leadership, Culture, Capability and Change Management | |
| Regulation 9 | Those operating Defence fuel and industrial gas facilities shall only allow personnel who are suitably trained and competent to operate the facility; these persons shall be recognised through a formal Certificate of Competence. |
| Equipment/Materiel and Infrastructure Maintenance | |
| Regulation 10 | Those operating Defence fuel and industrial gas facilities shall ensure the infrastructure facilities are fit for continued use. |
| Regulation 11 | Those operating Defence fuel and industrial gas facilities must hold an electrical inspection certificate that passes the facility as fit for continued use. |
| Equipment/Materiel and Infrastructure Design and Manufacture | |
| Regulation 12 | Those operating Defence fuel and industrial gas facilities must ensure that the Road Tanker Delivery Stand is located in a safe, well ventilated position in the open and should offer a clear and unobstructed forward escape route. |