



Ministry
of Defence

JSP 317

**Joint Service Safety Policy for the storage and
handling of Fuels, Lubricants and Associated
products**

Part 1: Directive

Foreword to JSP 317 v7

In supporting Defence the Assistant Chief of Defence Staff (ACDS) Support Operations (Spt Ops) is responsible for providing the MOD's rules and regulations for the safe conduct of all logistic operations; the policy set out in this JSP cover those that apply to the good governance, organisation, safe storage, handling, distribution and disposal of fuels, oils, lubricants and associated products. The application of these rules is 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 using the products referred to in this publication are fully aware of their responsibilities.

Units should destroy previous editions of this publication.

Air Vice Marshall Richard Pratley

Assistant Chief of the Defence Staff (Support Operations)

Acknowledgements

Diagrams reproduced from *Guidance for the design, construction, modification and maintenance of petrol filling stations*, with kind permission of the Energy Institute (EI) and the Association for Petroleum and Explosives Administration (APEA). ISBN 085293 2170. For more information visit WWW.energyinst.org/home; <https://apea.org.uk/> and info@energyinst.org

This JSP has been Equality and Diversity Impact Assessed in accordance with the department's Equality and Diversity Impact Assessment Tool against: Part 1 - Assessment only, no diversity impact found.

The policy is due for review Nov 2025.

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Preface

Chapter Sponsor - OEA Governance and Policy

How to use this JSP

1. JSP 317 lays down the standards of practice to be observed within the MOD for the storage and handling of all Fuels, Lubricants and associated products. It is designed to be used by staff responsible for the storage and handling of fuels stored in Bulk storage vessels and packed stock areas.
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 Directive(s) detailed in Part 1.

| Related JSPs | Title |
|--|--|
| JSP 317 Pt 2 | Joint Service Safety Policy for the Storage and Handling of Fuels and Lubricants - Part 2 (Guidance Vol 1-4) |
| DSA 01.1 | Defence, Health, Safety and Environmental Protection |
| DSA 02 & 03 | Fuels and Gases Environment and Safety Regulations & DCOP's |
| JSP 418 | Management of Environmental Protection in Defence |
| JSP 375 | Management of Health and Safety in Defence |
| DSA02 FS DSA03 FS | Defence Fire Safety Regulations (DSA02) Defence Fire Safety Regulatory Guidance (DSA03) |
| JSP 426 | Defence Fire Safety & Fire Risk Management Policy |

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 ACDS SpOps,OEA. 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 in the Subject Matter Expert / Chapter Sponsors promulgated at the front of each Chapter, or:

| Contact Email | Role | Telephone |
|--|----------------|-------------------------------|
| David.williams592@mod.gov.uk | OEA Policy WO1 | 030 679 83799 / 9679 83799 |

Glossary

5. **Scope.** This section provides the standard definitions and abbreviations for specialist terminology used in connection with the storage, handling and use of the range of fuels and lubricants used within the MOD.

6. **Source.** Definitions used in this publication are mainly derived directly from legislation, Codes of Practice and Guidance Notes. In addition, NATO terminology has been introduced where appropriate. The relevant source is quoted wherever possible.

7. **Primacy.** In deriving the definitions used in this publication, several meanings have been found to exist for the same expression. Accordingly, the following table of accession has been adopted:

- a. UK legislation.
- b. International Standards Organisation (ISO).
- c. Economic Commission for Europe (ADR).
- d. British Standards Institute (BSI)
- e. European Standards (CEN).
- f. Trade Associations, including BCGA, UKLPG and EIGA.
- g. NATO Terminology (APP-1).
- h. MOD (e.g. MRPs, RAs, APs, JAPs, JSPs, SRPs, etc).

Availability. JSP 317 is available electronically from the [defnet](#). A controlled version is also available on the Internet [GOV UK Page - JSP 317](#).

8. Units that require JSP 317 in CD-ROM format are expected to 'burn' off copies as required at a local level. Units that either have no access to the Intranet or the facility to 'burn' CD-ROM's should staff their requirement through the chain command. Exceptionally CD-ROM copies of JSP 317 can be obtained from the JSP 317 Technical Author.

9. Abbreviations and terms defined in this publication are contained in Annexes A and B. In this publication the following terms have the definitions assigned to them irrespective of any other meanings that may be given elsewhere. The source publication has been identified where applicable. To minimise confusion, wherever practical the terminology used by civilian industry or incorporated into legislation and standards is used.

Introduction to JSP 317

10. **Scope.** This manual lays down the standards of practice to be observed within the MOD for the storage and handling of Fuels, Lubricants and associated products.

11. **Sources.** The policy contained in Joint Service Publication (JSP) 317 are derived from international and national legislation; international, NATO and national standards; industry Codes of Practice and Guidance Notes.

12. **Authority.** JSP 317 is produced and maintained by the Defence Strategic Fuels Authority under the authority of the Fuels and Gases Stakeholder Committee as defined in JSP 815 and JSP 309.

13. **Maintenance.** JSP 317 will be maintained on the Defence intranet and will be revised on an annual basis. All hard copies of JSP 317 are uncontrolled. To check the latest amendment status reference should be made to the Defence Intranet or ukstratcom-defsp-oea-capcoh@mod.gov.uk.

14. **Equality and Diversity Impact Assessing Statement.** This policy has been Equality and Diversity impact assessed in accordance with the department's equality and diversity impact assessment tool against: "Part 1 Assessment only - no diversity impact found"

Applicability

15. The Secretary of State for Defence issues a policy statement on safety, health, environmental protection and sustainable development in the MOD which sets out the strategic principles, duties and governance to be applied throughout the MOD. This policy statement is published in [DSA 01.1](#). The MOD policy for fuel and gases is promulgated by the Defence Fuels and Gases Stakeholder Committee (DF&G SC) in the form of a domain specific publication - [DSA 02](#) & [03](#). The specific MOD policy and policy relating to the **End to End** storage and handling of fuels and lubricants are detailed in JSP 317. JSP 317 policy shall be applied to the storage & handling of fuels and Lubricants by the three Services, Defence Equipment and Support (DE&S), Central TLB, and Defence Agencies. The policy shall also apply to contractors, and their personnel, operating on the MOD estate and to non-public activities/encroachments (such as flying clubs).

16. **Transportation.** Flammable liquids are classified as dangerous goods. DSA 03-DLSR-MSTR-Dangerous Goods Manual is always to be consulted when transporting dangerous goods detailed within this publication.

17. **Exceptions.** These policies do not cover the internal use of fuels and lubricants aboard ships or vessels, or in aircraft operated by the Services or specialist contractors or agencies, or the repair of MOD vehicles or aircraft for which special regulations apply. Such special regulations shall be based on this publication. Similarly, where the Services need to operate at locations which require specific standards higher than those contained in this manual, then the higher standard shall be applied. Where applicable these specialist regulations/publications are referenced within JSP 317.

¹ End to End Includes:

Petroleum Supply Depots
Packed stock containers including Jerricans and 205 Ltr Drums when in a MOD station / MOD central establishment store.
Bulk Fuel Installations and associated pipelines
Mechanical Transport Fuel Installations (MTFIs)
Deployable Bulk Fuel Installations
Bulk Fuel Carrying Vehicles parked on and MOD Establishment

End to End does not include:

Transportation of bulk fuel in BFCV. (Transport carriage of Dangerous Goods iaw DGM).
Jerricans that are in-carriage (Transport carriage of Dangerous Goods iaw DGM)

18. **Outside UK.** In countries, outside of the UK, the standards specified in this manual shall be applied unless the host nation requires a higher standard in which case that standard must be applied. In Germany, where the Status of Forces Agreement (SOFA) has precedence, all facilities must be constructed to German Standards with disregard to the regulations specified in this manual.

19. **Specific Procedures.** The main sections of the JSP 317 will detail the generic procedures to be used within the services and associated users. However, where storage handling procedures are not common across the services at this stage, they will be detailed in annexes or references covering the Land, Marine and Aviation environments. Where Single-Service issues require the production of clarifying or complementary statements, policies or orders, these shall be based on the detail of this publication but should not repeat its contents. The JSP 317 shall have primacy over any such clarifying or complementary statements, policies or orders.

20. **User Responsibilities.** The responsibility for the **safe use of gases** lies with the “user” and their respective Trade Group Sponsor or equipment / platform Project Team (PT) as appropriate. “User” process should include safe operating procedures, (how fuels and lubricants interface with user equipment / processes), training, and auditing programmes (including Ready Use).

21. **Operational Conditions.** Some relaxation of the procedures detailed in the JSP 317 may be necessary under operational circumstances. However, as many of the regulations and procedures contained within the JSP are derived directly from legislation, exemption from the regulations would require the approval of the Secretary of State for Defence.

22. **Parts.** The JSP 317 consists of 2 Parts (Part 1 - Directive & Part 2 Guidance), with Part 2 broken into 4 Volumes.

Format

23. The format of this JSP is in accordance with JSP 101 and structured to the DRU format.

Editorial

24. JSP 317 is published under the management control of Operational Energy Authority (OEA) as the MOD Policy for storage, handling and use of Fuels and Lubricants. The chair of the JSP 317 Working Group is responsible for the editorial content of this publication.

25. **Editorial Working Group.** An editorial Working Group is responsible for reviewing the content of JSP 317: Refer to [Table 1](#).

| Department | Members |
|------------------------------------|----------------------------|
| Strategic Command (UK StratCom) | OEA COS Chair |
| | OEA Policy WO1 - Secretary |
| | OEA SO2 Ops |
| | CESO EPSD A |
| DSA | DLSR-SO1 FGSR |
| | FGSR SO2 |

| | |
|-------------------------------|--|
| | FGSR Hazard |
| | MTSR - SO2 DG Pol |
| Navy Comd HQ | FLEET N-SO2 FGR POL |
| | HQ RM SO2 Sup |
| | FLEET HQ-AFSUP CAP TANKER SO2 |
| Army Comd HQ | SO2 Fuels, Fd Army Log Sp |
| | 64 Wks Gp RE, 516 STRE OC |
| | - OC |
| Air Comd HQ (COS SP) | Air Comd SO2 |
| | Air Comd WO |
| Defence Infrastructure | DIO TS Eng Mech AH |
| Defence Fire and Rescue (DFR) | DFR Hd Strategic Capability and Policy |
| Other | Additional Chapter Sponsors (SMEs) as required |

Table 1 - Composition of JSP 317 Editorial Working Group.

26. **Amendments.** Amendments will be issued whenever required to reflect changes in legislation or other source documents. Proposed amendments to JSP 317 should be submitted through existing staff channels to the Editor of JSP 317.

Reporting Amendments in JSP 317

27. **Purpose.** The purpose of this information is to provide users at all levels with a means of reporting unsatisfactory features in the JSP 317 and proposing an amendment. Reports are to be submitted using the MOD Form 765.

28. **Originator of report.** Originators of reports are to raise one copy of the report. Once satisfied that the report contains all relevant detail, it is to be forwarded to the JSP 317 Editor – david.williams592@mod.gov.uk. There is no requirement to provide a covering letter or additional correspondence with the report; unless the originator believes amplification of the report is necessary to assist the JSP 317 WG.

29. **Action by JSP 317 WG.** On receipt of the report, the JSP 317 WG is to investigate the content of the report and, if necessary, initiate amendment action through the Chapter Sponsors and the Editor of JSP 317. On completion the Editor is to return the original to the originator.

Annex A - Definitions

| Term | Definitions | Source |
|---|--|---------------|
| Access Apron | An area between the tank and a tanker where the process operating controls on both tank and tanker are accessible to the operator during filling/discharging. This area will normally have provision for containing or diverting a liquid spillage. | BCGA CP 36 |
| Adapter | A self-sealing male component on tank or line end to which hose couplings are attached. Located on the road tanker and at petrol station vapour connection. Features a valve which when not activated by a spigot on the mating connector seals off the vapour path. | APEA/IP |
| Accident (Incident) | Any event which causes, or has the potential to cause injury, loss or damage to people, plant or premises. | JSP 375 |
| ADR | Agreement Concerning the International Carriage of Dangerous Goods by Road. | ADR |
| Agreed procedures and safety method statement (SMS) | A work procedure acknowledged as sufficiently proven to be a safe way of carrying out a specific task, so much so that if agreed precautions and SMS are relevant to impending work, and the issuing authority undertakes to ensure that they will be followed, then it is not necessary for the issuing authority to draft further procedures and SMS for the work. | APEA/IP |
| Airfield Road | A road within the airfield boundaries used for foot and vehicular traffic, but which is not classified as a Public Highway. | IP Pt 7 |
| Attendant Operated | A filling station when an attendant directly operates and controls the dispensing equipment and the discharge nozzle on behalf of the customer. | APEA/IP |
| Attended self-service | A filling station where customers operate the self-dispensing equipment, which is activated, supervised and may be shut off in an emergency by an attendant in a control point. | APEA/IP |
| Authority | An individual or a corporate body, according to the circumstances, e.g. a corporate body is an artificial legal person in law just as an individual, with legal rights and obligations. | APEA/IP |
| Authorised Person - Petroleum | The Authorised Person (AP) is the individual responsible for the practical implementation and application of JSP 375 Volume 3 for the systems, installations and locations for which they have been appointed. | JSP 375 Vol 3 |

| Term | Definitions | Source |
|---|---|--|
| Authorising Engineer - Petroleum | A professionally qualified engineer experienced in petroleum handling systems, employed or commissioned by the Maintenance Management Organisation or MOD and licensed by the DIO to ensure safety of petroleum work for the base. | JSP 375 Vol 3 |
| Automotive Repair | Any repair tasks involving any part of the bulk fuel tanker/refueller (less the bulk fuel container, associated pipe work or dispensing equipment), which does not require either hot work or the equipment to be immobilised. | |
| Auxiliary Power Units (APU) | (Aircraft-borne) Power units of aircraft services built into the aircraft which can be operated independently of the main engines. | IP Pt7 |
| Fuel Installation (Av BFI) | An Installation where large quantity of Aviation Fuel are stored and dispensed to a consumer. | |
| Back-up power supplies | Alternative arrangements providing a maintained supply to all or part of the electrical apparatus, in the event of failure of the mains supply, e.g. standby generation, uninterruptible power supply (UPS), battery back-up. | APEA/IP |
| Biofuel | Fuel derived from organic matter (obtained directly from plants, or indirectly from agricultural, commercial, domestic, and/or industrial wastes) instead of from fossil products. | |
| BASEEFA | British Approval Service for Electrical Equipment in Flammable Atmospheres, now known as EECS, Electrical Equipment Certification Service. | APEA/IP |
| Bottom Loading | The filling of a mobile container at or near its lowest point by means. | APEA/IP |
| Bonding (Correct title – Equipotential Bonding) | <p>Electrical connection maintaining various exposed conductive-parts and extraneous – conductive parts at substantially the same potential. 2 categories of Equipotential Bonding are: -</p> <p>Main Equipotential Bonding: In each installation, main Equipotential Bonding conductors shall connect to the main earthing terminal extraneous conductive parts of that installation</p> <p>Supplementary Equipotential Bonding: Where Supplementary Equipotential Bonding is necessary, it shall connect the exposed conductive parts of equipment in the circuits concerned and extraneous conductive parts.</p> | <p>BS7671 BS EN 60079-0 BS EN 60079-14 BS 7671 Edition 17</p> <p>BS EN 60079-0</p> <p>BS EN 60079-14</p> |

| Term | Definitions | Source |
|---|--|----------------|
| | Supplementary Equipotential Bonding is required in areas if increased risk recognised as “Special Locations”. A Hazardous Area would be considered as a “Special Location”. | |
| Term | Definitions | Source |
| Breakaway coupling | A coupling designed to shear at a pre-determined load, in which the two halves, when parted are sealed by internal valves. | APEA/IP |
| Breathing | Emissions from, or intake of air into, a tank due to ambient temperature/pressure effects, or due to vaporisation/condensation of product and to compensate for product dispensed by forecourt pumps. | APEA/IP |
| Bulk Fuel Carrying Vehicle (BFCV, Inc. UST & CST) | A goods vehicle which has a tank (on these Regulations referred to as a carrying tank) which is attached to the frame of the vehicle (whether structurally or otherwise) and (except when empty) is not intended to be removed from the vehicle; or an internal part of the vehicle. | SI 1992 No 743 |
| Bulk Fuel Installation (BFI) | An installation where large quantity of fuel is stored and dispensed to a consumer. | |
| Bund | A wall of appropriate height constructed of concrete, earth, or other suitable material, and designed to confine spillage of oil from any cause. | IP Pt7 |
| Bund Wall | See ‘Bund’ | IP Pt7 |
| Bunded Area | An area bounded by natural ground contours or by bund walls so designed to control spillage. | IP Pt7 |
| Buried Tank | A tank underground which is so sited that no portion of the tank shell is above the surrounding ground level. | IP Pt7 |
| Batch | A quantity of cylinders that are filled from the same charge from the same source. | |
| Breathing Apparatus | Apparatus designed to enable the wearer to work and breathe without harmful effects in a non-life supporting atmosphere by supplying breathable quality air via an airline or pressurised cylinder. | DB 1754 |
| Breathing gas | Gas used in breathing apparatus to aid breathing. | |
| Checklist | A secondary document which the performing authority is required to complete prior to, or in the course of, carrying out the work, by way of evidence that specific safety precautions have been taken. | APEA/IP |

| Term | Definitions | Source |
|--|---|---------------|
| Class I and Class II Electrical equipment | Equipment constructed in particular ways to protect against electric shock. (See BS 2754) | APEA/IP |
| Clearance certificate | The primary document used to request and approve the commencement if installation and maintenance work on petrol filling stations. | APEA/IP |
| Term | Definitions | Source |
| Closed system | A product handling and transfer system designed to minimise vapour emissions to atmosphere. | APEA/IP |
| Coastal Waters | Those waters up to 3 miles out from the Low Water Mark. | |
| Co-axial hose | A flexible petrol dispensing hose of annular construction in which vapour and flow are independent of one another. | APEA/IP |
| Combined Sewer | A sewer discharging to a sewage treatment works conveying both. | APEA/IP |
| Combustible | Combustible refers to any substance, solid, liquid or gas which will burn with the application of heat. | IP Pt7 |
| Combustible Gas Indicator | An instrument to measure the concentration of flammable gas. | |
| Competent Person | A person with sufficient technical knowledge or experience to prevent danger or, where appropriate, injury, during his or her work. A competent individual person (other than an employee) or a competent body of persons corporate or unincorporated. Responsible for preparing or certifying the suitability of a written scheme of examination and for carrying out an examination in accordance with the written scheme of examination. | SRP-CER |
| Competent Person (electrical) | For electrical work a person must satisfy the competence requirements of Regulation 16 of the Electricity at Work Regulations, which will necessarily involve being fully conversant with and having practical experience with BS 5345 and BSEN 60079 as applicable. | |
| Competent Petroleum Trained Personnel (CPTP) | A qualified tradesman who has the practical, theoretical knowledge and experience to construct and operate a Deployed Bulk Fuel Installation safely and effectively. | |
| Condensate | Liquid formed due to the change of state from vapour to liquid. | APEA/IP |

| Term | Definitions | Source |
|----------------------|--|---------------|
| Confined Space | Any tank, chamber, pit, or enclosure in which the atmosphere is likely to be hazardous by flammability, toxicity, deficiency of oxygen, risk of asphyxiation etc, due to restricted natural ventilation and restricted access and egress. | |
| Containment System | The combination of storage tank, delivery, fill and vent pipework including associated valves and fittings which together provide containment. | APEA/IP |
| Term | Definitions | Source |
| Contractor | Any company or individual with whom a site owner has a commercial agreement to carry out installation or maintenance work on service stations. The contractor will normally be the employer of both the issuing and performing authorities. References to either is synonymous with a reference to the contractor also, the term 'contractor' is used in the text as a collective term for both. In some cases, the contractor can be the employer of the verifying authority. | APEA/IP |
| Control Point | A position in a kiosk or other building at an attended self-service filling station from which an attendant can adequately view and supervise activities at the dispensing equipment, activate the equipment and shut it off in an emergency. | HS(G)41 |
| Controlled Waters | River, streams, ditches, other surface water bodies such as canals, estuaries, coastal waters and ground waters. | APEA/IP |
| Coupling | A device to permit the connection of a pipe or hose to an adapter. | APEA/IP |
| Decant | The filling or transfilling from one receptacle to another. | |
| Dangerous Area | An area in which there exists, or may exist, a dangerous atmosphere which in turn is defined as an atmosphere containing: <ul style="list-style-type: none"> a. Any flammable gases or vapour in a concentration capable of ignition. b. A concentration of toxic gas above prescribed limits. c. An atmosphere containing insufficient oxygen for normal respiration. | BR 1754 |
| Dangerous Occurrence | A specific, unplanned, uncontrolled event which has the potential to cause injury or damage and is listed in Schedule 2 of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995. | JSP 375 |

| Term | Definitions | Source |
|--|--|---------------------------------|
| DCD | Driver Controlled Delivery is one where the complete operation of delivering product to the petrol filling station is under the control of the delivery driver without any assistance from the petrol filling station personnel. | |
| Deployed Bulk Fuel Installation (DBFI) | For this document this is a BFI that has been built and operate by CPTP for receipting, issuing and handling fuel in the field. | |
| Dip hatch (point) | A covered opening in a tank to permit dipping. | APEA/IP |
| Dipping | Measurement of the height of fuel in a tank by means of a graduated tape or rod. | APEA/IP |
| Direct Fill Point | A product entry point, e.g. on an underground tank at a petrol filling station, positioned directly on top of the tank. | APEA/IP |
| Term | Definitions | Source |
| Dispenser | A measuring system like a metering pump except that it does not incorporate its own pumping system. | HS(G) 41 |
| Dispensing Equipment | Metering pumps and dispensing equipment installed at filling stations and used to dispense liquid fuel. | APEA/IP |
| Dangerous Goods Manual | Defence Regulations for Transport of DG worldwide. | DSA-03 DLSR DGM |
| Dropped suction line | Where it is not possible to arrange a continuous fall from dispenser to tank it is possible to insert a vertical leg with a draw-off pit. The arrangement is referred to as a dropped suction line. | |
| Drop pipe | A fill pipe fitted vertically inside a tank and reaching to the bottom of the tank, designed to reduce splashing during tank filling and to maintain a liquid seal, so isolating the vapour space. | APEA/IP |
| Dry break coupling | A coupling designed to minimise the leakage of product when disconnected. | APEA/IP |
| Duty Holder | For this document this is a person with specific delegated responsibilities for satisfying the objectives of the policy through the application of a safety regime of an Installation. | |
| Element of Construction | Any wall, floor, ceiling, door, roof or window (including the frame) etc that forms part of a building, room or other enclosure. | HS(G)51 |
| Electrical Installation | All electrical/electronic and telecommunications equipment located within the boundaries of the fuel installation. (This includes cables feeding apparatus located outside the curtilage of the filling station). | APEA/IP |

| Term | Definitions | Source |
|----------------------|--|--------------------------|
| Emission | A release of vapour to the atmosphere. | APEA/IP |
| Enforcing Authority | The organisation charged with day to day responsibility for ensuring compliance with statutory regulations. | APEA/IP |
| EPA | United States Environmental Protection Agency | APEA/IP |
| Evaporation | Conversion of a liquid to a vapour, without necessarily reaching the boiling point. | APEA/IP |
| Explosimeter | See combustible gas indicator. | |
| Explosive Atmosphere | A mixture, under atmospheric conditions, of air and one or more dangerous substances in the form of gases, vapours, mists or dusts in which, after ignition has occurred, combustion spreads to the entire unburned mixture. | DSEAR 02 (HSE ACOP L138) |
| Faucet | A valve. In the context of mobile containers, the valve at the end of the discharge/loading pipe. | APEA/IP |
| Term | Definitions | Source |
| Fire Resistant | A term used to denote a defined standard of resistance to fire exposure. (see BS 476) | APEA/IP |
| Fire Resisting | <p>A fire-resisting element of construction is one which would have at least the stated period of fire resistance (relating to integrity, insulation and stability/load bearing capacity where appropriate) tested from either side in accordance with BS 476 Pt 8 or Pts 20 to 23:1987. In addition: APEA/IP APEA/IP HS(G)51</p> <p>a. Where two or more elements of construction together provide separation, the junction between them should be bonded or fire- stopped to prevent or retard the passage of hot gases, thus giving effective separation between the rooms or spaces on either side.</p> <p>b. Elements of construction should be such that their fire-resisting properties are not impaired by everyday wear and tear. Additional protection, e.g. crash barriers, reinforcing plates or wearing strips, may be required where mechanical damage is foreseeable.</p> | HS(G)51 |
| Fire Wall | A wall, screen or partition erected in the open air to help protect containers of flammable liquid from heat radiating from a nearby fire, and/or ensure an adequate dispersion distance from buildings, boundaries, sources of ignition etc for flammable liquid or vapour leaking from any container | HS(G)51 |

| Term | Definitions | Source |
|--|---|----------------|
| Flammable (Synonymous with Inflammable) | Refers to any substance, solid, liquid, gas, or vapour which is easily ignited. The addition of the prefix 'Non' shall indicate that the substances, etc, are not readily ignited, but shall not necessarily indicate that they are non-combustible. Highly flammable products can be defined as those products with a flash point < 31°C. | IP Pt7 |
| Flame Arrester | Device built into equipment in order to prevent the unrestricted propagation of flame from within an enclosure to the external surrounding atmosphere. | |
| Flame Trap | See 'Flame Arrester'. | |
| Flameproof Enclosure "d" | A type of protection where enclosures for electrical apparatus will withstand an internal explosion of the flammable gas or vapour which may enter it, without suffering damage and without communicating the internal flammation to the external flammable gas or vapour for which it is designed, through joints or structural openings in the enclosure. | BS EN 60079-14 |
| Term | Definitions | Source |
| Flash Point (Closed Cup) | The lowest temperature at which application of a small flame causes the vapour above a petroleum product to ignite when the product is heated under prescribed conditions in a 'closed' container (See IP Methods 33 and 170). | IP Pt7 |
| Foot Valve | A valve at the base of a mobile container leading to the discharge pipework | APEA/IP |
| Forecourt Separator | Part of the forecourt drainage system, which separates light liquid from waste water and retains the light liquid. | APEA/IP |
| Foul Sewer | A sewer discharging to a sewage treatment works. | APEA/IP |
| Fuels, Lubricants and Associated Products (FLAP) | Petroleum fuels, lubricants, hydraulic and insulating oils, temporary protectives, liquid coolants, windscreen washing fluids, de-icing and anti-freeze compounds together with components and additives for such products. | Def Stan 01/05 |
| Fueller | (As for Mobile Fueller) | IP Pt7 |
| Fully documented procedures | Method statements and procedural statements to describe an activity (such as tank testing). The documentation should explain any equipment operation, the principles of operation and technician activity, making clear description of safe working practices. | APEA/IP |
| Gas Free | A tank of similar confined space is considered to be gas free if the concentration of combustible vapours present is below one per cent of the Lower Explosive Limit as measured by an accurate combustible gas indicator. | |

| Term | Definitions | Source |
|-------------------------|--|-------------------|
| | Note: Gas free does not mean non-toxic. | |
| Gauging Device | A device for the measurement of the level of liquid in a tank. | APEA/IP |
| Ground Power Unit (GPU) | A portable unit for providing electrical power for starting aircraft engines and/or for operating auxiliaries. | IP Pt7 |
| GRP | Glass reinforced plastic. | APEA/IP |
| Hazardous Area | An area in which explosive gas – air mixtures are, or may be expected to be, present in quantities as to require special precautions instituted to prevent their ignition. Such areas are to be Designated and appropriately signed. | JSP 375 Vol 3 |
| Hot Work | This includes welding or the use of any flame or electric arc or the use of any equipment likely to cause heat, flame or spark. It also includes caulking, chipping, drilling, riveting and any other heat producing operation, unless it is carried out in such a way as to keep the temperature of the tools and work below 100°C. | IP Pt7 |
| Term | Definitions | Source |
| Hydrant Dispenser | A vehicle used for the delivery of fuel from any hydrant situated at an aircraft loading position to the aircraft and to which there may be structurally attached metering equipment, filters, pipework, hoses and a pump. | SI 1992 No 743 |
| Hydrant Pit | A connecting point for drawing aviation products from a hydrant system. | IP Pt7 |
| Hydrant System | A system which allows for aviation products to be pumped direct from the airfield depot or satellite depot to the parking apron for delivery in bulk to the aircraft. | IP Pt7 |
| Hydrostatic Testing | The testing of a vessel by means of a pneumatic test in which the explosive energy which would be released on failure is reduced by almost filling the vessel with water. | HS(G) 41 |
| Immobilised | A condition of the bulk fuel tanker/refueller which prevents it being either immediately driven, towed or pushed clear of a hazardous situation. | |
| IMDG Code | The International Maritime Dangerous Goods Code used to cover the carriage of dangerous goods by sea. | IMDG Code |

| Term | Definitions | Source |
|----------------------------|---|---------------|
| Impact Check Valve | An impact and/or heat activated device which closes to prevent flow from a pressure source and remains closed after activation. | |
| Incident (Accident) | Any event which causes, or has the potential to cause injury, loss or damage to people, plant or premises. | JSP 375 |
| In-use | E.g. A tank or container being used for issue and/or receipts but not necessarily all stocks held. | |
| Interceptor | A device installed in a surface water drainage system to separate out any petroleum products and thus preventing it reaching public drains, sewers or water courses. | HS(G) 41 |
| Interlock | A safety system that ensures that two or more actions can only take place in a pre-determined system. | APEA/IP |
| Issuing Authority | The Authority responsible for raising requests for access to fuel installations to commence work, and subsequently raising and authorising any additional documentation as a condition of approval to proceed. The issuing authority will invariably be a competent person nominated by the contractor. | APEA/IP |
| Term | Definitions | Source |
| Intrinsically Safe Circuit | <p>An intrinsically safe circuit is one in which any electrical sparking that may occur in the normal working, under the conditions specified by the certifying authority and with the prescribed components, is incapable of causing an ignition of the prescribed flammable gas or vapour.</p> <p>An intrinsically safe apparatus is that which is so constructed that, when installed and operated in the conditions specified by the certifying authority, any electrical sparking that may occur in the normal working, either in the apparatus or in the circuit associated therewith, is incapable of causing an ignition of the prescribed flammable gas or vapour.</p> <p>Notes:</p> <p>1. The use of the term intrinsically safe in normal working is intended to cover sparking that may in normal use be produced by breaking line current or a short circuit across the lines in the circuit that is required to be intrinsically safe. It is also intended to cover sparking that may be produced under any conditions of fault, which in the opinion of the certifying authority might arise in practice.</p> | (BS) EN 50020 |

| Term | Definitions | Source |
|--|--|---|
| | 2. The certifying authority referred to in the above is the Department of Trade and Industry. | |
| Intrinsically Safe Apparatus | Electrical apparatus which are intrinsically safe. | BS EN 60079-14 |
| Intrinsically Safe Electrical System | An assembly of interconnected items of electrical apparatus, Electrical System described in a descriptive system document, in which the circuits or parts of circuits intended to be used in a potentially explosive atmosphere are intrinsically safe. | BS EN 60079-14 |
| Intrinsic Safety "i" (ia and ib) | A type of protection based upon the restriction of electrical energy within apparatus and of interconnecting wiring exposed to a potentially explosive atmosphere to a level below that which can cause ignition either by sparking or heating effects. Because the method by which intrinsic safety is achieved, it is necessary that not only the electrical apparatus exposed to the potentially explosive atmosphere, but also other electrical apparatus with which it is interconnected is suitably constructed. | BS EN 50020 |
| Term | Definitions | Source |
| Class (This system of classification applies to the bulk storage of FLAP Products) | <p>Petroleum products are classified according to their flash points: EL Class 0 - Liquefied Petroleum Gas (LPG).</p> <p>EL Class I - Products that have a flash point below 21°C.</p> <p>EL Class II - Products which have a flash point from 21°C to 55°C inclusive.</p> <p>EL Class III - Products which have a flash point above 55°C up to and including 100°C.</p> <p>Unclassified - Products with a flash point above 100°C.</p> | EI EL 15 (Annex A) DefStan 01-005 Issue 19 |

| Term | Definitions | Source |
|-------------------------------------|--|----------|
| | <p>EL Class II and III petroleum products may be sub- divided in accordance with the circumstances in which they are handled.</p> <p>EL Class II (1) or EL Class III (1) products refer to petroleum products handled at a temperature below their flash point. EL Class II (2) and EL Class III (2) classifications refer to petroleum products handled at or above their respective flash points.</p> <p>For countries where ambient temperatures are high enough for the handling of petroleum products to rise above their respective flashpoints, or in circumstances where products are artificially heated to such temperatures, flammable liquids which fall into sub- divisions EL Class II (2) or EL Class III (2) should be treated as EL Class I products.</p> | |
| Leak detection system | An automated system for detecting product leaks from tanks and pipework. | HS(G) 41 |
| Liquefied Petroleum Gas | Commercial butane (i.e., a hydrocarbon mixture consisting predominantly of butane, butylene or any mixture thereof) or commercial propane (i.e., a hydrocarbon mixture consisting predominantly of propane, propylene or any mixture thereof). | |
| Term | Definitions | Source |
| Lower Explosive Limit (LEL) | This is synonymous with 'lower flammable limit'. It is the minimum concentration of vapour in air or oxygen below that which propagation of flame does not occur with a source of ignition. | JSP 375 |
| Maintenance Management Organisation | 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. | |
| Manifold | One or more header pipes with branch connections used for collecting or distributing the products to be pumped direct from the airport depot / ship. | IP Pt7 |
| Maximum Capacity | The maximum volume of product authorized to be held in a container/tank. N.B. The authority is the authorising engineer and the quantity is recorded on the tank. | |

| Term | Definitions | Source |
|---|---|------------|
| Maximum Working Capacity | The volume of useable product that can be held in the container/tank. NB This excludes tank bottoms. | |
| Metering Pump | A measuring system designed to dispense liquid fuel into fuel tanks. It contains its own pumping system to draw fuel from a supply tank or tanks. | HS(G) 41 |
| Mobile Fueller (Bowser) | A vehicle designed for the transportation and transfer of aviation products in bulk to or from an aircraft. | EL Pt 7 |
| Monitoring system | A system as used in double skinned containment systems (tanks and pipework) to identify failure of either of the containment walls. Alternatively, a system of hydrocarbon sensing devices located in wells, placed so as to detect leakage of petroleum products. | APEA/EL |
| Mounded Tank | A tank above, or partly in, the ground completely covered by earth, sand, or other suitable material. | EL Pt7 |
| Mechanical Transport Fuelling Installation (MTFI) | <p>Premises at which petrol is dispensed into the fuel tanks of motor vehicles or into containers and which may be operated in one of the following modes:</p> <p>Attendant operated. A filling station where an attendant directly operates and controls the dispensing equipment and the discharge nozzle.</p> <p>Attended self-service. A filling station where customers operate the dispensing equipment which is activated and supervised by an attendant in a control point, who can shut off the pump supply in an emergency.</p> <p>Unattended self-service. A filling station where dispensing equipment is activated and operated by customers without supervision by an attendant.</p> | HS(G) 41 |
| Term | Definitions | Source |
| Multi-Load | A load consisting of two or more dangerous substances in: | Multi-Load |
| Multi-point (off-loading system) | A facility at which more than one hose can be discharged simultaneously from a road tanker into underground storage tanks. | APEA/EL |
| Nominal Capacity | The overall volume of a container/tank describing the tank/container, e.g. 200 litre drum or 1250 m3 tank. | |
| Non- Combustible Material | <p>A material that fulfils the criteria for non- combustibility given in BS 476 Pt 4: 1970.</p> <p>A material which when tested in accordance with BS 476 Pt 11: 1982 does not</p> | HS(G)51 |

| Term | Definitions | Source |
|--------------------------------|--|------------------------|
| | flame and gives no rise in temperature on either the centre (specimen) or furnace thermocouples. | |
| Non- Hazardous Area / Place | A place in which an explosive atmosphere is not expected to occur in such quantities as to require special precautions is deemed to be non-hazardous. | Directive 1999/92/EC |
| Non-precision test | Any test process not having certification as for a precision test. | APEA/EL |
| Nozzle | A device for controlling the flow of fuel during a dispensing operation. | HS(G) 41 |
| Off-Set Filling Pipe | A filling pipe for a tank or tank compartment which leads from a tank to a connection point for a road tanker's delivery hose at some distance from the tank. | HS(G) 41 |
| Off-set fill point | A filling point, e.g. on a filling station tank, in which connection for the hose of the delivery vehicle is at some distance from the tank. | APEA/EL |
| Operating Authority | Operating Authority is a responsibility given to the HoE specifically for petroleum installations. Responsibility for the safe and proper operation of petroleum installations rests with the HoE; authority, but not responsibility , may be formally delegated to an appropriate person who may carry out tasks on behalf of the HoE. | |
| Overfill prevention device | A device designed to shut off automatically and prevent a delivery of fuel overfilling a tank (or compartment of a tank) beyond its maximum working capacity. | APEA/EL |
| Oil Interceptor (or Separator) | See Interceptor. | |
| Parking Apron | The area on an airport where aircraft are normally parked for ground service operations. | EL Pt7 |
| Performing Authority | The individual who will physically supervise or carry out work on the petrol filling station. The performing authority is usually an employee of the contractor. | APEA/EL |
| Term | Definitions | Source |
| Permit to work | A document issued by an authorised person permitting specific work to be carried out in defined areas. | EL Pt7 |
| Petrol or petroleum spirit | Petroleum-spirit intended to be used as fuel for motor vehicles, motor vessels or aircraft. When tested in accordance with Petroleum (Consolidation) Act 1928, has a flash point of less than 21°C. | SI 1992 No 743 APEA/EL |
| Petroleum Fuel | Includes petrol, kerosene, diesel and LPG. | SI 1992 No |
| Personal Protective Equipment | PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, | |

| Term | Definitions | Source |
|---|---|----------|
| | safety footwear and safety harnesses. It also includes respiratory protective equipment (RPE) | |
| Pipeline Capacity | The volume of product required to fill pipelines | |
| Pipework | All pipes, lines and fittings (including joints) designed to carry petrol or vapour. | APEA/EL |
| Poppet valve | A valve mounted in half a coupling that is opened by a protruding member on the other mating half of the coupling. | APEA/EL |
| Precision Test | Is defined as any tank tightness test which has the capability of detecting a leak rate of 380 ml/hr with a probability of at least 95% whilst operating at a false alarm rate of 5% or less. Precision tests consider such variables as the thermal expansion of the stored product, evaporative losses, the compressibility and thermal expansion of any other medium being used and the effects of other variables including groundwater levels and properties of the medium surrounding the tank. | APEA/EL |
| Pressure / Vacuum valve (P/V valve) | A dual-purpose valve which automatically prevents excessive positive or negative pressure in the tank or pipe to which it is connected | APEA/EL |
| Public Highway | A street external to the MOD establishment used by the public for general traffic of all descriptions. | EL Pt7 |
| Remote Pump | An electrically driven suction pump assembly mounted above or adjacent to a supply tank and remote from a dispensing facility. The inter-connection is made by a pressurised delivery pipe protected by a leak detector valve or by other means. | HS(G) 41 |
| Requirements for Electrical Installations | This document otherwise known as BS 7671, 1992 the IEE Wiring Regulations, 18th Edition, while not statutory is widely recognised as a code of practice likely to achieve compliance with relevant aspects of The Electricity at Work Regulations 1989. BS 7671 does not deal with fire and explosion hazards for which reference should be made to various Parts of BS 5345 or BS EN 60079 | APEA/EL |
| Respiratory Protection Equipment | RPE is a particular type of Personal Protective Equipment (PPE) designed to protect the wearer from breathing in harmful substances or from oxygen-deficient atmospheres then other controls are possible or insufficient on their own. | EL Pt7 |
| Responsible Person | For a dangerous occurrence in connection with a pipeline, the owner of the pipeline; for other facilities, the person for the time-being having control of the premises at which a dangerous occurrence happened. | RIDDOR |
| Term | Definitions | Source |
| Restricted Area | A temporarily defined area which may or may not be in an existing hazardous area, in which there is increased hazard due to spillage, defects in installation or the type of maintenance operations to be carried out. | |

| Term | Definitions | Source |
|-----------------------------|---|---------------|
| Risk Assessment | Risk assessment is a process of recognising a hazard, estimating its likelihood of occurring and the possible consequences, then implementing appropriate control measures to remove the hazard or mitigate the consequences. | APEA/EL |
| Road tanker | A mobile road vehicle equipped with a tank containing two compartments or more for transporting and delivering fuel to a petrol station where it off-loads under gravity head. | APEA/EL |
| Runway | A prepared strip for the take-off and landing of aircraft | EL Pt7 |
| Safety Method Statement | An acknowledgement of the risks and intended precautions relating to a task. Performing Authorities must agree in writing to comply with the relevant SMS before being allowed to commence work. | APEA/EL |
| Safe System of work | A formal written means of ensuring that potentially dangerous tasks are set up and carried out using the correct safety procedures. | APEA/EL |
| Secondary containment | A means to prevent loss of liquid product in the event of a leak or spill. | APEA/EL |
| Separation distance | The horizontal distance between the nearest part of an above- ground storage tank and any specified feature (e.g. occupied buildings, facilities, process area, and site boundary). | |
| Separator | A device installed in a surface water drainage system to separate out any petroleum products and thus prevent them reaching public drains, sewers or water courses. Now normally referred to as an oil separator. | APEA/EL |
| Servicing | Any maintenance task carried out on a bulk fuel tanker/refueller (less the bulk fuel container, associated pipe work or dispensing equipment) which does not require either hot work or the equipment to be immobilised. | |
| Silt Trap | A containment facility for settleable waterborne particles. | APEA/EL |
| Single (off- loading) point | A facility at which only one mobile container can be off loaded at once. | APEA/EL |
| Site records | Permanent records, retained at the petrol filling station, including such details as the equipment installed, repairs, modifications and replacements carried out and the results of all inspection | APEA/EL |
| Slide valve | A valve positioned in a manifold pipe system which slides shut when the vapour hose to the delivery vehicle is connected, thus closing off the line to the P/V valve on the petrol filling station. Removing the vapour hose opens the slide valve. | APEA/EL |
| Term | Definitions | Source |

| Term | Definitions | Source |
|---|--|---------|
| Source of Ignition | <p>Naked lights, flames, fires, exposed incandescent material, electrical welding arcs, electrical equipment of an unapproved pattern, or a spark or flame produced by any other means.</p> <p>Note: Any surface, such as a hot exhaust pipe, heated above the ignition temperature of a flammable petroleum vapour and air mixture may also constitute a source of ignition.</p> | EL Pt7 |
| Split delivery | A delivery of petrol to a petrol filling station in which the compartment is only partially emptied. | APEA/EL |
| Stage 1a | The control of vapour emissions during petrol storage and when loading at a refinery or terminal. | APEA/EL |
| Stage 1b | The control of vapour emissions during the filling of a storage tank at a petrol filling station. | APEA/EL |
| <p>UN Class</p> <p>(The UN System applies to the storage of packed stocks and for transportation)</p> | <p>Class 3 - Flammable Liquids</p> <p>Liquids, or mixtures of liquids, or liquids in solution or suspension which give off a flammable vapour at not more than 60°C closed-cup test.</p> <p>Class 3 PG I – Initial Boiling Point $\leq 35^{\circ}\text{C}$</p> <p>Class 3 PG II – Flash Point $< 23^{\circ}\text{C}$, Initial Boiling Point $> 35^{\circ}\text{C}$</p> <p>Class 3 PG III – Flash Point $\Rightarrow 23^{\circ}\text{C} \leq 60^{\circ}\text{C}$, Initial Boiling Point $> 35^{\circ}\text{C}$</p> <p>Table available in ADR 2.2.3.1.3</p> <p>ADR 2.2.3.1.1. Note 2 Below is applicable for road and rail transport only.</p> <p>NOTE 2 - By derogation from paragraph 2.2.3.1.1 above, diesel fuel, gasoil, heating oil (light) including synthetically manufactured products having a flash-point above 60°C and not more than 100°C shall be deemed substances of Class 3, UN No. 1202</p> | ADR/RID |

| Term | Definitions | Source |
|---------------------------|---|-----------------------------|
| Vapour Balancing | A system which allows vapour displaced from storage tanks during the delivery of petrol from a road tanker to be directed to the tanker via a vapour return hose. It ensures there is minimal discharge of vapour to atmosphere during tanker delivery. | HS(G) 41 |
| Vapour Collection System | A system which allows vapour displaced from storage tanks during the delivery of petrol from a road tanker to be directed to the tanker via a vapour return hose. It ensures there is minimal discharge of vapour to atmosphere during tanker delivery. | APEA/EL |
| Vapour Generation | The production of hydrocarbon vapour by evaporation of a volatile product. This can occur during filling of the tank or when the tank is undisturbed during periods when dispensing has stopped. | APEA/EL |
| Vehicle wash separator | Part of the vehicle wash system, comprising at least two chambers, which separates the settle-able solids from the waste water and retains the settled solids. | APEA/EL |
| Verifying Authority | The authority for approving requests for access to petrol filling stations to commence work. This may be the developer's engineer or the nominated person employed by the contractor. | APEA/EL |
| Volatile Organic Compound | Compound containing at least one carbon atom and which in liquid form readily evaporates at ambient temperature. | APEA/EL |
| Work control procedures | A system designed to ensure that installation and maintenance work on fuel installations is carried out safely and without risks to health. | APEA/EL |
| Working Stock | The volume of product in container/tank that can be used. NB this excludes tank bottoms and pipeline capacity. | |
| Zoning | <p>Hazardous places are classified in terms of zones based on the frequency and duration of the occurrence of an explosive atmosphere</p> <p>Zone 0 – A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour, or mist is present continuously or for long periods frequently.</p> <p>Zone 1 - A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour, or mist is likely to occur in normal operation occasionally</p> <p>Zone 2 - A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour, or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period.</p> | DSEAR 02 (HSE ACOP L138) |

Annex B - Abbreviations

| Description | Abbreviation | Source |
|--|----------------|--------|
| A | | |
| Agreement Concerning the International Carriage of Dangerous Goods by Road | ADR | UNECE |
| Air Portable Fuel Container | APFC | |
| Air Port of Embarkation | APOE | MOD |
| Air Publication | AP | |
| American, British, Canadian, Australian | ABCA | |
| American Petroleum Institute | API | |
| Amendment List | AL | MOD |
| Ammunition Technical Officer | ATO | |
| Army Air Corps | AAC | MOD |
| Army Equipment Support Publication | AESP | |
| Army Headquarters Command | Army HQ | |
| As Low As Reasonably Practicable | ALARP | |
| Authorising Engineer | AE | |
| Authorised Person Petroleum | AP (Petroleum) | |
| Automated Fuel Dispensing System | AFDS | |
| Automatic Tank Gauging | ATG | |
| Auxiliary Power Unit | APU | |
| B | | |
| Base Level Budget | BLB | |
| Battlefield Bulk Fuel Installation | BBFI | |
| BFCV Sub-committee | BFCV SC | |
| Boiling Liquid Expanding Vapour Explosion | BLEVE | |
| British Standards Institute | BSI | |
| Bulk Fuel Carrying Vehicle | BFCV | |
| Bulk Fuel Installation | BFI | |
| Biological Oxygen Demand | BOD | |
| C | | |
| Central European Pipeline System | CEPS | |
| Central Health and Safety Project | CHASP | |
| Certificate for Continued Operation | CCO | |
| Certificate of Fitness for Purpose | CFFP | |
| Chief Environmental Safety Officer | CESO | MOD |
| Chief of Defence Materiel | CDM | MOD |
| Chief of Fleet Support | CFS | MOD |
| Close Support Tanker | CST | |
| Clinical & Professional Support Division | CPSD | |
| Commander in Chief Fleet | CINC FLEET | |
| Competent Petroleum Trained personnel | CPTP | |
| Control of Major Accident Hazards | COMAH | HSE |
| Control of Substances Hazardous to Health | COSHH | HSE |
| Chemical Oxygen Demand | COD | |
| D | | |
| Dangerous Substances and Explosive Atmospheres Regulations | DSEAR | |
| Dangerous Goods Manual (DSA03 DLSR, MSTR) | DGM | |
| De-certification Board | DB | |
| Defence Equipment and Support | DE&S | |
| Defence Fire and Rescue | DFR | |
| DE&S Management Board | DE&S MB | |
| Defence Fuels and Gases Environment and Safety Board | DF&GESB | |
| Defence Fuels Operation Centre | DFOC | |
| Defence Infrastructure Organisation | DIO | |
| Defence Land Safety Regulator | DLSR | |

| Description | Abbreviation | Source |
|--|----------------|--------|
| Defence Petroleum Specialist Training Squadron | DPSTS | |
| Defence Research Agency (Fighting Vehicles & Systems) | DRA (FV&S) | |
| Defence Safety Authority | DSA | |
| Defence School of Transport | DST | |
| Defence Standard | Def Stan | |
| Defence Supply Chain Operations and Movements | DSCOM | |
| Defence Support Group | DSG | |
| Defence Training Estate | DTE | |
| Defence Works Advisor | DWA | |
| Deployable Bulk Fuel Installation | DBFI | |
| Defence Infrastructure Fire Standards | DIFS | |
| Deployable Infrastructure Project Team | DIPT | |
| Deployable Supply Group | DSG | |
| Deployed Permanent Installation | DPI | |
| DFLAPC, Environment, Safety & Trg Sub Committee | DFLAPC, ES&TSC | |
| Defence Fire and Rescue | DFR | |
| DE&S Management Board | DE&S MB | |
| Defence Fuels and Gases Environment and Safety Board | DF&GESB | |
| Deployable Support & Test Equipment PT | DS&TE PT | |
| Diesel Fuel General Purpose | Dieso UK | |
| Diesel Fuel Motor Transport (on Public Roads) | Dieso MT F-54 | |
| Diesel Fuel Naval Distillate | Dieso F-76 | |
| Directly Administered Units | DAU | |
| Director Based Depots | DBD | |
| Director Defence Health & Safety | D Def H&S | |
| Defence Chief Fire Officer and Head of Defence Fire and Rescue | D CFO FS | |
| Director Joint Support Chain | D JSC | |
| Director Supply Chain Operations | Dir SC Ops | |
| E | | |
| Emergency Pollution Response Service | EPRS | |
| Environment Agency | EA | |
| Environment, Safety & Training Sub-committee | ES&TSC | |
| Equipment Sub Committee | ESC | |
| Equipment Support | ES | |
| European Standard (Norm) | EN | |
| European Union | EU | |
| Expeditionary Airfield Facilities | EAF | |
| Expeditionary Logistics Wing | ELW | |
| F | | |
| Filter Water Separator | FWS | |
| Front Line Command | FLC | |
| First Aid Fire Appliances | FAFA | |
| Fleet Air Arm | FAA | |
| Fuels & Gas Safety Regulator | FGSR | |
| Fuels Lubricants & Associated Products | FLAP | |
| Fuels Lubricants & Associated Products Working Party | FLAP WP | |
| Focal Point | FP | |
| Fuel Consumption Unit | FCU | |
| Fuel Dispensing Rack | FDR | |
| Fuels Safety Assurance Assessment | FGSAA | |
| Fuels Safety Incident Investigating Officer | FSIIO | |
| Fuel Systems Icing Inhibitor | FSII | |
| Fuels Safety Working Group | FSWG | |
| Furnace Fuel Oil | FFO | |
| G | | |
| General Support Tanker | GST | |
| Glass Reinforced Plastic | GRP | |
| Ground Power Unit | GPU | |

| Description | Abbreviation | Source |
|--|------------------|--------|
| Ground Support Equipment | GSE | |
| H | | |
| Hazardous Material | HAZMAT | |
| Health & Safety at Work Act | H&SWA | |
| Health & Safety Executive | HSE | |
| Health & Safety Guidance Note | HS(G) | |
| Higher Explosive Limit | HEL | |
| Higher Level Budget | HLB | |
| HQ Air Command | HQ Air | |
| HQ Land Forces | HQ LF | |
| HQ Land Forces Directorate of Infrastructure | HQ LF D Infra Sp | |
| HQ UK Support Command (Germany) | HQ UKSC(G) | |
| I | | |
| Institute of Petroleum (Now known as the Energy Institute (EI)) | EL | |
| International Air Transport Association Dangerous Goods Regulations | IATA DGR | |
| Technical Instructions for the Safe Transport of Dangerous Goods by Air – ICAO TIs | ICAO TI | |
| International Maritime Dangerous Goods Code | IMDG Code | |
| International Maritime Organisation | IMO | |
| International Safety Guide for Oil Tankers & Terminals | ISGOTT | |
| International Standards Organization | ISO | |
| J | | |
| Joint Air Publication | JAP Joint | |
| Joint Force Logistic Component | JF Log C | |
| Joint Operational Fuels System | JOFS | |
| Joint Service Publication | JSP | |
| K | | |
| Kerosene Military | KERO | |
| L | | |
| Land Equipment Audit | LEA | |
| Land Systems Fuels & Lubricants Sub-Committee | LSFLAPPSC | |
| Liquefied Petroleum Gas | LPG | |
| Logistic Support Services | Log Sp SVCS | |
| Long Term Costing | LTC | |
| Lower Explosive Limit | LEL | |
| Logistic Support | Log Sp | |
| M | | |
| Maintenance Management Organisation | MMO | |
| Major Accident Control Regulations | MACR | MOD |
| Management of Joint Deployed Inventory | MJDI | |
| Marine Fuels Manager | MFM | |
| Marine Gas Oil | MGO | |
| Maximum Explosive Limit | MEL | |
| Mechanical Transport Fuelling Installation | MTFI | |
| Military Works Force | MWF | |
| Military Agency for Standardisation | MAS | |
| Ministry of Defence | MOD or MoD | |
| Mobile Pipeline Repair Team | MPRT | |
| Motor Transport | MT | |
| Movement and Transport Safety Regulator | MTSR | |
| MOD Defence Works Functional Standards Safety Rules & Procedures | MOD SSR&P | |
| Multi Product Resupply Tanker | MPRT | |
| N | | |
| NATO Military Standards and Terminology | NMSt | MOD |
| NATO Pipeline Committee | NPC | NATO |
| NATO Standardisation Agreement | STANAG | NATO |
| NATO Stock Number | NSN | NATO |
| North Atlantic Treaty Organisation | NATO | |
| Northern Ireland | NI | |

| Description | Abbreviation | Source |
|--|--------------|---------------|
| North Europe Pipeline System | NEPS | |
| O | | |
| Oil Fuel Depots | OFD | |
| Oil Industry Emergency Committee | OIEC | |
| Oil Mineral | OM | |
| Oil Mineral Detergent | OMD | |
| Oils (miscellaneous) | OX | |
| Operating Authority | OA | |
| P | | |
| Permanent Joint Headquarters | PJHQ | |
| Personal Protective Equipment | PPE | |
| Personal Role Radio | PRR | |
| Pressure Relief Valve | PRV | |
| Pressure Systems Safety Regulations | PSSR | HSE |
| Petroleum Enforcement Liaison Group | PELG | |
| Petroleum Handling Equipment | PHE | |
| Petroleum Laboratory Technician | PLT | |
| Petroleum Enforcement Authority | PEA | |
| Petroleum Supply Depot | PSD | |
| PHE Sub Committee | PHE SC | |
| Pollution Control Equipment | PCE | |
| Pollution Control Sorbents | PCS | |
| Pollution Report (Marine) | POLREP | |
| Pressure Reducing Valve | PRV | |
| Products Sub Committee | PSC | |
| Professional Technical Service | PTS | |
| Project Team | PT | |
| Property Manager | PROM | |
| Q | | |
| Quality Assurance | QA | |
| Quality Control | QC | |
| Quality Surveillance | QS | |
| R | | |
| Rail Tank Cars | RTC | |
| Regulations concerning the International Carriage of Dangerous Goods by Rail | RID | UNECE OTIF |
| Replenishment at Sea | RAS | |
| Reporting of Injuries, Diseases and Dangerous Occurrences Regulations | RIDDOR | HSE |
| Respiratory Protective Device | RPD | |
| Respiratory Protective Equipment | RPE | |
| Role Office | RO | |
| Royal Air Force | RAF | |
| Royal Engineers | RE | |
| Royal Fleet Auxiliary | RFA | |
| Royal Logistic Corps | RLC | |
| Royal Navy | RN | |
| Royal School of Mechanical Engineering | RSME | |
| S | | |
| Safety, Health, Environment & Fire Management Board | SHEFB | MOD |
| Safety Data Sheet | SDS | |
| Sea Port of Embarkation | SPOE | |
| Secretary of State | S of S | |
| Senior Infrastructure Management | SIM | |
| Service Focal Points | SFP | |
| Ship to Shore Pipeline System | SSPS | |
| Single Fuel Policy | SFP | |
| Single Point Mooring | SPM | |
| Site Estate Authority Team | SEAT | |
| Siting Board | SB | |

| Description | Abbreviation | Source |
|--|---------------------|---------------|
| Small Container and Convoy Refuelling System | SCCRS | |
| Specialist Petroleum Inspections | SPI | |
| South Europe Pipeline System | SEPS | |
| Specialist Team Royal Engineers (Bulk Petroleum) | STRE (BP) | |
| Spillage Report | SPILLREP | |
| Spillage Response Plan | SRP | |
| Standard Operating Procedure | SOP | |
| Standardisation Agreement (ABCA) | QSTAG | |
| Statement of Requirement | SOR | |
| Statement of User Requirement | SUR | |
| Status of Forces Agreement | SOFA | |
| Statutory Instrument | SI | |
| Suitably Qualified and Experienced Personnel | SQEP | |
| Support Helicopter | SH | |
| T | | |
| Tactical Aircraft Refueller | TAR | |
| TAR (Trailer) | TAR (T) | |
| Tactical Fuel Handling Equipment | TFHE | |
| TFHE Sub-Committee | TFHESC | |
| Tactical Supply Wing | TSW | |
| Tank Fabric Collapsible | TFC | |
| Top Level Budget (Command) | TLB | |
| Towed Flexible Barge | TFB | |
| Towed Flexible Barge Discharge System | TFBDS | |
| Transition to War | TTW | |
| U | | |
| Unit Identification Number | UIN | |
| United Kingdom | UK | |
| Unit Support Tanker | UST | |
| United Nations Economic Commission for Europe | UNECE | |
| United Nations | UN | |
| Unleaded gasoline | ULGAS F-67 | |
| V | | |
| Vapour Recovery | VR | |
| Vice Chief Defence Staff | VCDS | |
| W | | |
| Wet Stock Management | WSM | |
| Working Party | WP | |
| Works Service Manager (Appointment is by MMO) | WSM | |

1 - Legislation

Chapter Sponsor - OEA - Governance and Policy

Introduction

1. The Secretary of State for Defence requires that all employees, as far as reasonably practicable, comply with Legislation and Accepted Code of Practice concerning the health, safety and welfare of themselves and others, regardless of any exemption which may apply to the Ministry of Defence².
2. This Publication is based on the following applicable sources:
 - a. Statutory Legislation (and international convention where applicable).
 - b. Regulatory Approved Codes of Practice and Guidance Notes.
 - c. International and British Standards (ISO and BS-EN).
 - d. Industry Approved Codes of Practice (European Industry Gas Association- EIGA, British Compressed Gas Association-BCGA, UK Liquefied Petroleum Gas Association UK LPG).
 - e. Defence Standards (Def Stan).
 - f. MOD Publications (JSPs, MRPs, Ras, BRs, AESPs, APs, JAPs).
3. The above standards provide the minimum requirements for the storage, handling and working with Fuels and Lubricants on the MOD estate. Regardless of the authority of the publications listed in paragraph 2 (above); all processes / references stated ***within this*** publication, both in the Annexes to this chapter, and the chapter specific bibliographies shall be deemed as ***mandatory*** unless otherwise stated.

Legislation

4. Of relevance to this publication are Regulations enforced under the primary legislation (Acts) for health, safety, and the environment when storing, handling and working with Fuels and Lubricants. Further information can be obtained from the legislation below and the HSE / EA / DfT websites, which are summarised at [Annex A:](#)
 - a. <https://www.hse.gov.uk/legislation/>
 - b. <https://www.gov.uk/government/organisations/department-for-transport>
 - c. <https://www.gov.uk/government/organisations/environment-agency>

² JSP 375, dated 2017, Vol 1 Paragraphs 14-15.

Regulatory Guidance Approved Codes of Practice, Guidance Notes (ACOPs, GNs)

5. Other Government departments and executive non-departmental public bodies such as Department for Transport (DfT) Environment Agency (EA, SEPA), and Health and Safety Executive (HSE) publish applicable Codes of Practice and Guidance Notes.

6. **Approved Code of Practice-ACOPS.** These ACOPS are approved by the respective Secretary of State and provide practical advice on how to comply with the law. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters on which the Code gives advice. However, the Code has a special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a Court will find you at fault.

7. **Guidance.** Guidance Notes (GNs) are approved by the respective Secretary of State and provide practical advice. If you do follow the guidance you will normally be doing enough to comply with the law. Regulators and inspectors seek to secure compliance with the law and may refer to the GNs. Publications from HSE, DfT, and EA can be sourced from the following websites:

- a. <http://www.hse.gov.uk/pubns/books/index-hsg-ref.htm>
- b. <https://www.gov.uk/guidance/driving-dangerous-goods-and-special-loads>

International and National Standards for Gas Products and Cylinder Design and Manufacture (ISO, CEN, BS-EN)

8. ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies of which CEN (Comité Européen de Normalisation), and BSI (British Standards Institute) participate in. These bodies through respective national and international technical committees, (competent authorities) approve / validate fuel installation specifications and the design, maintenance and testing of fuel standards and specifications.

9. Standards become a mandatory requirement when specified in a Regulation. Throughout the design, construction, manufacture and testing of a fuel installation, it is of importance that these standards are adhered to. Relevant standard titles are at Annex C. Refer to the BSI website for applicable fuel standards and specifications:

- a. <https://www.bsigroup.com/en-GB/standards/>

Industry Bodies and Industry COPs

10. The Oil and Gas Industry provides industry best practice by publishing standardised publications that enhance safe practice and prioritise environmental protection. Examples of such organisations are the HSE ACOP, Energy Institute and the APEA. These Industry COPs are produced with full consultation with executive non-departmental public bodies (HSE, DfT, etc).

Defence Standards – (Def Stans)

11. A Defence Standard is established by broad consensus, achieved by stakeholders from MOD, Industry and Academia that deliver against a specified and continuing MOD requirement in support of the MOD acquisition process. Defence Standards specify material, procedures or process guidance and use normative references from other open standards bodies as appropriate. Defence Standards are the main instruments used to define the procurement standard for Fuels and Lubricants used in MOD. For specific fuel defence Standards refer to the [DefStan 01-005 Issue 19](#).

MOD Publications

The storage and handling of Fuels and Lubricants is a multi-disciplinary process on the MOD estate. As such, to carry out the process safely and in an environmental compliant manner requires the observance of other MOD publications e.g. generic Health and Safety - [JSP 375](#) and Environmental Policy [JSP 418](#). Domain specific MOD publications are also available for specific gas applications (e.g. Military Regulatory Publications (MRP), Regulatory Articles (RA), Air Publications, APs, Naval Books of Reference BRs, and Army Equipment Support Publications – AESPs). For MOD publications, refer to the [defnet](#).

Bibliography

1. Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR).
2. BS EN 50020 - Electrical Apparatus for Potentially Explosive Atmospheres. Intrinsic Safety 'i'.
3. HSE HS(G)51 - The Storage of Flammable Liquids in Containers.
4. Defence Works Safety Rules and Procedures - SRP-CER - MOD Safety Rules and Procedures Common Elements & Requirements.
5. Defence Works Safety Rules and Procedures - Petroleum. SRP 03 - MOD Safety Rules and Procedures for Work on Petroleum Installations.
6. MOD [JSP 375](#) - Health & Safety Handbook.
7. [JSP 418](#) Management of Environmental protection.
8. DBR 1754 - Safety Regulations for Storing and Handling Petroleum Oils, Lubricants and Certain Other Hazardous Stores in HM Ships.
9. DSA 02 & 03 - UK MOD Fuels & Gases Environment and Safety Management

Annex A - Legislation supporting JSP 317

The list below outlines the main pieces of Statutory Legislation that support the safe storage and handling of industrial gases and cryogenic liquids.

1. **Health and Safety at Work, etc, Act 1974.** Places duties (e.g. duty of care) on defined individuals to ensure minimum health and safety standards at work; and general duties on all staff to take reasonable care of their own health and safety, not to intentionally or recklessly interfere with safety equipment and to cooperate with their employer to enable the employer to comply with his duties of care.
2. **Environmental Protection Act 1990.** Produced in 2 parts (Part I and II), and outlines the principles underlying the UK approach to pollution control across all environmental media.
3. **Health and Safety At Work, etc, Act 1974 (Application to Environmentally Hazardous Substances) Regulations 2002, (SI 2002 No 282).** Provides a legislative link between health, safety and environmental issues concerning hazardous substances.
4. **Classification, Labelling & Packaging (European Regulations (EC) No 10. 1272/2008** Known as CLP and aims to ensure that purchasers, handlers and users of hazardous chemicals are provided with sufficient hazard information to protect their health and safety.
5. **Confined Spaces Regulations 1997, (SI 1997 No 1713).** Defines confined spaces and imposes controls on access.
6. **Construction (Design and Management) Regulations 1994, (SI 1994 No 3140).** Known as CDM, it imposes health and safety controls on construction projects that fall within the scope of the Regulations.
7. **Control of Major Accident Hazards Regulations 2015, (SI 1999 No 743).** Known as COMAH, it is implemented within the MOD through the Major Accident Control Regulations (MACR - JSP 498).
8. **Control of Substances Hazardous to Health Regulations 2002, (SI 2002 No 11. 2667; and the Health and Safety - Control of Substances Hazardous to Health (Amendment) Regulations 2004, (SI 2004 No 3386).** Collectively, known as "COSHH" and covers exposure to most hazardous substances.
9. **Dangerous Substances (Notification and Marking of Sites) Regulations 1990, (SI 1990 No 304).** These Regulations apply to sites holding certain quantities of listed substances. Its main aim is to ensure site access for firefighting services.
10. **Dangerous Substances and Explosives Atmospheres Regulations 2002, (SI 2002 No. 2776).** Known as DSEAR, it imposes requirements of eliminating or reducing risk from fire, explosion or other events arising at work from the hazardous properties of a dangerous substance. It supersedes previous regulations specifically concerned with highly flammable liquids and LPG.

11. **Environmental Permitting Regulations 2010 (SI 2010/675).** Controls the discharge of pollutants under a permitting regime.
12. **Management of Health and Safety at Work Regulations 1999, (SI 1999 No 3242 & Amdt SI 2002 No 2979).**
13. **Manual Handling Operations Regulations 1992 (SI 1992 No 2793).**
14. **Notification of Installations Handling Hazardous Substances Regulations 1982, (SI 1982 No 1357).** Under these Regulations the HSE must be notified of premises wherever substances listed in the Regulations may be present in the quantities stated.
15. **Personal Protective Equipment at Work Regulations 1992, (as amended) (SI 1992 No 2966).**
16. **Planning (Control of Major Accident Hazards Regulations) 1999, (SI 1999 No 981) and the Health and Safety – The Control of Major Accident Hazards (Amendment) Regulations 2005, (SI 2005/1088).** Although legally exempt from these Regulations, the MOD complies through its Major Accident Control Regulations (MACR).
17. **Provision and Use of Work Equipment Regulations 1998, (SI 1995 No 3163).** Known as PUWER, it provides requirements for the provision of safe work equipment and its safe use, irrespective of age or place of origin.
18. **Regulation (EC) No 1907/2006 OF The European parliament and of The Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.** This imposes obligations on Manufacturers, Importers (into the EU), Downstream Users (and Distributors, Retailers and Storage Providers) of certain substances. These requirements are being phased in over the period 1 June 2007 to 31 May 2018.
19. **Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, (SI 1995 No 3163).** Known as RIDDOR, it provides a mechanism by which certain categories of work-related injuries, diseases, and dangerous occurrences are reported to the Health and Safety Executive.
20. **The Carriage of Dangerous Goods and use of Transportable Pressure Equipment Regulations 2009, (SI 2009 No 1348).** This requires compliance with the UN regulations for the carriage of dangerous goods.

Annex B - Approved Codes of Practice (ACOP's) & Codes of Practice (CoP) & Guidance Notes (GNs) Supporting JSP 317

The list below outlines the main ACOPs and Guidance Notes that support the safe storage and handling of fuels, lubricants and associated products.

| Publication Code | Title |
|------------------|--|
| HSE – L5 | Control of substances hazardous to health (Sixth edition –2013) - The Control of Substances Hazardous to Health Regulations 2002 – ACOP and guidance |
| HSE – L21 | Management of Health and Safety at Work Regulations 1999 - ACOP |
| HSE – L22 | Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. (2018) - ACOP and guidance |
| HSE – L23 | Manual Handling Operations Regulations 1992 (as amended) |
| HSE – L25 | Personal protective equipment at work (Third edition) (2015) |
| HSE – L82 | A guide to Pipelines Safety Regulations (1996) |
| HSE – L101 | Safe work in confined spaces. (2014) Confined Spaces Regulations 1997 |
| HSE – L111 | A guide to the control of Major Accident Hazards Regulations COMAH (2015) |
| HSE – L131 | Approved Classification and Labelling Guide (Sixth edition) (2002) - Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP 4) |
| HSE – L133 | Unload Petrol from road tankers - ACOP and guidance |
| HSE – L138 | Dangerous Substances and Explosive Atmospheres Regulations 2002 - ACOP and guidance (2013) |
| HSE HSG – 51 | The Storage of Flammable liquids in Containers (2015) (Third edition) |
| HSE HSG – 53 | Respiratory protective equipment at work (Fourth edition) |
| HSE HSG – 71 | Chemical warehousing (2009) Storage of packaged dangerous substances |
| HSE HSG – 97 | A step by step guide to COSHH assessment (2004) |
| HSE HSG – 113 | Safe use of lifting equipment (1998) |
| HSE HSG – 140 | Safe use and handling of flammable Liquids (2015) |
| HSE HSG – 159 | Managing contractors (2011) - A guide for employers |
| HSE HSG – 167 | Biological monitoring in the workplace - A guide to its practical application to chemical exposure |
| HSE HSG – 173 | Monitoring strategies for toxic substances (2006) |
| HSE HSG – 176 | Storage of flammable liquids in tanks (2015) |
| HSE HSG – 250 | Guidance on permit-to-work systems: (2005) - A guide for the petroleum, chemical and allied industries |
| HSE HSG – 253 | Safe isolation of plant and equipment (2006) |
| HSE HSG – 262 | Managing risks from skin exposure at work (2015) |
| HSE INDG – 143 | Manual handling at work (2020) - A brief guide |
| HSE INDG – 174 | Personal protective equipment (PPE) at work (2013) |
| HSE INDG – 368 | Using contractors (2013) - A brief guide |

Additional information regarding any of the above can be found on the <https://www.hse.gov.uk/> web site.

Annex C - International & National Standards Supporting JSP 317

The list below outlines the main ISOs and BS-EN that support the safe storage and handling of fuels, lubricants and associated products.

| Standard No | Standard Title |
|------------------------|--|
| BS ISO 4266-1:2002 | Petroleum and liquid petroleum products. Measurement of level and temperature in storage tanks by automatic methods. Measurement of level in atmospheric tanks |
| BS ISO 12917-1:2002 | Petroleum and liquid petroleum products. Calibration of horizontal cylindrical tanks. Manual methods |
| BS ISO 4266-6:2002 | Petroleum and liquid petroleum products. Measurement of level and temperature in storage tanks by automatic methods. Measurement of temperature in atmospheric tanks |
| BS ISO 4269:2001 | Petroleum and liquid petroleum products. Tank calibration by liquid measurement. Incremental method using volumetric meters |
| BS ISO 4512:2000 | Petroleum and liquid petroleum products. Equipment for measurement of liquid levels in storage tanks. Manual methods |
| BS ISO 7507-4:2010 | Petroleum and liquid petroleum products. Calibration of vertical cylindrical tanks. Strapping method |
| BS EN 14161:2011 | Petroleum and natural gas industries. Pipeline transportation systems. |
| BS EN 60079-10-1:2015 | Explosive atmospheres. Classification of areas. Explosive gas atmospheres |
| BS EN 60079-14:2014 | Explosive atmospheres. Electrical installations design, selection and erection. |
| BS 7671:2018+A1:2020 | Requirements for Electrical Installations. IET Wiring Regulations. |
| BS EN 590:2013+A1:2017 | Automotive fuels. Diesel. Requirements and test methods. |
| BS EN 858-1:2002 | Separator systems for light liquids (e.g. oil and petrol). Principles of product design, performance and testing, marking and quality control |
| BS EN 858-2:2003 | Separator systems for light liquids (e.g. oil and petrol). Selection of nominal size, installation, operation and maintenance |
| BS EN 13616-1:2016 | Overfill prevention devices for static tanks for liquid petroleum fuels. |

Annex D - Industry - Approved Codes of Practice (ACOPS & Guidance Notes (GN's) Supporting JSP 317

The list below outlines the main industry ACOPS and GNs that support the safe storage and handling of fuels and lubricants.

| Publication Code | Title |
|---|---|
| Energy Institute Approved Codes of Practice (Refer to Energy Institute website for current editions) | |
| EI 1529 | Aviation fuelling hose and hose assemblies. |
| EI/JIG 1530 | Quality assurance requirements for manufacture, storage and distribution of aviation fuel to airports. |
| EI 1540 | Design, Construction, Commissioning, maintenance and testing of Aviation facilities. |
| EI 1541 | Performance requirements for protective coating systems used in aviation fuel storage tanks. |
| EI 1542 | Identification markings for dedicated aviation fuel manufacturing and distribution facilities, airport storage and mobile fuelling equipment. |
| EI 1550 | Handbook on equipment used for the maintenance and delivery of clean aviation fuel. |
| EI 1570 | Handbook on electronic sensors for the detection of particulate matter and/or free water during aircraft refuelling. |
| EI 1581 | Specification and laboratory qualification procedures for aviation jet fuel filter/separators. |
| EI 1584 | Four-inch hydrant system components and arrangements. |
| EI 1585 | Guidance in the cleaning of aviation fuel hydrant systems at airports. |
| EI 1590 | Specifications and qualification procedures for aviation fuel microfilters. |
| EI 1594 | Initial pressure strength testing of airport fuel systems with water. |
| EI 1597 | Procedures for overwing refuelling to ensure delivery of the correct grade to the aircraft. |
| EI 1599 | Laboratory tests and minimum performance levels for aviation fuel dirt defence filters. |
| Energy Institute Model Code Of Safe Practice (MCOSP) | |
| EI MCOSP Part 1 | The selection, installation, inspection and maintenance of electrical and non-electrical apparatus in hazardous areas. |
| EI MCOSP Part 2 | Design, Construction and operation of petroleum distribution installations. |
| EI MCOSP Part 15 (Blue Book) | Area Classification for installations handling flammable liquids. |
| EI MCOSP Part 16 | Tank cleaning safety code. |
| EI MCOSP Part 19 | Fire precautions at petroleum refineries and bulk storage installations |

2 - MOD Fuels & Gases Organisations

Chapter Sponsor - OEA Governance and Policy

Scope

1. The aim of this chapter is to outline the various organisations and their responsibilities within the Defence Fuels and Lubricants environment. Contact details for each area of expertise have also been included in this chapter.

ACDS SpOps – OPERATIONAL ENERGY AUTHORITY (OEA)

Defence Strategic Fuels Authority.

2. The OEA is an element of the ACDS (SpOps) area of responsibility and sits within the UK StratCom TLB. It has been established to effectively manage, co-ordinate and provide empowered oversight of the entirety of Defence Fuels business. The OEA operates under the authority of ACDS (SpOps) as the Defence Authority for Logistics and operates within a 3-tier governance structure which includes a 2* led Defence Fuels Steering Working Group (DFSWG), an OF-5 led Defence Fuels Working Group (DFWG) and an OF-4 led Defence Fuels Requirements Working Group (DFRWG). The governance hierarchy includes representation at an appropriate level from all stakeholders and will, depending on the issues concerned, report variously into the Defence Logistics Board (DLB) through the Defence Logistics Steering Group (DLSG), the Sustainable MOD Energy Steering Group (SMESG) and it will have the ultimate recourse to the Armed Forces Committee (AFC) and the Defence Board (DB).

3. The OEA consists of 5 separate Branches which have the following roles and responsibilities:

a. **Defence Fuels Technical Authority (DFTA).** DFTA is the nominated Technical Authority and is responsible for:

- (1) Co-ordinating, developing and maintaining quality assurance policy and procedures.
- (2) Providing advice on petroleum technology to Service users, equipment suppliers and design authorities.
- (3) Identifying and contracting an approved test laboratory for analysis of samples pertaining to routine Quality Assurance monitoring in accordance with JSP 317, and to facilitate investigation into product quality arising from service defects.
- (4) Providing recommendations and advice to Units regarding the fitness for use of fuels, lubricants and associated products, and appropriate remedial action based upon the analysis conducted.

| Address: | Contact details: |
|---|---|
| ACDS SpOps DFTA Cedar 3A MP #3133 NH3 MOD Abbey Wood Bristol BS34 8JH | Abbey Wood Mil (9679) Air Tech Manager: 83593 Email: Tina.Gleaves522@mod.gov.uk Marine Tech Manager: 83591 Email: Theresa.Rooke226@mod.gov.uk Multiuser Email: ukstratcom-defsp-oadftatech@mod.gov.uk Out of hours Tel: +44 (0)7810 771611 |

b. OEA Ops and Plans. The Ops and Plans Team, OEA are responsible for the management and coordination of all BAU requirements for fuel and associated products, ensuring that a single coherent Defence requirement is provided to the relevant procurement organisation, this includes the provision of aviation fuel via the Exolum Pipeline System. In addition, Ops and Plans provides SME advice related to fuel supply solutions, including the use of JOFS where appropriate. Ops and Plans is the focus for the requirement work for future Fuels MIS as well as the Defence Fuels Global Resupply Capability (DFGRC), which is the replacement for the previous Multi-Purpose Resupply Tanker (MPRT) capability. Instead of one resupply tanker, the MOD now has full access to two permanently leased tankers, one 35,000m³ capacity tanker RALEIGH FISHER (RF) (former MAERSK RALEIGH) and one 13,500m³ capacity tanker CLYDE FISHER (CF).

The aim of the DFGRC is to provide an assured supply of fuel by sea for planned uplift activities in the UK and Overseas Bases and support the deployed Joint Expeditionary Force (Maritime) JEF(M) in order to sustain commanders' operational freedom. DFGRC provides enhanced MOD asset capability, greater access to private shipping assets and better value for money solutions whilst providing an income stream for Defence. More detail can be found at link - [DFGRC](#)

Contact details are as follows:

| Address: | Contact details: |
|---|--|
| ACDS SpOps OEA CEDAR 3A, MP #3133 NH3, MOD Abbey Wood Bristol, BS34 8JH | SO1 Ops & Plans Email: Jon.Millinson384@mod.gov.uk SO2 Ops & Plans Email: Rowena.Wakeham567@mod.gov.uk |

c. Capability Coherence. The Capability Coherence Branch works with Users, the FLCs, the Requirements Managers, as well as the Acquisition and Support Communities, to ensure that all fuel-related products and services within the Strategic Command sub- portfolio, are specified correctly, procured, delivered, managed and supported in a coherent and policy compliant manner. The products and services covered include Aviation Fuel, Ground Fuel, Marine Fuel, Oils,

Lubricants and Non-Medical Compressed Gasses, as well as Fuel Handling Equipment (FHE), Fuels Assurance Equipment (FAE) and Fuels Information Systems such as BFIS/GFMS. The Branch aims to ensure that requirements are correctly identified, specified and developed in line with emerging technologies, legislation, policies, plans and doctrine. It also acts as the focal point for all long-term Capability Requirements and Support Solutions Envelope (SSE) engagement/issues.

| Address | Contact details: |
|--|--|
| ACDS OEA CEDAR 3A, MP #3133 NH3, MOD Abbey Wood Bristol, BS34 8JH | SO1 Cap Coh Email: Andrew.Maton244@mod.gov.uk |

d. **Policy and Governance and Assurance (PG&A).** The branch consists of two distinct functions: The policy function is responsible for drafting, editorship, promulgation and maintenance of JSP 317, JSP 319. The Governance function is responsible for the development of Defence Fuels strategy, risk coherence and assurance.

| Address: | Contact details: |
|--|--|
| OEA CEDAR 3A, MP #3133 NH3, MOD Abbey Wood Bristol, BS34 8JH | WO1 Policy: Email: David.williams592@mod.gov.uk |

e. **Exolum - Pipeline Services Management Team.** The Exolum Team provide the management of the service contract with Exolum-PS for pipeline stored and delivered aviation fuel in the UK. This includes managing the service on behalf of the UK based US airbases. The team monitor the contractors' performance against the requirements and obligations in the service contract to ensure that fuel is delivered at the time and quality/quantity needed.

| Address: | Contact details: |
|---|---|
| ACDS SpOps OEA Larch 3B, MP #2317 NH2, MOD Abbey Wood Bristol, BS34 8JH | Abbey Wood Mil (9679) Commercial C1: 87998 Email: ashley.ewens100@mod.gov.uk Finance C1: 83238 Email: Email: Gavin.Jack674@mod.gov.uk |

ACDS SpOps, OEA - Defence Fuels Incident Reporting Process

4. In order for the Operational Energy Authority (OEA) to have full oversight of all incidents occurring on the MOD Fuels and Gases estate within the UK and overseas (PJOBS and Singapore), there is a requirement to report any incident of significance. The format at [Annex A](#) should be followed and forwarded to the OEA Ops and Plans SO1 at the address at [Para 3b](#). Examples of incidents which should be reported as soon as practicable to the OEA may include:

- a. Major fuels infrastructure failure incidents resulting in loss or potential loss of operational capability.
- b. Major Fuel Spillages (Tier 2 and Tier 3 Spillages) which may result in risk to operations or UK MOD reputation. [Part 1, Chap 10, Para 20](#) refers.
- c. Fuel Contamination Incidents resulting in a loss or potential loss of operational capability. [Volume 3, Chapter 1, Annex M](#) refers.
- d. Incidents that affect airworthiness and or air safety resulting in a loss or potential loss of operational capability.
- e. Any other incidents where MOD and in particular ACDS SpOps, OEA, at a strategic level, should be informed to develop a pan-Defence outcome/solution in order to make timely assessments and offer guidance where required.

Defence Safety Authority - Fuels and Gases Safety Regulator

5. The FGSR Stakeholder Committee (FGSR SC) exists as a safety board established under the authority of PUS in accordance with the Secretary of State for Defence Policy statement and JSP 815, Defence Environment and Safety Management. The FGSR SC takes direction and reports to the Defence Environment and Safety Board (DESB) chaired annually by D DSA. The FGSR SC provides pan-departmental direction on fuels, gases and lubricants safety and environmental policy and ensures the continual effectiveness of the MOD Safety Management System. It provides assurance to the Secretary of State that procedures and processes for the safety and environmental management of fuels, gases and lubricants are defined and are effective across MOD and TLB interfaces (especially the relationship with Command TLBs in particular the tasks of the FGSR SC include:

- a. Enforcement of fuels safety policy, standards and procedures as described in JSP 317.
- b. Assisting the Defence Estates Competent Authority and the Competent Authority for Major Accident Control with the interpretation of fuels related risk management and safety policy direction.
- c. Monitoring the Command TLBs compliance with JSP 317, Air Safety Publications and other safety legislation applicable to fuels, gases and lubricants.

Management, Assurance and Licensing of Fuels within MOD estate the Fuel and Gas Safety Regulator

6. The regulations in the following chapters apply to all permanent and semi-permanent³ fuel installations. Regulations for installations constructed from TFHE/JOFS or other in-service fuel handling equipment are set down in Part 2, Vol 2 Chap 6.

7. Before any permanent or semi-permanent fuel installation can be licensed, it will be necessary for it to be certified and commissioned. Similarly, before a fuel installation can be declared redundant, it will be necessary for it to be de-commissioned. This chapter explains the procedures to be followed in each case.

8. The Fuel & Gas Safety Regulator (FGSR) role is to review fuel and gas safety across the MOD estate on behalf of the Secretary of State. The FGSR is tasked to monitor gas risk, provide advice and guidance on how to control or mitigate risks, to explain the implications of operating at risk and to provide the Heads of Establishment and TLBs with Subject Matter Expert (SME) advice on gas safety. The MOD currently provides independent self-regulation through the application of the Fuel (and Gas) Safety Assurance Assessment (FGSAA) process by the FGSR. FGSR audit flying/gliding clubs IAW [DSA 02](#) as storage of bulk fuel is regarded as a high-risk activity. Most fuel for flying/gliding clubs is stored in a container⁴ as described in Oil Storage Regulations (OSR) 151. OSR applies to holdings above 201L, consequently, FGSR will audit all fuel holdings above 201L⁵. Guidance can be found on the home page of JSP 317.

- a. The End to End⁶ process of Fuel and Lubricant storage facilities.
- b. Licensing storage on the Defence Estate.
- c. Compliance with current legislation/regulation.
- d. Competence of all personnel with fuel safety responsibilities.
- e. The following types of facilities:
 - (1) Permanent and semi-permanent bulk fuel Installations (BFI) (Aviation and Ground fuels).
 - (2) Oil Fuel Depots (OFDs).

³ Semi-permanent covers installations designed to comply with the statutory codes and regulations for permanent infrastructure, but able to be readily relocated.

⁴ Storage containers include: "oil drums and fixed tanks, intermediate bulk containers (IBC), and mobile bowsers – containers designed to store and dispense oil that can be moved between locations but not under their own power".

⁵ Note, this not to be confused with the 275L threshold detailed in the Petroleum Consolidation Regs 2014 which applies to storage only where dispensing occurs.

⁶ End to End is defined as 'the point when fuel is receipted from the delivery vessel into MOD infrastructure, through the storage process, until issue to the end platform'. It also covers the procurement process.

- (3) Mechanical Transport Fueling Installations (MTFI's).
- (4) Uninstalled Engine Test Facilities (UETF).
- (5) Unmanned Aerial Vehicle refueling.
- (6) Contractor storage tanks.
- (7) Bulk Fuel Carrying Vehicle parks.
- (8) Waste Oil & Fuel Recovery Systems.
- (9) Gas storage areas, oil, lubricants and packed stock storage and management (RAF and AAC units only).
- (10) Gliding/flying schools.
- (11) Clubs/Encroachments.

9. FGSR personnel are available on the following numbers to provide advice and guidance on issues surrounding the fuel safety assurance process:

| Address | Contact details: |
|--|---|
| FGSR, DLSR Hazel, level 1 # 0019 MOD Abbey Wood North Bristol BS34 8QW | MOD Abbey Wood Mil (9679) Ext: 83803 SO1: Email: douglas.hunter679@mod.gov.uk |
| | SO2: 83804 Email: karen.wallace858@mod.gov.uk |
| | Compliance: 83802 Email: mark.carlisle101@mod.gov.uk |
| | Gas: 83797 Email: Gary.Bennett817@mod.gov.uk |
| | FGSR MULTIUSER: DSA-DLSR-FGSRInspGroup@mod.gov.uk |

Single Service and TLB Responsibilities and Contact Points

Army HQ

10. **Army Headquarters Combat Fuels:** The Combat Fuels team is responsible for implementation of policy and procedures within the LAND dependency and for monitoring the service, products and infrastructure provided by the DE&S. It provides SME advice and represents the user/operator requirement to AHQ Eqpt Dir, CESO(A), D Infra, RLC Headquarters.

| Address | Contact details: |
|---|---|
| Field Army Logistic Support Branch Blenheim Building, Zone 2, IDL 3 Marlborough Lines Andover SP11 8HT | Field Army Logistics Support – Combat Fuels SO2 Andover Mil SO2 (94393) Ext: 6567 Civ: 01264 886567 Email: alison.dray331@mod.gov.uk |
| Regional Command (UK) Petroleum Inspectorate (S) Montgomery House Aldershot Garrison Hants, GU11 2JN | Aldershot Mil (94222) Ext WOIC: 7121 SNCOs: 7171 Email: Paul.Whiteley753@mod.gov.uk |
| Regional Command (UK) Petroleum Inspectorate (N) HQ 102 Log Bde Building 29 Prince William of Gloucester Bks Grantham, NG31 7TJ | Grantham Mil (94452) Ext SNCOS: 3118 Fax: 3045 Email: Paul.Whiteley753@mod.gov.uk |

GENERAL

HQ Regional Command (RC) Petroleum Inspectorate

11. The HQ Regional Command Petroleum Inspectorate, consisting of the United Kingdom (UK) Petroleum Inspectorate North, (UK) Petroleum Inspectorate South are staffed by RLC Petroleum Operator manpower identified against RC unit establishments.

- a. The Inspectorate's primary operational role is to deploy as Subject Matter Experts (SMEs), in order to advise the deployed Command. This will require the SME to give technical advice on the storage and handling of Fuels and Lubricants (FLAP), Gases and pipeline operations.
- b. The HQ RC Petroleum Inspectorate conducts Fuel & Gas Safety Assurance Assessments (FGSAA) in order to maintain operational capability and ensure that current legislation, MOD Policy and best practice is adhered to. This applies to units based within the UK, Germany, LWC dependencies and operational theatres.
- c. To meet operational and peacetime roles, RLC Petroleum Operators employed within the Inspectorates must be of WO/SNCO rank and qualified to the minimum grade of Class 1 Petroleum Operator.

SCOPE OF RESPONSIBILITY

12. HQ RC UK Petroleum Inspectorate North & South assume primacy for conducting the Audit & Inspection regime for UK based Army HQ units and overseas.

OPERATIONAL ROLE

13. The operational roles of the HQRC Petroleum Inspectorate are as follows:
- a. To provide SME staff support to the deployed Joint Force Logistic Component (JFLogC), National Support Element (NSE) or Log Bde HQ.
 - b. To provide technical direction and SME advice on the storage and handling of FLAP, Gases and deployed JOFS components.
 - c. Carry out Fuel & Gas Safety Assurance Assessments (FGSAAs) in support of Logistic Support Assurance Framework (LSAF) on operationally deployed 1st line units and where applicable contractors employed in support to operations.

PEACETIME ROLE

14. The peacetime role of the HQ RC Petroleum Inspectorate is as follows:
- a. Undertake the annual Fuel & Lubricants Audit and Inspection Regime in accordance with the requirements of Army Command Standing Order (ACSO) 9001.
 - b. As authorised by the DSA FGSR and directed by HQ RC, the Petroleum Inspectorate is to conduct FGSAAs of all fuel & gas infrastructure on the Army HQ estate for all intervening years between FGSR licensing visits in accordance with the requirements of the DSA FGSR Fuel Safety Management Plan and [DSA 02](#) & [DSA 03](#).
 - (1) Attend Siting, Acceptance and Decommissioning Boards for bulk/packed fuel and gas cylinder storage facilities.
 - (2) Advise units on petroleum matters and provide technical training to personnel if access to central training is not practicable.
 - (3) Investigate and report on significant petroleum related incidents and technical problems as directed by HQ Regional Command, Logistic Support Branch.
 - (4) Provide the technical focal point between units and HQ RC Log Sp Branch on all FLAP matters.
 - (5) Attend OEA Sub Committees/ Working Groups as directed by HQ RC Log Sp Branch.
 - (6) Provide input to DE&S and Army eBrief bulletins to encourage best practice and keep units up-to-date on prevalent problems and new information/regulations with respect to FLAP and Gases.
 - (7) Report any environmental, health and safety issues to HQ RC, Log Sp Branch, FGSR and CESO (A) Environmental Protection (EP).

AUTHORITY

15. The relevant authorities are as follows:

- a. **Operational Energy Authority (OEA).** OEA is the Commodity Manager for MOD FLAP products and gases; the authority for Fuel, Lubricants and Gases Policy and is the sponsor for the JSP's that contain policy relating to Fuel and Gases Safety Assurance and provide the procedures for storage and handling of FLAP products and Gases.
- b. **Defence Safety Authority (DSA) & Fuels and Gases Safety Regulator (FGSR).** The Fuel & Gas Safety Regulator (FGSR) role is to review fuel and gas safety across the MOD estate on behalf of the Secretary of State. The FGSR is tasked to monitor gas risk, provide advice and guidance on how to control or mitigate risks, to explain the implications of operating at risk and to provide the Heads of Establishment and TLBs with Subject Matter Expert (SME) advice on gas safety.
- c. **Defence Supply Chain Management (Policy) (D SCM (Pol)).** D SCM (Pol) is the Defence Equipment and Support (DE&S) focus for supply chain policy.
- d. **Joint Operational Fuels System Project Team (JOFS OIP).** JOFS OIP are responsible for the through life management of all Tactical Fuel Handling Equipment (TFHE) and the Joint Operational Fuel System (JOFS).
- e. **Army Headquarters Equipment Directorate.** The Equipment Directorate is the lead on all new and existing equipment requirements, in the LAND dependency.
- f. **The Directorate of Infrastructure Operations (D Infra).** D Infra provides the lead for the provision and maintenance of infrastructure throughout the Regional Command Structure, Reserve Forces and Cadet Associations (RFCA) and the Defence Training Estate (DTE).
- g. **Chief Environmental Safety Officer (Army) (CESO (A)).** Policy for the Environment and Health & Safety rests with the Chief Environmental Safety Officer (Army) (CESO (A)), HQLF.
- h. **Military Design Authority (MDA) - Joint Operational Fuels Systems.** The Military Design Authority for JOFS is the 516 Specialist Team Royal Engineers (Bulk Petroleum). Contact details are:

| Address | Contact details: |
|--|---|
| 516 STRE 170 Works Group Chetwynd Barracks Chilwell Nottingham | Chilwell Mil (94451) Ext: GE: 2384 TWO: 2167 UPWO: 2484 Ftr U&P SNCOs: 2479/2328 Email: michael.francis979@mod.gov.uk |

Supporting Agencies and Units

16. Team LEIDOS has responsibility for the implementation of policy pertaining to liquefied and Industrial Gases within the Army including units of the Adjutant General, GOC Northern Ireland, Army units of the JHC, units of the Field Army and the Army Training Estate (ATE).

17. DIO SD EUS- DMS Whittington, have the responsibility for the provision and advice on the supply of LPG. The Army HQ D Infra Sp is responsible for co-ordinating and planning the supply of LPG to operational theatres. Land Log CSS Ops is responsible for the co-ordination and planning the supply of IG to operational theatres.

18. **Units.** Unit Quartermasters are responsible for ordering of liquefied and Industrial Gases, either from the Team LEIDOS managed gas contract or the DIO SD EUS- DMS Whittington sponsored LPG contracts. They are also responsible for the receipt, issue and return of compressed gas cylinders and monitoring of liquefied gas deliveries from the current LPG contractors. The Army rules for accounting for LPG are contained in the Army Infrastructure Manual Leaflet available on the Army HQ D Intranet Web site.

- a. Accommodation Services Units are responsible for the receipt, validation and payment of all LPG both bulk and cylinders. They are also responsible for the procurement of LPG cylinders except in NI where the responsibility lies with CSS.

Air Command

19. **Air Command HQ.** For HQ Air Command units, Air Support Fuels is able to advise units. Contact details are:

| Address | Contact details: |
|--|--|
| Air Command COS Sp Room 46 Gladiator Block 1 Site, RAF High Wycombe Buckinghamshire, HP14 4UE | RAF High Wycombe Mil (95221) Ext: 5920 Email: air-support-logs-fuels@mod.gov.uk |

20. **Air Command HQ External Quality Audit (EQA) Team.** The RAF has chosen to apply the ISO 9000 series of QA requirements to its Logistics (engineering and supply) activities and therefore, undertakes EQA activity on their Units.

Navy Command

21. **Navy Comd HQ.** For shore-based RN and RM establishments, the Navy Logistics and Infrastructure desk can advise units. Contact details are:

| Address | Contact details: |
|--|---|
| Navy FGen Logs-Fuel Safety Off Navy Command HQ Whale Island Portsmouth PO2 8BY | Navy FGen Logs-Fuel Safety Off Mil: 0300 1622271 nicholas.barrett111@mod.gov.uk |

22. **DE&S.** DE&S, Directorate of Engineering and Safety (D ES) Quality Safety and Environmental Protection (QSEP) DE&S CESO office is available to advise units and Industry / Delivery Partners. Contact details are:

| Address | Contact details: |
|---|---|
| DE&S CESO EP MP #1260 Spruce 2C, NH1 MOD Abbey Wood Bristol, BS34 8JH | DES TECH-QSEP Env-Man Tel: 030 679 82509 Lee.Sanderson737@mod.gov.uk |

Annex A MOD Major Fuels Incident Report

1. The MoD Fuels incident report should be given a unique serial number by the reporting unit. The report should be sent, by email, within 1 hour of the occurrence to the address at [Part 1 Chap 2 Para 3b](#). The report format is:

- a. ALPHA – The location of the incident, e.g. Theatre, unit, installation/building number, off-base location.
- b. BRAVO – Incident Date/Time. The date and approximate time (local) that the incident was discovered.
- c. CHARLIE – Type of incident, e.g. Ruptured pipeline or Tier 2/3 Spillage.
- d. DELTA – Initial action carried out by unit.
- e. ECHO – Follow up action being carried out by Unit.
- f. FOXTROT – Assessed level of public interest, e.g. Media involvement.
- g. GOLF – Operational capability affected – Yes/No. Give details on areas affected.
- h. HOTEL - Initial POC and Tel No. The initial POC at the unit reporting the incident.

3 - Health and Safety in FLAP Environments

Chapter Sponsor - FGSR SO2

General

1. This chapter has been removed in entirety and details should be sought directly from [DLSR – Fuel and Gas Safety Regulator \(FGSR\) \(sharepoint.com\)](#). This is to prevent duplicate copies of information and prevent the risk of outdated information being published.

- a. [DSA 02 - DLSR](#) - Fuels and Gas Safety and Environment Regulations.
- b. [DSA 03 - DLSR](#) - Fuels and Gas Safety and Environment Regulations - DCOP's.
- c. [JSP 375 - Part 2 Vol 1 Chap 11 - Management of Hazardous Substances](#)

4 - MOD FUELS INSTALLATION LICENCING CERTIFICATES OF CONTINUED OPERATION

Chapter Sponsor - FGSR SO2

General

1. This chapter has been removed in entirety and details should be sought directly from [DLSR – Fuel and Gas Safety Regulator \(FGSR\) \(sharepoint.com\)](#). This is to prevent duplicate copies of information and prevent the risk of outdated information being published.

- a. [DSA 02 - DLSR](#) - Fuels and Gas Safety and Environment Regulations.
- b. [DSA 03 - DLSR](#) - Fuels and Gas Safety and Environment Regulations - DCOP's.

5 - Siting, Certification, Commissioning & Decommissioning & Demolition of FLAP Installations

Chapter Sponsor - DIO TS Eng Mech AH

Scope

1. This chapter outlines the policy and procedures to be applied during the siting, certification, commissioning, decommissioning and demolition of FLAP Installations on the MOD Estate. A permanent or semi-permanent fuel installation (e.g. Modular) on the MoD Estate cannot be either brought into use or decommissioned or demolished until the agreement of all interested parties, has been obtained.

General

2. Before a Siting Board (SB) can be convened, a Statement of Requirement (SOR) must have been prepared to determine the actual details of the work to be undertaken as this will influence the correct stakeholders to be in attendance for the SB. A Land Quality Assessment (LQA) should be conducted either before the SB, or just afterwards; but before construction commences. This will ascertain if contamination or pollution exists at the site and to what level. LQAs are conducted Refer to JSP 850 and consult DIO EOLM SME (DIOTS-LQA@mod.gov.uk) for advice. Note that the need to conduct a LQA shall also apply for FLAP installation demolition projects.

Siting Board

3. The SB is a mandatory requirement. All permanent and semi-permanent FLAP facilities are to be subject to a properly constituted SB prior to the placing of Project Management or construction contracts. It is the responsibility of the User and/or the Senior Infrastructure manager (SIM) to arrange for the SB to be held.

4. The SB will consider the siting and layout of the proposed installation, primarily based on safety, efficiency and economy. Due regard to the proximity of associated military installations such as explosive stores, aircraft and aprons, and HM Ships and their associated instruments (e.g. radio, radar and lasers) shall be taken. In some cases, Local Authority Planning Permission may be required. The amenity value and environmental aspects of the site and its surroundings must be considered.

5. FLAP Installations must be sited, wherever practicable on level, well drained, open and ventilated areas, as far from explosive stores, airfield runways and buildings as is possible and, in any case outside the prescribed safety distances for such installations or areas. Consideration must be given to the most efficient traffic flow and proximity to utilities such as water, drainage, power and firefighting facilities. When the SB is satisfied that all conditions have been met, it shall include a further member onto the Handover Board (HB), which shall be budgeted into the Project. This member shall be a DIO TS licensed Technical Standards Petroleum 03 Inspector (see para 12). SBs for other fixed infrastructure proposals on the unit are to fully consider the proximity of FLAP installations.

6. A properly constituted SB is to comprise of:
- a. A qualified fuels role officer/SNCO/WO from the TLB, Regional Command Petroleum Inspectorate, Air, Strategic Command, Army etc. Appropriate sections of the FGSAA must also be used.
 - b. EFM or SEFM (Estates Facility Manager or Senior Estates Facility Manager) and to include a fuels specialist from the RD RTT.
 - c. Maintenance Management Organisation (MMO) and to include the AE (Petroleum) for the unit.
 - d. Project Manager (eg DIO MPP, MMO)
 - e. Principal Contractor.
 - f. DFR Officer.
 - g. Unit/Station Environmental Officer (eg SHEF)
 - h. Proposed Operating Authority
 - i. The following may also be required:
 - (1) Ammunition Technical Officer (ATO) (or Service equivalent).
 - (2) Communications Officer/Radiation Hazard Officer.
 - (3) SME's (as required) eg DIO TS, OPA
7. The siting of FLAP storage lockers does not require a formal SB. It is sufficient that the Operating Authority (OA) (Chap 8 refers) consult at a unit level with the H&S and Fire Safety advisor to determine a suitable and safe location.

8. Section 3.2 of the Defence Works Functional Standard, Design and Maintenance Guide 03 (DMG 03) include the [Segregation of Dangerous Goods in Storage and Transit Areas](#) when planning segregation and separation of Dangerous Goods of different classes to meet the requirements of Health and Safety Guidance (HSG publications). The SB members are required to check proposed storage arrangements for packed product stores or storage areas for compliance with DMG 03. This includes stores intended for equipment containing residual fuel.

Certificate of Fitness for Purpose

9. A Certificate of Fitness for Purpose (CFFP) represents formal confirmation by the Project Manager (PM) that new, or modified installations are fit for the purpose for which they are intended. A CFFP should be provided before first fill or use. Where works commissioning actions follow first fill, the formal confirmation is repeated by the PM that the facility is fit for purpose and use after the completion of the commissioning works. This forms one of several requirements which must be fulfilled to enable the FGSR to license the installation.

10. The CFFP may be issued by the PM, the principal contractor or the MMO. It must state that the installation has been constructed, or modified, in conformance with the approved design and that it is fit for its intended purpose. The certificate must be signed by the PM and counter- signed by:

- a. Principal Contractor.
- b. DFR Officer.

Commissioning

11. Commissioning of an installation is a principal contractor's responsibility. To commission a FLAP installation, the appropriate live product(s) must be used. Prior to receiving live product, a CFFP must be issued. The AP (Pet) is to be provided with the commissioning procedure produced by the contractor and all relevant method statement and risk assessments to enable SSoW management under [JSP 375, Vol 3, Chap 5](#). FLAP facilities that are used for the bulk storage and movement of product require Commissioning, examples of which are as follows:

- a. Bulk Storage Tanks (including Uninstalled Engine Test Facilities).
- b. MTFIs.
- c. Hydrant Refuelling Systems.
- d. Pipelines.
- e. Waste Oil and Fuel Recovery systems.

Handover

12. Once an installation has been successfully commissioned and is considered ready for handover to the OA, the original SB members, with the addition of the DIO TS licensed Technical Standards Petroleum 03 professional Inspector, is to re-convene as a (HB). The HB is to ensure that the installation has been constructed in accordance with all safety, legislative and SB requirements, has been correctly commissioned and is in a fit and proper state for use. This assurance activity shall include the conducting of a Petroleum-03 professional inspection of the installation. When the HB is satisfied that these conditions have been met and there are no outstanding issues on behalf of the principal contractor to resolve, it is empowered to issue the appropriate Service documentation that will authorize its handover. This is to be signed by all members of the HB and is to accept the installation for the following reasons:

- a. For use by the OA.
- b. For maintenance by the MMO.

Certificate of Fitness for Continued Use

13. The SIM is responsible for ensuring that the MMO conducts a professional inspection of fuel installations and flammable dangerous goods stores in accordance with (Technical Standards Petroleum 03) no later than 12 months after the handover date, then on an annual basis thereafter and where appropriate, issue the Certificate of Fitness for Continued Use (CFCU). A CFCU confirms that existing installations have been maintained and remain fit for the purpose for which they are intended. The facilities to be inspected include the following:

- a. Bulk storage for flammable liquids or aviation fuel including slops and buffer tanks.
- b. Fuel transfer facilities (e.g. cross-base pipelines and naval fuel jetties) including pigging facilities where appropriate.
- c. Aviation fuel hydrant systems.
- d. Mechanical Transport Fuelling Installations (MTFI).
- e. Flammable dangerous goods stores.
- f. Specialist facilities, e.g. semi-permanent installations, jerry can be filling plants.
- g. Major bulk storage facilities for plant diesel and fuel oil.
- h. Ancillary installations; including small plant diesel, heating, fuel oil and waste oil installations.

Site Specific Operator Training

14. As part of the handover process, the SEFM is to arrange for any installation- specific familiarisation training required for the AP(Pet), the maintainer, and the operators of the installation. An appropriate record of those personnel who have received training is to be maintained by the OA.

Transfer

15. OA's are required to inform the FGSR when planning a unit move or the transfer of site ownership from one TLB to another. [JSP 375](#) Volume 2 Leaflet 16 should be consulted in the first instance.

Closure

16. FLAP installations should be considered for retention if DIO advise that they would add to the value (and therefore receipt) of the site.

Decommissioning

17. This section is intended to provide direction for the TLBs and FLAP Managers who have an operational⁷ bulk fuel storage infrastructure asset that is no longer required on either a temporary or permanent basis. The specialist petroleum engineering needed to carry out this type of work is not included in this document; responsibility to ensure such work is carried out competently and that it complies with all relevant legislation is the responsibility of DIO TS's mechanical and fuels infrastructure specialists, DIO RD RTT, EFM/SEFM, the MMO and any specialist sub-contractors as required. If a TLB or one of their units perceive there is no longer a requirement to retain an operational bulk fuel storage infrastructure asset, be it temporarily or on a permanent basis, it will predominantly be a result of one of these factors *n.b. this is not an exhaustive list*:

- a. A temporary reduction in the operational requirement to store petroleum products has created a redundant bulk fuel storage infrastructure asset, however, it is expected to be required again in the future and will need to be returned to service.
- b. A permanent reduction in the operational requirement to store petroleum products has created a redundant bulk fuel storage infrastructure asset that will not be returned to service.
- c. A bulk fuel storage infrastructure asset that is no longer fit for continued use and is deemed beyond economical repair.

18. If a situation relating to the information provided in paragraph 17 materialises, the bulk fuel storage infrastructure asset is not to be abandoned; instead the asset is to transition from an operational state to one of three other recognised states, detailed below in this paragraph. In such instances, stakeholder actions for the entirety of the project's life, associated costs and the detailed work required to achieve the required new state is to be planned, authorised and carried out as part of the activity detailed in paragraph 19 (**this is of paramount importance and shall be adhered to**).

a. **Mothballing.** This defines a bulk fuel storage infrastructure asset that is not in use but is undergoing a tailored maintenance programme that will enable it to be returned to an operational state in a pre-determined time-period.

(1) **Tanks.** The time-period for a tank to remain in a mothballed state cannot exceed the next periodic inspection (clean, inspect, repair). As this is typically a periodicity of between 5 to 8 years, that would be the maximum timescale a tank could remain in a mothballed state. The exact deadline for each specific project would need to be discussed and officially recorded as part of the specific asset project activity.

(2) **Pipelines.** The time-period for a pipeline is harder to define, but it should be based on the known condition and on-going maintenance requirements. The exact deadline will depend on the specific asset project. It would need to be discussed and officially recorded as part of the specific asset project activity.

⁷ Defined as in use and requires access for its normal operation and maintenance n.b. an operational fuel facility on a unit can contain mothballed or decommissioned plant and equipment (these two terms are defined further down the page).

b. **Decommissioning.** When a bulk fuel storage infrastructure asset is no longer required on a permanent basis, it can be decommissioned. This is defined as subjecting the bulk fuel infrastructure asset to an engineering process that leaves it in a safe state⁸ without the need for further maintenance⁹. It is an irreversible process. As part of the specific asset project activity in paragraph 19, it would need to be decided whether the asset was going to be either:

- (1) Demolished in a short timeframe; or,
- (2) Decommissioned for the long-term and demolished at a later date.

c. **Demolition.** Once a FLAP asset is decommissioned it may require full demolition at some point i.e. it is completely removed¹⁰ and a land quality assessment is undertaken. The demolition of such assets can prove costly owing to the need to employ specialist contractors and remediation of any potential pollution of the ground and watercourses. Therefore, the Project Officer/Lead shall as part of their approvals process shall consult DIO TS's fuels infrastructure, and environmental protection specialists before any project is forwarded to the TLB for approval. As with the other two options, the detailed planning and work needed to achieve this option state will form part of the specific project activity.

19. Authorisation to proceed with changing a bulk fuel storage infrastructure asset from an operational state to any one of the other three options detailed in paragraph 18 can only be provided by the relevant TLB. To enable the TLB to make an informed decision based on factors such as: operational requirements, health, safety and environmental impacts, financial cost, security and risk, comprehensive planning and execution processes must be undertaken and include a detailed project plan produced that spans the entire lifecycle of the specific project (this is to include a Management of Change (MoC) procedure¹¹). The detailed project plan and MoC shall be completed within a 12-month period from the TLB's initial decision on the operational requirement of the asset. To ensure that this occurs, suitable representation from the following stakeholders, as a minimum, must be included to meet the requirement:

- a. The unit's OA/chain of command (initial lead and responsible for ensuring stakeholder representation).
- b. Relevant elements of the TLB. (eg Infra Support)
- c. Relevant members of the unit's OA
- d. Other relevant unit departments/SMEs as required. (e.g. DIO TS, OPA).

⁸ In terms of security, health & safety and environmental.

⁹ Periodic checks will still need to be carried out.

¹⁰ Cross-country pipelines are typically filled with foam or concrete and not removed.

¹¹ An industry standard MoC procedure process shall be followed to ensure that all relevant health, safety and environmental risks are controlled when the asset changes from operational state to one of the other three recognised option states in paragraph 18. The MoC process (refer to Technical Standard – Petroleum 01 for guidance) must detail the changes that will take place, risk assess any potential safety and environmental hazards resulting from the changes, provide the necessary audit trail as to why the decision was taken, and show endorsement and acceptance by all the appropriate stakeholders. It shall also identify the operating/maintenance procedures and inspection records in need of update to reflect the change. A temporary MoC is to be issued for a mothballed asset; whilst a permanent MoC will be needed for an asset that is either decommissioned or demolished.

- e. DIO TS-Eng Mech AH (who will advise the MMO and other relevant stakeholders depending on the specific project scope; and arbitrate on all engineering aspects affecting the fuels infrastructure).
- f. DIO RD (who will be responsible for liaison with the MMO, their sub-contractors, DIO TS and OA).
- g. The respective single Service fuel office (see JSP 317 Part 1 Chapter 2 for contact details). They are responsible for informing:
 - (1) OEA Ops & Plans (see JSP 317 Part 1 Chapter 2 for contact details).
 - (2) DSA – SO2 FGSR (see JSP 317 Part 1 Chapter 2 for contact details).

6 - MANAGEMENT OF MAINTENANCE, DESIGN AND CONSTRUCTION

Chapter Sponsor - DIO TS Eng Mech AH

Scope and Application

1. This chapter is concerned with planning, organising and managing the maintenance and repair of fuel infrastructure this may include the design and construction of modifications and new works. The Maintenance Management Organisation (MMO) are the organisation responsible for the planning and execution of these tasks which need to be coordinated with the Head of Establishment (HoE) /Operating Authority (OA) who is responsible for the safe and proper operation of fuel installations. The MMO may be a Contractor, DIO or Military.

Inspection and Maintenance

2. The MOD operates a range of fuel infrastructure which is maintained by the MMO. An annual professional inspection of fuel infrastructure and flammable dangerous goods stores is mandatory in order to comply with the requirements of this JSP as the professional inspection is an integral element of the Licensing and Fuel Safety Assurance Assessment (FGSAA) regime. The professional inspection shall be annual, and its purpose is to:

- a. Confirm that all currently applicable legislation and legal requirements are adhered to.
- b. Confirm that there is a maintenance management system in place (with details) and that the facilities are being maintained to the appropriate standard.
- c. Provide a report based on a thorough visual inspection of the facilities.
- d. Review non-destructive examination data to ensure appropriate future actions are programmed as part of the asset management strategy.
- e. Confirm that the facilities can continue to be used until the next annual inspection or to precisely define the actions required in order for the facilities to continue to be used.

3. It should be noted that the annual Professional Inspection of Fuel Infrastructure and Flammable Dangerous Stores – Technical Standards Petroleum 03 does not include the evaluation of operating procedures or fuel quality checks, which are detailed elsewhere in this JSP.

4. Petroleum installation fixed equipment and its associated storage and distribution that forms part of the installation must be maintained in accordance with the requirements DIO Technical Standard-Petroleum-02 Inspection, Maintenance and Testing of Equipment Installed at Petroleum Installations on MOD Property, which covers the scope and frequency of planned inspections and maintenance work. To ensure the facility remains compliant,

attention must be paid to periodic inspection of electrical equipment and regular inspection and cleaning of interceptors and separators, bunds, vents, slop tanks and buildings where flammable vapour may be present. Para 35 of JSP 375, Vol 3, Chap 5, states that one of the duties of the OA is to agree a Notification Regime procedure with the AP. Therefore, in order for the OAs to facilitate the handing-over of their installation(s) for the completion of planned periodic maintenance and inspection activities, they are to be given at least twenty working days notification by the MMOs of the works due date. Additional information on fire precautions is provided at Chapter 7 and OWI design and operation is detailed at [Part 2 Vol 1 Chap 7](#).

5. Compliance with [JSP 375, Vol 3, Chap 5](#) is mandatory for all persons working on petroleum installations, under the control of the Ministry of Defence from their initial specification and design through installation operation maintenance and eventual de-commissioning.

Design and Construction Works

6. Construction works are defined within the Construction (Design and Management) Regulations (CDM)¹² and include construction, alteration, conversion, fitting out, renovation, installation, commissioning, maintenance, repair, upkeep and removal of services. For CDM works procedures, roles and responsibilities refer to [JSP 375 Part 2 Vol 1 Chap 33](#).

7. The CDM Client or Principal Designer is to:

- a. Consult either DIO's Technical Standard, Petroleum-01, Specialist Works on Petroleum Installations on MOD Property or Petroleum-04, Design, Inspection, Maintenance and Testing of Equipment Installed at MOD Mechanical Transport Fuelling Installations or Petroleum-05, Ancillary Fuel Installations in order to ensure that the design and construction phases take account of the requirements of JSP 375, Pt 2, Vol 3 so that they can be satisfactorily implemented throughout the life of the facility or installation.
- b. Ensure that the effects of the works and the completed facility or installation upon the existing site infrastructure are fully understood and taken into account so as to ensure continuing compatibility.
- c. Ensure that familiarisation training is provided for those AEs and APs who are to be appointed for the management of the risk activities associated with the facility or installation on construction completion.

8. At the initial design stage of a project the CDM Client¹³ and or Principal Designer¹⁴, HoE and other relevant stakeholders of the works are, based on the requirements of applicable DIO Technical Standards and JSP 375, Pt 2, Vol 3, to initiate the necessary exchange of pre-construction information and used to inform design and build deliberations. The MMO is to ensure key stakeholders within their organisation including the CAE/AE(Pet) and AP(Pet) have been notified and that any issues are identified before work commences. The MMO is to liaise with the Client and or Principal Designer as appropriate in order to resolve any issues where the proposed design does not conform to the requirements of DIO TS's applicable Technical Standards and comply with the requirements of JSP 375, Pt 2, Vol 3. The CDM

¹² Health and Safety Executive L153 - Managing Health and Safety in Construction; Construction (Design and Management) Regulations 2015. Regulation 2 - Interpretation.

Client and Principal Designer are to coordinate and manage the flow of health and safety information between all stakeholders in the pre-construction phase of a project; once the construction phase commences, the Principal Contractor takes the lead role for coordination.

9. information on the process between project works and MMO AE and AP(s) including design reviews, commissioning, handover familiarisation and training can be found in [JSP 375, Vol 3, Chap 2](#) 'Common Requirements'.

7 - FIRE PRECAUTIONS

Chapter Sponsor - DFR Hd SCP

General

1. The likelihood of a major fire can be minimised by good plant design and layout, sound engineering, good operating practices and proper instruction, supervision and training of personnel in both routine operations and emergency procedures. Plant design and layout must include the provision of adequate water supplies iaw DIFS, fire protection and firefighting equipment, means of escape for employees and means of access for fire brigades in the event of fire. The level of protection afforded to petroleum facilities will very much depend upon the size, complexity and nature of business conducted at each location. It is important to assess the risks involved at each location and provide and install the appropriate fire safety measures for each particular risk.
2. The DFR Hd SCP is to be consulted in order to ensure that Fire Risk Assessment (FRA), Defence Infrastructure Fire standards (DIFS) and Fire Risk Resilience Assessments (FRRA) comply with relevant fire safety legislation, legal, regulatory policy and guidance for Defence.
3. The objective is the elimination of all sources of ignition from areas of petroleum ignition risk and where risks cannot be eliminated, to establish safe systems of control.
4. Operations and maintenance activities performed in hazardous areas can only be carried out if actions to eliminate potential sources of ignition are taken.
5. Ignition risks apply to EL Class I and II products but may also apply to EL Class III products (generally classed as non-hazardous) in certain circumstances, if the product is stored or heated to or above its flashpoint, or when flammable mists are formed. In these circumstances, it may be appropriate to consider the provisions of Chapter 7 paras 10 to 17. All operating and AP (Pet) procedures inclusive of [JSP 375, Vol 3, Chap 5](#) - Petroleum Installations must be adhered to at all times. If there is any doubt, concerning the possibility of working practices causing ignition risks, reference must be made to the Operating Authority for operational matters, and to the AP (Pet) for maintenance work on fixed petroleum installations.

Fire Plans

6. A comprehensive fire plan must be provided for all locations storing and handling petroleum products. This is to take account of the guidance on fire protection and safety precautions described in this section. Factors to be considered when formulating the fire plan must include:
 - a. The nature and quantity of materials processed and stored.
 - b. The proximity of other process plant, storage vessels, works and public buildings and vegetation.
 - c. Fire Service response times.
 - d. Accessibility to the site for firefighting appliances.

- e. Emergency escape routes for staff.
- f. Site security.
- g. Liaison with all DFR fire service providers, local fire authorities, medical services and water authorities.
- h. Environmental effects.

7. **The fire plan is to provide details of:**

- a. Fire detection and alarm systems
- b. Water and other chemical firefighting agents
- c. Firefighting equipment
- d. Emergency plant shutdown procedures
- e. Emergency evacuation procedure and assembly points in a safe location including, where necessary, the establishment and staffing of a fire control centre
- f. Staff fire training.
- g. The duties of all persons nominated in the plan.
- h. Arrangements for the testing and updating of the plan.

Communication / Alarms

8. There should be an effective means of both raising the alarm and giving warning in case of Fire. It should be audible to all those likely to be affected by the fire. Advice should be sought from the Establishment Fire Focal Point (EFFP). Communications are required as follows:

- a. **BFI.** A telephone is to be provided on the installation.
- b. **Mechanical Transport Fueling Installation (MTFI).** If the installation is unmanned i.e. it has a Ground Fuel Management System (GFMS), a telephone is to be provided. The telephone is to be in a prominent position and readily identifiable in case of emergency. If the installation is manned, attendants must be made aware of the location of the nearest telephone as part of their induction training.
- c. **FLAP Store.** There is no requirement for a telephone to be installed, although establishments may do so if they see fit.

9. Whenever petroleum products are stored or handled, even in small quantities, hazardous conditions can arise. The extent of all hazardous areas is therefore to be clearly indicated using notices such as 'PETROLEUM SPIRIT – HIGHLY FLAMMABLE – NO SMOKING – NO NAKED LIGHTS', conspicuously displayed in the appropriate languages, with other appropriate hazard warning and supplementary signs conforming in shape, size and colour with the requirements of *the Health and Safety (Safety Signs and Signals) Regulations 1996*. Units in Germany requiring dual language signs should contact Regional Command Petroleum Inspectorate for advice.

10. Personnel entering or working in hazardous areas or confined spaces are to be made aware of the dangers, particularly the need to ensure that adequate ventilation is available. They are to be conversant with the uses and operation of the firefighting equipment provided and the method of calling the fire service. Fire Safety Notices & Fire Action Notices must be displayed and comply with the Health and Safety (Safety Signs and Signals) Regulations 1996. Locations and quantities should relate to the local risks and be the result of a risk assessment.

11. Smoking or smoking materials are not permitted in a hazardous zone. Before personnel enter a hazardous zone or likely hazardous area, all smoking materials should be deposited at a safe and designated contraband appointed place. However, within certain petroleum installations or depots, smoking may be permitted in an area or area set aside for the purpose, and where express authority is given. This area must be outside of the area technically classified as a hazardous zone. Equipment for catering purposes and other equipment which potentially is a source of ignition located in such buildings or areas must be of a type which cannot be removed and taken into the defined hazardous zone

12. The following precautions are to be observed in the selection and use of equipment and clothing within hazardous areas:

a. Footwear studded or tipped with exposed metal must not be worn unless approved over-shoes are also worn. All footwear must be worn in accordance with [Part 2, Vol 1 Chap 1](#).

b. The wearing or carrying of non ATEX 100a certified portable equipment containing dry batteries, such as transistor radios, portable tape recorders, video cameras, automatic cameras, flash attachments, electronic car keys, calculators (including wrist watch types), mobile phones and other SMART electronic devices capable of transmitting or receiving an electronic signal, Bluetooth smart devices is prohibited.

c. The wearing of hearing aids is forbidden at Class I and II installations unless they are certified intrinsically safe. Batteries must not be exposed or changed within the Hazardous Area. This rule applies at Class III installations when the product is stored at high temperatures (above its flash point) or under extreme pressure. In certain circumstances, the facility manager may approve the wearing of hearing aids. In each case the facility manager must complete a suitable risk assessment and annotate the individual's Certificate of Competence accordingly.

d. Equipment and tools are to be used only for the purposes for which they are designed, and care should be taken to prevent improper use. So-called safety or non-sparking tools of non-ferrous metal are to be used with caution, as their use can lead to a false sense of security. Such equipment can be more dangerous than ferrous tools in certain circumstances.

e. Equipment must be certified for the hazardous zone and limited to application in that zone. Equipment with electrical protection suitable for use in Zone 1 can be used in Zone 1 and Zone 2 applications. See [Part 1, Chap 3](#) and [JSP 375, Part 2, Vol 1, Chap 9](#) for details.

f. All fixed electrical apparatus and associated connections, and all portable items must conform to *BSEN 60079-14* applicable to the zone. (Refer to Part 2, Chapter 1 for

Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR 02), and Chap 3 *BS EN 60079-10* for hazardous zones, and to the installation hazardous area drawings).

g. Safety cans, safety taps and drip trays are to be utilised whenever possible.

13. Additional precautions to be applied during the handling of petroleum products in hazardous areas are:

a. When packed products are handled in a hazardous area, adequate precautions are to be taken to avoid the risk of sparks being caused by movement of either the package or any ancillary equipment. ([Part 2 Vol 1 Chap 5](#))

b. Any spillage is to be mopped up immediately using sand or approved absorbent material, which must be removed from the area for safe disposal. (Part 1 Chap 9)

c. Any leakages are to be reported immediately and action is to be taken to reduce the leakage until permanent repairs are carried out. ([Part 2, Vol 4, Chap 3](#))

d. Rags used for cleaning purposes are to be removed from the area immediately after use and disposed of as hazardous waste. Cotton waste is not to be used for cleaning purposes.

e. Loading, offloading, gauging or sampling of vehicles, rail tank cars, ships or tannage involving flammable liquids is not to be undertaken during thunderstorms, snow storms or hail storms, or where there is reason to believe that disturbed atmospheric electrical conditions could occur. ([Part 2, Vol 2 Chap 5](#))

f. Oxidisers and acids are not to be stored with flammable liquids.

g. Glass bottles and broken glass must not be left in a hazardous area due to possible ignition conditions in sunlight.

14. All electrical apparatus and associated wiring, including portable lighting, is to conform to the requirements laid down in BSEN 60079-14 Electrical Installations in Hazardous Areas other than Mines. Overhead power cables are not permitted.

15. Telephones and other communications circuits are to be ATEX certified if sited within the hazardous zone as defined by the hazardous area drawing. Before radio or radar equipment is sited or operated near a hazardous area, advice is to be sought from the appropriate technical authority.

a. The use of SMART technology which have transmitting functions of Wi-Fi, cellular, Bluetooth, GPS, RFID are prohibited within a hazardous area as defined by the hazardous area drawing, unless these devices are deemed ATEX compliant and have been approved through the relevant Operating Authority (OA) prior to entering the hazardous area.

16. The following precautions must be observed in considering the use of heat producing equipment within hazardous areas.

a. All welding/cutting with the use of naked flame equipment and any works process that creates incendive sparks is to be controlled in accordance with

[JSP 375, Vol 3, Chap 5](#) - MOD Safety Rules and Procedures for Work on Petroleum Installations.

b. Open fires, naked light heaters, open electric or gas elements and stoves are prohibited.

17. Grass and vegetation are to be cut and removed to a minimum of 15m from the source of the hazard. Grass cutting and the removal of vegetation within the hazardous area must be carried out in accordance with the MOD Safety Rules and Procedures for Work on Petroleum Installations. Isolated deciduous trees may be left but coniferous trees are not permitted within the hazardous area. Where it is necessary to use weed-killers to control vegetation, they are to be of a chlorate-free type.

Duty of Care

18. Personnel are to take the following precautions in petroleum installations:

a. All personnel working in the installation must be conversant with their duties in order that the current procedures for operating are followed. Personnel are to be trained and certified as a competent person in accordance with [Part 1 Chap 8](#).

b. All personnel working in an installation are to be fully instructed in, and have easy access to, all relevant information and safety regulations concerning the installation. In particular they must be conversant with the action to take in the event of an emergency and the method of calling the fire service. Comprehensive records of all personnel training are to be maintained.

c. Smoking is prohibited in an installation, except in such buildings or areas as may be set aside for the purpose, i.e. where express authority has been given. A source of ignition is to be provided in such buildings or areas and must be of a type that cannot be removed.

d. Matches, cigarette lighters or any other means of causing ignition shall be withdrawn into safe custody from personnel entering the installation.

e. Footwear of personnel working in, or entering, the hazardous area of an installation, are not to have exposed metal studs or tips unless approved overshoes are worn.

f. When clothing is splashed with FLAP products, it is to be removed as soon as possible and then washed before re-use. However, the friction caused by changing or removing clothing can, in certain circumstances, cause a source of ignition due to electro-static discharge. For this reason, the changing or removal of clothing within a hazardous area is prohibited, where applicable drench showers should be used.

g. Personnel are not to smoke or go near any open flames while wearing working clothing if it is contaminated in the slightest degree with FLAP.

Miscellaneous

19. **Inspections.** Hazardous areas are to be inspected regularly by a competent person delegated by the Commanding Officer to ensure necessary precautions are being observed. The appropriate authority must inspect all equipment, apparatus, tanks,

pipelines etc, at frequent and regular intervals, so they are well maintained and checked to ensure earthing continuity.

20. **Emergency Isolation.** The MTFI fuel pump isolation switch (Fireman's Switch), to electrically disconnect all pumps/dispensers and their associated equipment, should be located to enable ease of access and operation for emergency switching by all installation operators and users. The resetting of an emergency switch shall not by itself restore the electrical supply. This shall only be achieved by an AP Electrical from a restricted access reset control point. The isolator shall be clearly identified with a sign stating, "**FUEL PUMPS SWITCH OFF HERE**".

21. **Repair of Cans, Drums and Vehicle Fuel Tanks.** There have been many accidents, some fatal, due to inadequate precautions being taken before the repair of cans, drums and vehicle fuel tanks. Before repairs requiring the use of heat or ferrous tools, all FLAP containers must be cleaned and made gas-free. These precautions must be taken irrespective of the Class of product that the container has previously held, or the time that the container has been empty. Closures must be opened, or bungs removed before welding takes place.

22. The risks of the siting of radio, radar or laser equipment near to the Hazardous Area must be assessed, to ascertain if ignition conditions can be created.

23. The siting of a petroleum installation within the sphere of influence of radio, radar or laser equipment must be checked for the risks of the creation of ignition conditions.

24. Dispensing and receiving equipment for loading and discharge operators to and from Bulk Fuel Installations, as distinct from Mechanical Transport Fuelling Installations, must be electrically bonded to ensure *equi-potential* before the operation can commence. The hazards associated with static are detailed at [Part 2 Vol 1 Chap 1](#).

25. **Administration.** The following administrative action is to be taken:

- a. If a catastrophic release of product occurs, the MACR plan, if applicable, is to be instigated. If such an area is outside the jurisdiction of the Services, the co-operation of the police is to be sought in enforcing the appropriate precautions.
- b. Emergency procedures are to be prepared and exercised regularly.
- c. Liaison is to be established and a joint plan agreed and practised with local civil and military emergency services. A copy of the Fire Plan is to be held at the main gate/reception and handed to local fire brigade officers when attending an incident at the site.
- d. A good housekeeping standard is to be maintained. Rubbish and refuse of any kind are to be removed.
- e. Installations are to be protected by security fences, unless inherently secure, as within a secure area.
- f. No vehicle is to be allowed to enter an installation unless authorised to do so. Only authorised equipment, plant, vehicles or locomotives may enter a Hazardous Area.

- g. Pipelines and fittings are to be marked for identification purposes in accordance with British Standard 1710: Identification of Pipelines and Services, and Def Stan 05-052 Part 2: Markings for the Identification of Fuels, Lubricants and Associated Products – Containers Over 205 Litres and Pipelines.
- h. Bonding connections, particularly on standpipes and hydrant points, are to be kept free from paint and corrosion and be subject to periodic test.
- i. Where a formal safe system of work is required, the requirements of JSP 375, Volume 3, Chapter 5- MOD Safety Rules and Procedures for Work on Petroleum Installations are to be adhered to.

Fire Occurrence Reporting

26. Incidents involving fire can involve the loss of assets, the death or injury of personnel and, in the case of the MOD, could also have an adverse effect on its operational capability. It is essential therefore that the MOD has a system for recording fire incidents so that not only can statistical information be maintained for assessing future fire protection policies, but also, timely action can be taken on any developing trends.

27. All fires and related incidents are required to be reported to the appropriate TLB Hds and Hd DFR. MOD Form 1059 should be used for this purpose. Additionally, all serious fires or any emergency incident which results in the death of, or injury to, any person, where arson is suspected or where chemicals are involved, are to be communicated to the appropriate Regional DFR Office (out of hours the DFR HQ Duty Officer) within 24 hours of their occurrence. Where possible, initial notification is to be by telephone followed up by MOD Form 1059.

Firefighting Equipment - Scaling and Siting

28. The likelihood of a major fire can be minimised by good plant design and layout, sound engineering, good operating practice and proper instruction and training of personnel in routine operations and in emergency procedures. Plant design and layout must include the provision of water supplies, fire protection equipment, fire-fighting, means of escape, means of access for fire brigade, appliances, protection of fire-fighters and arrangements to ensure an early call-out of the fire brigade in the event of fire. The DFR must be consulted on these matters, at the planning stage in the case of new or altered facilities as well as reference to the DIFS.

29. **Fire Notices.** Fire Actions posters in the Event of Fire are to be placed close to all fire extinguishers, on notice boards and at the park entrance point.

30. **Packed FLAP Locations.** The number and location of all fire-fighting equipment is to be determined by a DFR Fire Officer.

31. **MTFI.** The number and location of fire-fighting equipment is to be determined by a DFR Fire Officer. Table 1.7.1 lists the minimum scaling to prevent any small incipient fire spreading to the MTFI facilities.

| Number of dispensers | Number of extinguishers required |
|------------------------------------|----------------------------------|
| Up to four | At least two |
| For each additional two dispensers | One more |

Notes:

1. Equipment shall be in accordance with the DIFS.
2. It is recommended that these extinguishers should be either AFFF 9 ltr Foam (temperate conditions) or Dry Powder with a capacity of at least 4.5kg (where temperatures can be expected to remain below freezing for lengthy periods).
3. Hydrants if required are to be sized and located to enable the requirements of DIFS to be met.
4. On Operations the number of fire extinguishers must be commensurate with the increased risk. Up to four dispensers at least **four** extinguishers are required and one more for each additional dispenser.

Table 1.7.1 - Portable Fire Extinguishers.

32. **BFCV Parks.** Extinguishers Flurochemical Foam 90 Litre are to be provided to the scale of two for the first 12 BFCVs and one for each additional 12 or part thereof. Extinguishers are to be sited not less than 15 m from any BFCV in an easily accessible position.

33. **Permanent Bulk Fuel Installations.** The number, type and location of all firefighting equipment is to be determined by a DFR Fire Officer. Hydrants are to be sized and located to enable the requirements of DIFS Firefighting Water Supplies to be met.

34. Manually operated fire alarms systems are to be in accordance with DIFS.

35. Roads and hard standing shall meet the requirements of DIFS.

| Criteria | Flow Rate | Source Document |
|---|------------------------------|--|
| Cooling of a tank if it is enveloped in flame due to its bund being on fire | 10 litres/min/m ² | EL Model Code of Safe Practice Part 19 |
| Cooling of a tank if an adjacent tank is on fire | 2 litres/min/m ² | EL Model Code of Safe Practice Part 19 |

Table 1.7.2 - Tank Cooling Chart.

36. Where tank cooling is deemed to be necessary, either due to spacing between the tanks or due to a specific requirement from the Defence Fire Service; this should be in accordance with Table 1.7.2. EL Model Code of Practice, part 19 also specifies the required duration of tank cooling and how to calculate the required surface area. Cooling water should not be applied to the roof of floating tanks. Consideration is to be given to installation of measures to contain the fire-fighting water runoff.

Note: Further guidance on the above can be obtained from DIO Fuels and Mechanical.

37. **Waste FLAP Installations.** The number and location of all firefighting equipment is to be determined by a DFR Fire Officer.

Deployed FLAP Installations

38. This section will detail the fire cover for all deployed sites that store FLAP products within a deployed and operational FLAP installation.

39. Suitable and sufficient firefighting equipment will be required to cover the event of a breakout of fires within the installation and to ensure that all personnel are adequately protected from the fire where there is no DFR cover.

40. To assist in establishing a suitable fire cover and fire plan, the competent fire representative is to use the deployed FLG risk assessment at Annex A, and in consultation with DFR HQ.

41. All personnel who are required to work in a FLAP compound are required to meet organisational training standards and to maintain competency. (Action in the event of fire specific to the working environment).

42. These standards are additional to the required standards laid down in [DSA02](#) Fire safety requirements in consultation with DFR HQ.

Bibliography

1. [Defence Infrastructure Fire Standards \(DIFS\)](#)
2. Fire and Rescue Services (Northern Ireland) Order 2006
3. Regulatory Reform (Fire Safety) Order 2005
4. Building Regulations 2010
5. The Building (Scotland) Amended Regulations 2010
6. Health and Safety at Work Act 1974
7. Safety at Work (NI) Order 1978
8. The Control of Industrial Major Accident Hazard Regulations 1984 (CIMAH) and the Control of Major Accident Hazard Regulations (NI) 1985 (as amended in 1988 and 1991)
9. The Control of Substances Hazardous to Health Regulations 1994 (COSHH) and the Control of Substances Hazardous to Health regulations (NI) 1990 (as amended in 1972 and 1993)
10. The Construction (Design and Management) Regulations 1994 and the Construction (Design and Management) Regulations (NI) 1995 (CDM)
11. Management of Health and Safety at Work regulations 1992 and Management of Health and Safety at Work Regulations (NI) 1992
12. [DSA02: Defence Fire Safety Regulations](#) and [DSA03: Fire Safety Guidance](#).
13. [JSP 426 Defence Fire Safety & Fire Risk Management Policy, Guidance and Information](#)
14. Defence Works Functional Standards
15. British Standards Series
16. MOD Fire Safety Management Plan (FSMP)
17. Resource Allocation Risk Management (Re-ARM)
18. Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR 02),
19. Equipment & Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 1996.
20. Disability Discrimination Act 1995

8 - PRINCIPLES OF COMPETENT PERSONS WITHIN AN FLAP ENVIRONMENT

Chapter Sponsor - Air Support Fuels Office

Scope

1. This chapter has been written to assist MoD Establishments to correctly scale, train and Appoint competent persons within FLAP environments. It should be used in conjunction with MoD Policy detailing mandated training requirements of personnel for all Arms and Services.

2. **Legislation.** The Health & Safety at Work Act 1974 (HSWA) and enabling regulations to provide the legislative framework for the safe storage and handling of fuel, lubricants and associated products within the MoD. The MoD does not exercise any exemption to the Act, however it should be noted that there are certain derogations that apply within Military Works Areas, where the principle of 'so far as is reasonably practicable (SFAIRP)' is replaced with 'as low as reasonably practicable (ALARP)'. Further to the criteria laid out in this publication, JSP 375 requires that the MoD policy regarding HSWA is to be applied at all units/establishments Worldwide, unless an existing Status of Forces Agreement (SOFA) requires the application of more onerous or stringent Host Nation legislation, regulation or requirements. In all cases JSP 375 is to be used as a point of reference.

General

3. **Legislative compliance.** The HSWA requires all employers to provide suitable and sufficient information, instruction, training and supervision as is necessary to ensure so far as reasonably practicable, the health and safety at work of their employees, and anyone affected by their activities. This duty may be formally delegated although the responsibility is retained by each employer.

4. **Head of Establishment.** The Head of Establishment (HoE) has primacy in site wide arrangements and is to ensure that all personnel are made aware of and comply with the health and safety arrangements applicable to the site. This includes visitors, members of the public and contracted parties. Contractors may already have their own separate company policy or arrangements, but it is stressed that any separate policy must be compatible with, and augment the arrangements made by the HoE.

a. **Operating Authority.** OA is a responsibility given to the HoE specifically for petroleum installations. Responsibility for the safe and proper operation of petroleum installations rests with the HoE; **authority, but not responsibility**, may be formally delegated to an appropriate person who may carry out tasks on behalf of the HoE (see Annex C). The OA is required to exercise duty of care over all activities at the installations and ensure that Petroleum and base wide operations are fully taken into account before the MMO is given authority to undertake intrusive work. Where any infrastructure or related work is required, liaison, control and 'hand-over' of the facility

is to be done in accordance with processes contained within [JSP 375, Vol 3, Chap 5](#); this also contains further details of the OA duties.

5. **Maintenance Management Organisation (MMO).** The MMO is the organisation responsible for planning, organising and managing the maintenance and repair of equipment; this may include the design and construction of new works. The MMO may be a Contractor, DIO or Military and holds the duty to enforce JSP 375 Volume 3 within the scope of their deliverables and will discharge this duty by appointing:

a. **Authorising Engineers (AEs).** The role of the AE is to implement, administer, monitor and audit the Safety Rules and Procedures laid down in JSP 375 Volume 3. The duties of the AE are detailed in JSP 375 Volume 3 Chapter 2.

b. **Authorised Person Petroleum (AP (Pet)).** The role of the AP (Pet) is to implement a safe system of work on Petroleum Installations for which they have been appointed. The general duties of an AP are detailed in JSP 375 Volume 3 Chapter 2. In addition, specific to FLAP installations, the duties of the AP (Pet) include:

- (1) Communication with the OA of the Petroleum Installation at the work planning stage.
- (2) Preparing an AP Risk Assessment.
- (3) Preparing a Safety Programme to ensure adequate control of a Petroleum Installation prior to the issue of any Permits to Work for that installation.
- (4) Defining the condition of the petroleum installation that is required immediately before planned works can commence.
- (5) Acceptance of the Petroleum Installation from the OA for the purpose of planned works.
- (6) Handing over of a Petroleum Installation to the OA on completion of work.
- (7) Production of a Site Review.

6. **Establishment appointments.** The size and complexity of FLAP infrastructure will dictate the appropriate scale of staff. For example, an MTFI comprising a single diesel dispense point will require fewer installation operators than a major air/avn hub servicing both ground and airborne platforms. This JSP does not dictate a strict FLAP management structure; rather the TLBs, establishments and supporting contractors have scope to develop a management structure to suit their needs. However, personnel involved in managing and operating FLAP installations will require specific fuels training pertinent to their role (see [Annex A](#)) and, in all cases, individuals filling the following key roles should be identifiable:

a. **Officer in Charge (OIC).** The officer or person appointed to oversee the FLAP site does not necessarily have to be fuels trained. The OIC may also be the HoE in the case of smaller establishments, whereby the HoE directly assumes management of the fuel site. The OIC may be a post appointed solely for the fuel site (OIC Fuels), or may be a secondary role.

b. **FLAP Manager.** Hazardous environments containing products classified by the Energy Institute (EI) as Class I, II or III are to be managed/supervised by a person who has been formally trained and deemed as a Suitably Qualified and Experienced Person (SQEP). In the case of FLAP; training, qualification and competency is certified with the appointment of an FLAP Manager¹³. The FLAP Manager may manage a single fuel site, a group of local fuel sites, or indeed a complete region of fuel sites; the workload being dictated by the specifics of the site(s). For example, disparate Search & Rescue fuel sites may be managed by a single appointed FLAP Manager, whereas a major garrison may dictate the scaling of numerous FLAP Managers to cope with the scale of the infrastructure and fuel throughput. The FLAP Manager may also be the OiC or HoE in the case of the smallest MoD establishments. The roles and responsibilities of a FLAP Manager should be included within individual Terms of Reference (ToR); these roles and responsibilities include, but are not limited to:

(1) **Management of Installation Operators.** The FLAP Manager oversees the line- management of installation operators and coordination of in-unit FLAP training, which includes spill response exercises. He/she ensures that personnel have the correct formal training competences, are correctly trained on all installations and hold a valid Certificate of Competence (CoC), in accordance with Annex B. The FLAP Manager must ensure all training records are maintained as proof of the competence of personnel within his/her AoR and captured within individuals own Fuel Practitioner Log Books.

(2) **Stock management.** The FLAP Manager is to ensure that all accounting procedures for FLAP products are fully implemented iaw the Defence Logistics Framework. It is preferable that there is a separation of duties between the site operators and the accountant; however, if this is not practical, regular management checks should be carried out.

(3) **Fuel Quality Assurance.** Quality Assurance (QA) practices should be managed in accordance with JSP 317 Part 2 Chapter 12.

(4) **Monitoring FLAP site infrastructure.** The FLAP Manager is to ensure periodic maintenance tasks have been conducted by the MMO and raise work requests for faulty equipment/infrastructure, as required. The FLAP Manager should also ensure the fuel infrastructure is not operated without:

a) An in-date Professional Inspection of Fuel Installations and Flammable Goods Stores Report, containing a valid Certificate of Fitness for Continued Use, which is produced annually by a DIO appointed Professional Inspector.

b) Evidence shall be provided to prove that that the electrical system's scheduled inspection and maintenance activities completed by the MMO have been carried out and have been graded 'satisfactory' through the submission of Electrical Inspection Condition Reports.

¹³ An RLC Petroleum Operator who has attended and passed the Petroleum Operator SNCO course is deemed SQEP to manage ground fuel installations and does not need to attend the Ground Fuels FLAP Managers course held at DPTS.

c) The FLAP Manager should record, track and, where appropriate, hasten progress against each defect listed. Any lapses in the validity of the Certificate of Fitness for Continued Use, satisfactory condition of the electrical system and/or any other health, Safety and Environmental Protection risks are to be reported immediately to the Chain of Command.

(5) **Co-ordination of Fuel and Gas Safety Regulator (FGSR) activity.** The FLAP Manager is responsible for the co-ordination of any FGSR activity at the unit, including progression of any non-compliances and liaison with their TLB and FGSR.

(6) **Liaison with the MMO, Command & Control (C2) and the Project AQUATRINE Service Provider.** The FLAP Manager should maintain a good working relationship with external organisations to facilitate coordination and sharing of safety information and ensure that routine inspections and infrastructure works are completed as required.

c. **Operating Authority (OA) - Maintenance Guidance**

(1) It is vital that any work undertaken in a petroleum installation is coordinated with agreement between the OA and the AP (Pet). This instruction supplements [JSP 375, Pt 2, Vol 3](#) - High Risk Activities on Defence Infrastructure with [JSP 375, Vol 3, Chap 5](#) pertinent to Petroleum Installations.

d. **Maintenance Occurrence:** (Notification of maintenance can occur in the following circumstances, but the list is not exhaustive).

(1) Professional Inspection Report Technical Standards Petroleum 03 - completed annually.

(2) Electrical Inspection Condition Reports - completed annually.

(3) Scheduled/planned Maintenance Technical Standard-Petroleum-02 Inspection, Maintenance and Testing of Equipment Installed at Petroleum Installations on MOD Property

(4) OA Requested Works - submitted on identification of infrastructure/ equipment failure.

e. **Safety Programme (SP) and Formal Handover**

(1) Prior to commencement of work a Safety Programme (SP) will be raised by the AP (Pet). A template of the SP can be found at this [Link](#).

(2) The OA is required to sign a hard copy as authorising the work to be carried out. The signed SP for authority to commence works is also formal handover of the installation to the MMO. The SP should not be closed until the AP (Pet) is wholly satisfied that integrity of the installation is achieved, and normal operation can resume. When this is confirmed the OA is required to sign the SP in hard copy to acknowledge return of the installation

back to the OA for normal operations. A duplicate of the signed SP should be provided to the OA for reference.

f. **Permit To Work (PTW)**

(1) No work covered by a Safety Programme should commence until a PTW has been issued and signed by the AP (Pet). The installation or parts thereof may be subject to a Restricted Area and therefore, out of bounds to OA representatives. This should be indicated on the Fuel State Board and personnel informed to observe restriction signage. Access/Security keys should be subject to HO/TO with the AP (Pet) and signed In/Out of a key register.

g. **Standing Instruction (SI)**

(1) When low level risk or non-intrusive maintenance is required as defined in [JSP 375, Vol 3, Chap 5](#), the AP (Pet) is to provide details of the task and the OA must acknowledge and sign the SI prior to work commencement. All work mechanical, Electrical or husbandry (e.g. Painting) must be authorised by the OA and restrictions to normal operations agreed with the AP (Pet).

h. **Installation Operator.** Typically, of rank range Pte to Cpl, or another Service /civilian organisation equivalent. An operator is to hold a CoC in accordance with Annex B. In-unit instruction as per the requirements of the CoC is to be primarily coordinated by the FLAP Manager. Specifically, personnel that are to be employed in FLAP duties on aviation fuel installations are to attend the RAF Fuels Operators Course, at DPSTS Worthydown, as a pre- employment requirement. Other operators need not undertake any further formal training above that covered in the CoC unless their JS TORs dictate otherwise. Main roles are to undertake the receipt and issue of fuel undertake fuel quality testing, replenish stocks of PPE and PCS on site, undertake tank dipping as required, assist in the management of wet stock, site husbandry, and reporting of any infrastructure failures.

(1) **SME input to Siting Boards.** The FLAP Manager may be expected to provide SME input to unit siting boards.

7. **Project AQUATRINE.** The AQUATRINE Service Provider (ASP) is responsible for the maintenance of water drainage systems (British mainland only¹⁴) from the point at which water leaves a building, to the point at which the drainage system discharges into:

- a. A non-MOD watercourse.
- b. The local water company sewerage network.

This includes the management and maintenance of Oil Water Interceptors (OWIs) associated with bulk fuel infrastructure. For Northern Ireland, Germany, Rest of

¹⁴ Excluding Aspire Defence Sites where the MMO is responsible for the maintenance of water drainage systems from the point at which water leaves a building, to the local water authority drainage systems.

World and Aspire Defence sites, drainage management principles should be sought from the local water drainage governing body.

8. It is key that the FLAP Manager establishes liaison with the ASP or other relevant body, to ensure the OWI serving the fuel installation is maintained and serviceable, and that the Unit Spillage Response Plan is fit for purpose. Where this does not occur, and Environmental Protection risks exist, the FLAP Manager is to report this to the Chain of Command immediately. To speed up inspection, the following basic information should be held by the FLAP Manager and be available on site:

- a. Location of OWI.
- b. OWI Asset Number (both local and ASP).
- c. OWI specifications: size, type, oil capacity and class.
- d. Type of inspection: 6 monthly / 5 yearly.
- e. Date of inspection.
- f. AQUATRINE Service Provider.
- g. Company conducting service (if not ASP).
- h. Inspector's name.
- i. Serviceability: Satisfactory / Unsatisfactory (supporting documentation).

Training/competence of mod personnel/civilian contractors

9. **Trade training.** Certain trade training goes above and beyond the scope of this chapter (e.g. the cleaning of sea vessel petroleum bulk storage tanks (RN only)). Tri-service establishments must ensure that staff are adequately trained to undertake specific FLAP duties, unless expressed dispensation is given on a task basis. This dispensation is to be written and logged as part of a risk assessment.

10. **Aviation fuel installation specific training.** Annex D details specific training requirements for personnel employed in the management and operation of aviation fuel installations of which they must undertake at the beginning of their employment.

11. **Validity.** Where training qualifications are not life-time awards, i.e. have a set expiry date, the individual and the chain of command must ensure personnel in FLAP posts undertake refresher or re-training as required.

12. **Fuel Practitioner Log Books.** In conjunction with an individual's Certificate of conformity, all Military personnel employed in a fixed or deployable petroleum environment are to ensure all fuels activities, training qualification, Exercises and deployments, are captured in a Fuel Practitioner Log Book. Fuel Practitioner Log Books will be issued to every individual upon initial completion of their respective fuel's courses. Personnel who are already employed in a petroleum environment will have the opportunity to download the Log Book from the JSP 317, [defnet](#). The Fuel Practitioners Log Book is optional for civilian employees.

13. **Training providers.** The training and qualification for FLAP Managers within the MoD is provided by the Defence College of Logistics, Policing and Administration (DCLPA) and delivered at the Defence Petroleum Specialist Training Squadron (DPSTS). Military and civilian staff employed as FLAP Managers are to undertake the required training for their posts through this training unit.

14. **External training.** Training support for bespoke courses not delivered at DPSTS or Defence Petroleum and Specialist Trg Sqn (DPSTS) may be sourced from external providers, subject to TLB authority.

15. **SOTR Course Planning.** [JSP 822](#) - Defence Direction and Guidance for Training and Education, which sets out the Statement of Trained Requirement (SOTR) process used to identify the scale of training requirements. Any interested party who wishes to have input on course contents should contact the relevant single service Training Requirements Authority.

16. **Mandated Course Trained Personnel.** The Mandated Course Trained Personnel as detailed in Pt 1, Chap 8 for an Army Unit to have an All Arms F&L Manager. All units involved in the management of aviation fuel installations must have a Defence Petroleum and Specialist Trg Sqn (DPSTS) qualified Fuel Manager as detailed in Annex A.

17. **Defence Logistics School (DLS) Fuel Training.** DCLPA, hosts the following pamphlets, which detail the course dates of both the All Arms Fuel & Lubricants Manager and RAF Fuel Manager:

- a. Pam 10F - DCLPA, DLS, Defence Petroleum Specialist Training Squadron .
- b. Pam 10H - DCLPA, DLS, Defence Petroleum and Specialist Trg Sqn (DPSTS)

18. **ITD(A) Course Bids.** Course bids should be submitted to the relevant training establishment dependent on the bulk fuel infrastructure type:

a. **Ground Fuels Only (DPSTS Worthy Down).** Military and MoD civilian personnel are to submit their course applications via email to DCLPA-WD-ResourceBooking@mod.gov.uk.

b. **Aviation Fuels (DPSTS Worthy Down).** Military and MoD civilian personnel are to submit their course applications via email to DCLPA-WD-ResourceBooking@mod.gov.uk no later than 2 weeks prior to the start of the course. Course information application forms and details of how to apply can be found on the Supply and Movement Training Wing website.

a. Non-MoD civilians are requested to bid via the Courses Clerk, International Defence Training, Mil: 94271 7709, Civ: 01962 887709. Annexes:

- (1) Appointment of Staff to Undertake Petroleum Duties.
- (2) Certificate of Competence for Personnel Operating Bulk Fuel Installations.
- (3) Specific Requirements for Personnel Employed in the Management and Operation of Aviation Fuel Installations.

(4) Aviation Fuels Environment Pre-Employment Training Requirements Matrix.

ANNEX A - APPOINTMENT OF STAFF TO UNDERTAKE PETROLEUM DUTIES

1. Responsibilities.

HEAD OF ESTABLISHMENT (Operating Authority)

The HoE is responsible for ensuring that all personnel under their command/management have received specific fuels training as required and are qualified for the specific petroleum duties on which they are employed. The HoE is required to appoint an individual to act as an OA, iaw Para 5 a in the main body of this chapter. The HoE can choose to retain OA depending on site specific considerations, such as manning.



OFFICER IN CHARGE

As delegated by the HoE, the QM/OC Logs (or equivalent) is to identify any fuel installations present within the geographical boundaries of the establishment, i.e. an MTFI, BFI, Bulk Fuel Carrying Vehicle (BFCV) Park, gas cylinder compound etc. Specifically, for an MTFI or BFI, a FLAP Manager must be appointed. The FLAP Manager may cover a single establishment or indeed be responsible for the fuel installations over a number of establishments, the decision being taken by the local chain of command. A FLAP Manager, where appointed, is to undertake either the All Arms Fuel & Lubricants Manager Course and/or the RAF Fuel Managers Course iaw the Course Selection Flowchart at Para 2.



FLAP MANAGER / APPOINTED OPERATING AUTHORITY

Where the FLAP Manager holds the role of Fuels Operating Authority, he/she must also hold formal delegation from the HoE. Once trained, the FLAP Manager is to co-ordinate the completion of CoCs for any operators employed in petroleum duties on that site. For example, an Army unit MTFI will typically have an FLAP Manager (Sgt/SSgt), and 2-3 operators (Pte-Cpl); a large RAF unit may require many more suitably qualified individuals.



INSTALLATION OPERATOR

2. FLAP Managers' Course Selection. Units which have both aviation and ground fuels installations are to attend the RAF Fuel Managers' Course.

GROUND FUEL MTFI

AVIATION FUEL BFI



ALL ARMS FUEL & LUBRICANTS MANAGERS' COURSE
Defence Petroleum Specialist Training Squadron
Worthy Down

COURSE NUMBER 1891 (RAF FUEL MANAGERS' COURSE)
Defence Petroleum Specialist Training Squadron
Worthy Down

ANNEX B - CERTIFICATE OF COMPETENCE FOR PERSONNEL OPERATING BULK FUELS INSTALLATIONS

1. All personnel employed in the operation of aviation fuel installations are to hold a valid Certificate of Competence¹⁵ (CoC), at Appendix 1 to this Annex.
2. All personnel employed in the operation of ground fuel installations are to hold a valid CoC, at Appendix 2 to this Annex.

Appendices:

1. Certificate of Competence for Personnel Operating Bulk Aviation Fuel Installations.
2. Certificate of Competence for Personnel Operating Bulk Ground Fuel Installations.

¹⁵ Exemption – A COC is not required for JOFS fuel infra built to a standard design. Any infra which is constructed to non-standard design will require a COC for all operators signed off by the respective deployed Fuels Manager.

CERTIFICATE OF COMPETENCE FOR PERSONNEL OPERATING BULK AVIATION FUEL INSTALLATIONS

Part A Station/Unit and Personal Details

Station/Unit

Personal Details

Rank/Grade

Initials & Name

Service/Staff Number

Part B Mandatory Briefings - to be delivered by an appropriate representative of the MMO

I have briefed the person named in Part A for each of the installations listed in Part E in the following subject areas:

- | | |
|--|--|
| 1. Roles and Responsibilities of the MMO | 7. Details of future maintenance tasks |
| 2. Roles and Responsibilities of AP (Pet) | 8. An overview of the Professional Inspection Report and outstanding defects |
| 3. An overview of the permit to work system (JSP 375) | 9. An overview of current electrical test certificates and outstanding defects |
| 4. The roles and duties of the OA towards maintenance activities | 10. An overview of how to electrically isolate the installation including emergency shutdown procedures |
| 5. Details of site specific routine maintenance tasks | 11. An overview of how to mechanically isolate system components including emergency shutdown procedures |
| 6. The defect reporting procedure | |

Date

Name

Signature

Appt

Part C Fire Training

The person named in Part A has been trained to operate First Aid Fire Appliances and Fire Hydrant Systems appropriate to local procedures for Fuels Operators and Managers

Date

Name

Signature

Appt

Part D Training/Familiarisation - to be delivered by a qualified Fuel Manager holding a valid CoC for each installation

| | Trained | | Tested | |
|--|---------|----|--------|----|
| | Date | By | Date | By |
| 1. Demonstrate the location of firefighting equipment and how to use it | | | | |
| 2. Interpret the USRP and identify the location of all Pollution Control Points and demonstrate the correct use of Pollution Control Sorbents and Equipment. | | | | |
| 3. Understand & describe how to electrically isolate the installation | | | | |
| 4. Identify and comply with the following SHEF Assessments: (i) COSHH RA. (ii) H&S RA. (iii) MSDS. (iv) DSEAR RA. (v) Comp Fire Plan. | | | | |
| 5. Understand & describe how to mechanically isolate components | | | | |
| 6. Understand & describe equipment and site-specific anomalies | | | | |
| 7. Conduct emergency procedures/IAs for each installation | | | | |
| 8. Conduct manual tank dipping | | | | |
| 9. Operate automatic tank gauging system | | | | |
| 10. Complete Before Use Inspection on FWS | | | | |
| 11. Complete Before Use Inspection on pump set | | | | |
| 12. Issue fuel to a BFCV | | | | |

13. Conduct an inter-tank transfer of fuel

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14. Issue fuel from a hydrant system

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15. Receive fuel from a BFCV

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16. Receive fuel from Exolum or Ocean Tanker (where relevant)

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17. Operate the PRE

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18. Conduct a cross-base transfer of fuel

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19. Complete Quality Assurance testing

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20. Complete water checks and drain-off on tanks

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21. An overview of the site-specific schematic

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22. Understand & describe specific hazards of product stored in each installation and demonstrate the correct use of PPE.

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23. Conduct Before Use Inspection of ancillaries (valves, pipe-work etc)

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24. Accounting procedures

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25. Other site-specific operations:

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Note: Score through where not appropriate to unit

Provide details of other site-specific operations:

Part E Installations authorised to operate

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Part F Colour perception (if applicable)

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| Standard | | | | | |
| Signature | | | | | |
| Date | | | | | |

Part G Training Declaration by the Fuels Operator

I have received the mandatory briefings at Part B and training at Part D, which is sufficient for me to operate the installations at Part E unsupervised. I will inform my Line Manager of any physical conditions or medical conditions and circumstances that may impact on my ability to work in a Fuels Environment or impact the Health and Safety of others within a Fuels Environment.

| Date | Name | Signature | Rank/Grade |
|------|------|-----------|------------|
| | | | |

Part H Declaration by the appointed Operating Authority of the installation(s)

The person named at Part A has received specific fuels training and has demonstrated their competency to operate the installations listed at Part E unsupervised.

| Date | Name | Signature | Rank/Grade |
|------|------|-----------|------------|
| | | | |

Part I Annual review by the appointed Operating Authority, Fuel Manager or Person in Charge

| Date of Review | Rank & Name | Signature | Remarks |
|----------------|-------------|-----------|---------|
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Certificate of Competence Completion Notes:

Part A. Details of the operator to be deemed competent.

Part B. The briefing shall be carried out by a representative from the MMO who has an in-depth knowledge of the site fuel installations, the equipment, maintenance and operation. The MMO Authorised Person Petroleum (AP Pet) shall provide an overview of the MoD Safety Rules and Procedures Petroleum ([JSP 375, Vol 3, Chap 5](#)), with specific reference to the roles and duties of the AP Pet and Operating Authority.

Part C. A competent fire authority is to deliver fire training on the specific firefighting appliances deployed at the installation(s). This part is signed by the fire instructor.

Part D. A FLAP Manager holding a valid CoC for the subject installation(s) is to ensure training is delivered in all relevant areas detailed in this part. The FLAP Manager may delegate training activities to a competent and suitably experienced operator, holding a valid CoC. The trainer can then sign and date the training column upon completion; however, the FLAP Manager must then test the operator, and sign and date once satisfied with the operator's competency. Although the FLAP Manager can train and subsequently test an operator, independence of each activity could be considered.

Part E. Lists the fuel installations that the operator is deemed competent to operate.

Part F. This part is not applicable to all fuel installations. The minimum colour perception standard for Installation Operators whose duties include driving on active airfields is normally CP2. Similar conditions may apply in other locations and should be taken into consideration by the fuels officer, who will decide if a test is required.

Part G. This part is the operator's declaration that he/she has successfully completed all aspects of the training objectives and is sufficiently confident to execute duties on the sites recorded. By signing this part the operator also confirms that he/she has informed line managers of any physical or medical conditions which may be aggravated as a result of working in fuel environments.

Part H. The appointed Operating Authority signs this part on completion of all training and testing to certify the person named at Part A is competent to operate the installation(s) unsupervised.

Part I. The FLAP Manager (or nominated competent person) is to re-test the operator on an annual basis from the date of the initial training. If the operator fails any test they are to be re-trained in the specific area(s) and re-tested until deemed competent. Once confirmed the appointed Operating Authority is to sign this part and sign the individual's Fuel Practitioner Log Book. This process is to be repeated annually.

**CERTIFICATE OF COMPETENCE FOR PERSONNEL OPERATING ALL FUEL LUBRICANT
ASSOCIATED PRODUCT INSTALLATIONS**

Part A Station/Unit and Personal Details

Station/Unit

Personal Details

Rank/Grade

Initials & Name

Service/Staff Number

Part B Mandatory Briefings - to be delivered by an appropriate representative of the MMO

I have briefed the person named in Part A for each of the installations listed in Part E in the following subject areas:

1. Roles and Responsibilities of the MMO

7. Details of future maintenance tasks

2. Roles and Responsibilities of AP (Pet)

8. An overview of the Professional Inspection Report and outstanding defects

3. An overview of the permit to work system (JSP 375)

9. An overview of the current electrical test certificates and outstanding defects

4. The roles and duties of the OA towards maintenance activities

10. An overview of how to electrically isolate the towards installation including emergency shutdown procedures

5. Details of site-specific routine maintenance tasks

11. An overview of how to mechanically isolate system components including emergency shutdown procedures

6. The defect reporting procedure

Date

Name

Signature

Appt

Part C Fire Training

The person named in Part A has been trained to operate First Aid Fire Appliances and Fire Hydrant Systems appropriate to local procedures for Fuels Operators and Managers

| Date | Name | Signature | Appt |
|------|------|-----------|------|
| | | | |

Part D Training/Familiarisation - To be delivered by a qualified Fuel Manager holding a valid CoC for each installation

| | Trained | | Tested | |
|--|---------|----|--------|----|
| | Date | By | Date | By |
| 1. Identify the type and location of installation firefighting equipment. | | | | |
| 2. Interpret the Unit Spillage Response Plan, identify the location of all Pollution Control Points and demonstrate the correct use of Pollution Control Sorbents and Equipment, specific to the installation. | | | | |
| 3. Understand & describe how to electrically isolate the installation; to include emergency shutdown procedures. | | | | |
| 4. Understand & describe how to mechanically isolate components; to include emergency shutdown procedures. | | | | |
| 5. Conduct Wet Stock Management; Automatic Tank Gauge & Manual dips as applicable. | | | | |
| 6. Bulk Receipt Procedures as applicable: (i) Operator Controlled Delivery. (ii) Driver Controlled Delivery. | | | | |
| 7. Quality Assurance Procedures specific to installation, to include Water Checks. | | | | |
| 8. Identify and comply with the following SHEF Assessments: (i) COSHH RA. (ii) H&S RA. (iii) MSDS. (iv) DSEAR RA. (v) Comp Fire Plan. | | | | |

| <p>9. Operate installation iaw local operating procedures.</p> <p>10. Demonstrate the correct use of PPE.</p> <p>11. An overview of the site-specific schematic.</p> <p>Note: Score through when not appropriate to unit.</p> <p>Site Fuel & Lubricants Manager</p> | | | | | | | | | | | |
|--|------|-----------|--|--|--|------|------|-----------|--|--|--|
| <p><i>Provide details of other site-specific operations:</i></p> | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Date</th> <th style="width: 30%;">Name</th> <th style="width: 40%;">Signature</th> </tr> </thead> <tbody> <tr> <td style="height: 20px;"></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | | Date | Name | Signature | | | |
| Date | Name | Signature | | | | | | | | | |
| | | | | | | | | | | | |

Part E Installations authorised to operate

| | | |
|--|--|--|
| | | |
| | | |

Part F Training Declaration by the Fuels Operator

I have received the mandatory briefings at Part B and training at Part D, which is sufficient for me to operate the installations at Part E unsupervised. I will inform my Line Manager of any physical conditions or medical conditions and circumstances that may impact on my ability to work in a Fuels Environment or impact the Health and Safety of others within a Fuels Environment.

| Date | Name | Signature | Rank/Grade |
|------|------|-----------|------------|
| | | | |

Part G Declaration by the appointed Operating Authority of the installation(s)

The person named at Part A has received specific fuels training and has demonstrated their competency to operate the installations listed at Part E unsupervised.

| Date | Name | Signature | Rank/Grade |
|------|------|-----------|------------|
| | | | |

| Part H Annual review by Officer in Charge (OiC) | | | |
|---|-------------|-----------|---------|
| Date of Review | Rank & Name | Signature | Remarks |
| | | | |
| | | | |
| | | | |
| | | | |

CERTIFICATE OF COMPETENCE COMPLETION

NOTES: Part A. Details of the operator to be deemed

competent.

Part B. The briefing shall be carried out by a representative from the MMO who has an in-depth knowledge of the site fuel installations, the equipment, maintenance and operation. The MMO Authorised Person Petroleum (AP Pet) shall provide an overview of the MoD Safety Rules and Procedures Petroleum ([JSP 375, Vol 3, Chap 5](#)), with specific reference to the roles and duties of the AP Pet and Operating Authority.

Part C. A competent fire authority is to deliver fire training on the specific firefighting appliances deployed at the installation(s). This part is to be signed by the fire instructor.

Part D. A FLAP Manager holding a valid CoC for the subject installation(s) is to ensure training is delivered in all relevant areas detailed in this part. It is an essential requirement that succession planning is in place to ensure the integrity of the CoC process in order that safe and compliant operating procedures are in place. There may be rare occasions when due to unforeseen circumstances the succession chain fails. In this instance the issue is to be raised via the HoE to SO2 Air Support Logs Fuels (Air) SO2 Combat Fuels (Land) FGEN Logs Fuels Safety Officer (Navy) other relevant TLB. A plan for compliance with the CoC process can then be initiated upon approval by the relevant SO2 from TLB.

Part E. Lists the fuel installations that the operator is deemed competent to operate.

Part F. This part is the operator's declaration that he/she has successfully completed all aspects of the training objectives and is sufficiently confident to execute duties on the sites recorded. By signing this part, the operator also confirms that he/she has informed line managers of any physical or medical conditions which may be aggravated as a result of working in fuel environments.

Part G. The appointed Operating Authority signs this part on completion of all training and testing to certify the person named at Part A is competent to operate the installation(s) unsupervised.

Part H. The FLAP Manager (or nominated competent person) is to re-test the operator on an annual basis from the date of the initial training. If the operator fails any test they are to be re-trained in the specific area(s) and re-tested until deemed competent. Once

confirmed the appointed Operating Authority is to sign this part and sign the individuals Fuel Practitioner Log Book. This process is to be repeated annually.

ANNEX C - REQUIREMENT FOR IMPLEMENTATION BY DUTY HOLDER OF ALL FUELS INSTALLATIONS

MANDATED SPECIFIC REQUIREMENTS FOR PERSONNEL EMPLOYED IN THE MANAGEMENT AND OPERATION OF ALL FUEL INSTALLATIONS AND PACKED STOCK STORAGE

Introduction

1. In order to preserve Safety and reduce Risk to Life (RtL) and Risk to Environment (RtE), all personnel employed on Fuel installation and packed stock storage are to be specifically trained and qualified. The role of Operating Authority (OA) ultimately rests with the Head of Establishment (HoE) who is required to exercise duty of care over all activities. However, the HoE may choose to formally delegate authority to an appropriate person, although overall responsibility must be retained. When authority is to be delegated, an OA is to be formally appointed by the HoE via a Letter of Appointment (LoA). The LoA should be a headed letter written in accordance with Chapter 2 to JSP 101; the recommended content and structure of the LoA can be found at Appendix 1 to this Annex.

Appointed Operating Authority

OA is a responsibility given to the HoE specifically for petroleum installations. Responsibility for the safe and proper operation of petroleum installations rests with the HoE;
authority, but not responsibility

2. The individual appointed to become the OA must satisfy the following criteria:
 - a. They must be formally delegated authority by the HoE / Stn Cdr / Force Commander and hold a LoA.
 - b. They must be the most senior qualified Fuels Manager with direct responsibility for the operation of all fuel installations. This would typically be Officer Commanding Fuels, Lubricants Flight, Fuels Support Squadrons and Bulk Liquids Troops; at a deployed location this may be the deployed Fuels Commander.
 - c. They must be a minimum rank of SNCO or civilian equivalent. The HoE of establishments where contracted civilian personnel are in charge of aviation fuel installations, are also to appoint a suitable candidate.
3. During any periods when the appointed OA is absent, a deputy must be appointed to provide cover. This deputy must also fulfil the criteria laid down at paragraph 2 above and must be conversant with the contents of the LoA. Prior to any handover of OA duties, the HoE is to be notified via the chain of command.

Formal Written Operating Instructions

4. In order to ensure that fuels installations are being operated safely and within the parameters of the equipment, the appointed OA is to ensure that all locally produced installation operating instructions:

- a. Are included within Air Engineering Standing Orders (AESOs) or service equivalent, as well as the FLAP formal document pack up detailed at Para 5 below.

Formal Document Pack-up

5. The appointed OA is to own and maintain a formal document pack-up for all installations within their Area of Responsibility (AoR). This formal document pack-up is to be made available during audits and assessments of their AoR. The formal document pack-up is to contain the following documents:
 - a. The current annual Professional Inspection Report of Bulk Fuel Installations and Flammable Dangerous Goods Storage Areas.
 - b. The current annual Fuel and Gas Safety Regulator (FGSR) Fuel Safety Assurance Assessment (FGSAA) Report.
 - c. Current Electrical Installation Condition Report and supporting Electrical Certificates for all installations.
 - d. A register of all Oil Water Interceptors (OWI) within their AoR. This register is to detail all information highlighted at Para 8 of this chapter.
 - e. In conjunction with the above documents, the appointed OA is to maintain a register of all outstanding defects and non-compliances present on the installations within his/her AoR. The register is to detail all progression towards rectification of all defects and non-compliances.
 - f. All locally produced instructions for the operation of the installations.
 - g. All Risk, COSHH and Environmental Impact assessments and Material Safety Data Sheets (MSDS) applicable to their AoR.
 - h. A copy of all installation schematic diagrams.
 - i. All installation Dangerous Substances Explosive Atmosphere Regulations (DSEAR) risk assessments, including a copy of the hazardous area schematics.
 - j. A copy of the Unit Spillage Response Plan.
6. This formal document pack-up can be maintained either electronically or in hardcopy and is to be formally handed over during any transfer of appointed OA duties between individuals.
7. In addition to the formal document pack-up the appointed OA is to ensure that records of all training are maintained for personnel employed within their AoR.

Pre-employment Training Requirements

8. In order to ensure that personnel are competent to work within the aviation fuels environment the relevant Pre-employment Training (PET), specified at Annex D, is to be completed. It is acknowledged that, in certain circumstances, completion of this PET may not be achievable prior to taking up post. In these instances, PET is to be completed at the earliest opportunity. All aviation core fuels training courses have a 5-year life. It is a requirement that all fuel operators are to re-qualify every five years to maintain currency. All fuel managers are to complete the Fuel Operators and Fuel Managers course. The Fuel Operators course is only

required as a pre-requisite to the Fuel Manager course on the first qualification period and is not required prior to undertaking Fuel Manager requalification.

Appendices:

1. Letter of Appointment to be the Appointed Fuels Operating Authority

LETTER OF APPOINTMENT TO BE THE UNIT OPERATING AUTHORITY

References:

- A. JSP 317 Part 1 Chapter 8
- B. Defence Logistics Framework
- C. JSP 317 Part 2 Volume 3.1(Quality Control)

LETTER OF APPOINTMENT TO BE THE OPERATING AUTHORITY FOR <INSERT UNIT NAME>

1. I hereby appoint you to be the Operating Authority (OA) for <Insert unit name>. In accordance with Ref A, you are responsible and accountable to me, through your chain of command, for the safe and proper operation of all fuel installations under my command.
2. As the appointed OA you are to:
 - a. Co-ordinate all Defence Safety Authority (DSA), Fuel and Gas Safety Regulator (FGSR) activity within your AoR. This includes ownership of a Fuel Safety Assurance Assessment (FGSAA) Action Plan and progression of any non-compliance identified within your AoR, ensuring resolution at the earliest possible juncture.
 - b. Ensure that all personnel employed on unit fuels installations hold the correct formal training competencies, are correctly trained on all installations they are expected to operate and hold a valid Certificate of Competence (CoC), in accordance with Ref A.
 - c. Ensure that all accounting procedures for Fuel and Lubricant products are fully implemented in accordance with Ref B. This includes the mandated physical dips and end of month stock accounting action.
 - d. Ensure that the fuel infrastructure has an in-date Professional Inspection of Fuel Installations and Flammable Goods Stores Report, containing a valid Certificate of Fitness for Continued Use, which is produced annually by a DIO appointed Professional Inspector, along with an in-date electrical test certificate which has been graded 'satisfactory'. Any lapse in the validity of the Certificate of Fitness for Continued Use or Electrical Test Certificates should be reported to me immediately via your chain of command.
 - e. Instigate a robust quality assurance and husbandry regime, in accordance with Ref C, to ensure that the fuel contained within your installations is fully fit for intended use.
 - f. Ensure that locally produced installation operating instructions include a signed declaration from the DIO Infrastructure Manager (IM) or MMO Service Delivery Manager stating: "I confirm that, if followed correctly, the procedures contained within this operating instruction will maintain the safe operation of this installation within equipment parameters." These instructions must also be included within <insert appropriate standing order>¹⁶.
 - g. Inform me immediately via your chain of command, of all other risks being held across my fuels infrastructure.
3. Your authority as appointed OA applies throughout your tenure but can be delegated, during any periods of your absence, to a nominated individual holding a valid RAF Fuel Manager qualification and who is conversant with the criteria laid out in this letter. Prior to the permanent handover of OA duties, you are to provide written notification to me via your chain of command.
4. You are to acknowledge receipt of this Letter of Appointment and accept your appointment as the OA, in writing, within 2 weeks.

<Insert HoE / Stn Cdr signature>

¹⁶ e.g. Air Engineering Standing Orders (AESOs)

ANNEX D - AVIATION FUELS ENVIRONMENT PRE-EMPLOYMENT TRAINING REQUIREMENTS MATRIX

| Training Course → | RAF Fuels Manager | RAF Fuels Operator | Deployed Fuels Operator Course | Deployed Fuels Managers Course | Fuel Blending Course | Ocean Terminal | Aviation Petroleum Laboratory Technician Course | Certificate of Competence |
|--|-------------------|--------------------|--------------------------------|--------------------------------|----------------------|----------------|---|---------------------------|
| Employment position ↓ | | | | | | | | |
| Permanent Installation Manager | y | y | N | N | N ¹ | N ¹ | N | y |
| Permanent Installation Operator | N | y | N | N | N | N | N | y |
| Deployed installation Manager | N | N | y | y | Y | N | N | y |
| Deployed installation Operator | N | N | y | N | Y | N | N | y |
| Ocean Terminal | Y | y | N | N | Y ¹ | y ² | y | y |
| Fuels Blending | N | y ² | y | N | y | N | N | y |
| Aviation Petroleum Laboratory technician | N | y ³ | y ³ | N | N | N | y | y |

¹Only required for a post that requires this capability.

²To conduct Ocean Terminal duties, personnel must hold either the RAF Fuels Operator or the Deployed Fuels Operator Course.

³To conduct Fuel blending duties, personnel must hold either the RAF Fuels Operator course or the Deployed Fuels Operator Course.

9 POLICY FOR POLLUTION PREVENTION AND CONTROL - GENERAL

Chapter Sponsor - OEA SO2 Ops

Further Details Can be found in: [JSP 418, Part 2, Vol 2, Leaflet 02, Pollution Prevention Scope](#)

1. This Part of the JSP defines MOD policy for the prevention and control of oil pollution, which encompasses pollution by any petroleum product and chemical products covered under the MOD's Emergency Pollution Response Service contract.

General

2. The MOD Policy for the Management of Safety and Environmental Protection is set by the Secretary of State for Defence and is detailed in JSP 375, **Part 1-Directive**. As a major user of petroleum products, the MOD has a particular duty to protect the environment from oil pollution. To fulfil this duty, the MOD must ensure that procedures, equipment and training are in place to prevent oil pollution or, in the event of a spillage, to contain and recover the oil with minimum environmental damage.

3. **Definition of Spillage.** For the purposes of this publication a spillage is an “uncontrolled release of product from the Primary Container ([Part 2 Vol 1 Chap 6](#)), pipeline, tank, road tanker, refueller, vessel or other containers in which it was held”.

4. To ensure that as many aspects relating to pollution prevention and clean-up are covered this Part of the JSP has been expanded to include information considered both essential and helpful to the user.

5. **JSP 317 Part 2 Vol 4 Chap 1 - Pollution Control Planning.** This Chapter provides guidance on bringing together a unit plan to control pollution that may occur due to the unit's activities.

6. **JSP317 Part 2 Vol 4 Chap 2 - Pollution Risk Assessment.** This Chapter outlines the need for a unit to conduct a Risk Assessment of its FLAP activities to highlight the areas of risk and the potential impact of a spillage incident.

7. **JSP317 Part 2 Vol 4 Chap 3 – Inland/Shoreline Pollution.** This Chapter defines Inland pollution including land, inland waterways and shoreline / harbour areas. In each case the chapter outlines the legislative requirement and includes information on the liaison with other agencies and stakeholders.

8. **JSP317 Part 1 Chap 10 - Inland Pollution Reporting.** This Chapter details the hierarchy of inland spillage reporting (Tier 1, 2 and 3) reporting process and explains the MOD Forms used to report inland spillages.

9. **JSP317 Part 2 Vol 4 Chap 4- Pollution Control Sorbents and Equipment.** This Chapter deals with the Pollution Control Sorbents (PCS) and Pollution Control Equipment

(PCE) that are available in-service and touches on the local purchase of supplementary items.

10. **JSP317 Part 2 Vol 4 Chap 5- Spillage Response Plan** This chapter gives guidance on the legal requirements for the production of a Unit Spillage Response Plan (USRP) and the items to be considered when planning a response. The planning structure requires units to designate incidents into Tiers which equate to their clean up capability, and any assessment must take account of the sensitivity of the site, the capabilities of the unit concerned, and the hazards posed by the products handled.

11. **JSP317 Part 2 Vol 4 Chap 6- Emergency Pollution Response Service Contract UK, NI & International Maritime Waters.** This Chapter details the services provided by the MOD's emergency spillage response contractor within the UK, NI and International Maritime Waters and the actions required of a unit/authorised person to activate the contract.

12. **JSP317 Part 2 Vol 4 Chap 7- Emergency Spillage Response Contract outside UK & NI.** This Chapter details the arrangements for emergency spillage response outside the UK and NI that need to be carried out by Theatre Commands.

Legislation & MOD Bulk Fuel Implications

13. The most likely environmental hazard arising from a FLAP spillage is the contamination of surface watercourses, groundwater supplies, or coastal waters. Environmental legislation therefore focuses on the environmental effects of FLAP pollution on water sources.

14. It is policy that, within the UK, the MOD will comply with Environmental law and any additional requirements arising from international treaties and protocols to which the UK is a signatory. Overseas, the MOD will apply UK standards where reasonably practicable and in addition, comply with relevant host nations' standards. Where the MOD has been granted specific exemptions, disapplication or derogations from legislation, international treaties or protocols, Departmental standards and arrangements are to be introduced which will be, so far as reasonably practicable, at least as good as those required by the legislation. It is UK Government Policy that the polluter pays.

15. The environmental policy lead on pollution legislation is detailed [JSP 418, Part 2, Vol 2, Leaflet 02](#) -The MOD Sustainable Development and Environment Manual. [JSP 418](#) is framed to ensure activities of the MOD are conducted in compliance with the law and international conventions. However, [JSP 418](#) does not provide specialist guidance on the prevention and clean-up of oil pollution. This JSP has been notified as the lead for such matters and it is the purpose of this Part of JSP 317 to provide suitable guidance.

Legislative Development

THE WATER RESOURCES ACT 1991 (Amendment) (England and Wales) Regulations 2009.

16. The Water Resources Act 1991 (WRA 91) consolidated existing water laws. With regards to water pollution WRA 91 (Section 104) defines "Controlled Waters" and covers practically all-natural waters in England and Wales. Controlled waters are defined in Scotland by the Control

of Pollution Act 1974. In Northern Ireland Articles 7-10 of the Water (NI) Order 1999. “Controlled Waters” are defined as follows

- a. Estuarine and coastal waters up to 3 nautical miles offshore.
- b. Inland fresh surface waters which include rivers, lakes, ponds, streams, canals, and reservoirs.
- c. Groundwaters which are contained in underground strata.

ENVIRONMENTAL PERMITTING REGULATIONS 2010 (EPR)

17. The parts of the WRA 91 that deal with water offences and permits have been replaced by the Environmental Permitting Regulations 2010 (EPR). The EPR regulates discharges into Controlled Waters via a permitting regime managed by the Environment Agency (EA) and is based on the polluters pay principle which requires polluters to pay for the environmental costs of their discharges into controlled waters. This EPR is broadly mirrored in Scotland as; The Water Environment (Controlled Activities) Scotland Regulations 2011. The EPR has the potential to specifically impact the following MOD bulk fuels areas.

- a. Bulk storage of “Petrol”.
- b. Storage of waste FLAP.
- c. Pollution from bulk fuel storage sites.

Bulk Storage of “Petrol”

18. Part 2, Section 1.2 of EPR, identifies that the storage of “*Petrol*” in “*Terminals*” or the loading / unloading of “*Petrol*” (MOD Class I fuels – e.g. ULGAS, AVGAS) into or from “*Road Tankers*” is defined as a Part B activity. This means that the activity may have the potential to produce air pollution. The Part B regime (Local Air Pollution Control) regulates air polluting emissions and Local Authorities are the Regulators.

19. “*Petrol*” and “*Terminal*” are defined in the EPR. It is highly likely that these definitions encompass AVGAS bowsers and Aviation BFIs issuing AVGAS into bowsers. It may also include BFIs storing ULGAS and issuing bulk ULGAS into Tankers and Jerricans. Operators of such sites shall apply via their respective Local Authorities for Part B permits as appropriate.

20. Part 2, Section 1.2 of EPR also identifies the unloading of “*Petrol*” (ULGAS) into stationary storage tanks at a service station (MOD MTFI) if the total quantity of *Petrol* unloaded in a 12-month period is greater than 500m³ (500,000 litres). Operators of such sites are responsible for identifying their annual ULGAS throughput and shall apply via their respective Local Authorities for Part B permits as appropriate.

Storage of waste FLAP

21. The EPR does not apply to the temporary storage of Waste at the establishment before it is collected. The quantity of waste must be kept to a minimum and stored in a secure place within secondary containment, incompatible products must be stored

separately. The waste must not be stored for longer than 12 months, Policy and guidance on waste disposal including hazardous waste is detailed in [JSP 418, Part 2, Vol 2, Leaflet 03 Controlled Waste](#).

22. The EPR state that storage of waste FLAP with a flashpoint below 21°C **is not exempt**. Operators of such hazardous waste sites are responsible for identifying whether they store waste FLAP with a flashpoint below 21°C and shall apply via their respective Local Authorities for Part B permits as appropriate.

Pollution from Bulk Fuel Storage Sites

23. Under the mandate of the EPR, Regulators will no longer issue consents to discharge from OWI. Section 12 (and 38) of the EPR states, “it is an offence to cause or knowingly permit a water discharge activity or groundwater activity unless it is authorised by an environmental permit”

24. Historically under the previous regime; permits to discharge from class 1 or 2 OWI were obtained from the regulator / sewage operator ([Part 2, Vol 1, Chap 7](#)). However, EPR states that discharges of FLAP out of / from **new OWI will not** be issued; as any release of **pollutant** from an OWI will be considered as a pollution offence into Controlled Waters.

ENVIRONMENTAL PROTECTION ACT 1990

25. The Environmental Protection Act 1990 Part IIA Section 78A(2) defines contaminated land as being: “any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- a. **Significant harm** is being caused or there is a **significant possibility** of such harm being caused; or
- b. **Pollution of controlled waters** is being, or is **likely** to be, caused”.

THE CONTROL OF POLLUTION (OIL STORAGE) (ENGLAND) REGULATIONS 2001

26. The Control of Pollution (Oil Storage) (England) Regulations 2001 requires that above ground storage tanks over 200 litres must be provided with secondary containment (a bund or drip tray) to ensure that any leaking or spilt oil cannot enter controlled waters. Further information can be found at the Environment Agency and the DEFRA Guidance note for the Control of Pollution (Oil Storage) (England) Regulations 2001.

27. The general requirements for all storage of oil on MOD sites are as follows:

- a. Oil shall be stored in a container, which is of sufficient strength and structural integrity to ensure that it is unlikely to burst or leak in its ordinary use.
- b. The secondary containment system should be impermeable to oil and water and there should be no direct outlet when connecting the bund to any drain, sewer or watercourse, or discharging onto a yard or unmade ground.
- c. The capacity of the secondary containment system must provide storage of at least 110% of the tanks maximum capacity. If more than one container is stored, the system

must can store 110% of the biggest containers' capacity or 25% of the total tank capacity within the bund, whichever is the greater.

28. The regulations do not apply to the following activities, processes or infrastructure within the MOD:

- a. Any container with a storage capacity of 200 litres or less.
- b. Any container which is situated in a building or wholly underground.
- c. On any premises used as a private dwelling if the storage capacity of the container in which it is stored is 3500 litres or less.

THE WATER ENVIRONMENT (OIL STORAGE) (SCOTLAND) REGULATIONS 2006

29. The Water Environment (Oil Storage) (Scotland) Regulations are broadly in line with The Control of Pollution (Oil Storage) (England) Regulations 2001. The Water Environment (Oil Storage) (Scotland) Regulations 2006 requires that above ground storage tanks over 200 litres, stored outside **or in buildings** must be provided with secondary containment (a bund or drip tray) to ensure that any leaking or spilt oil cannot enter the water environment. Whilst SEPA would prefer use of "traditional" tank secondary containment system within buildings, the 110% secondary containment requirements of the Scottish Regulations may be met within the building itself by construction of an impermeable floor and lip on doorways.

APPLICATION OF THE CONTROL OF POLLUTION (OIL STORAGE) (ENGLAND) REGULATIONS 2001 & THE WATER ENVIRONMENT (OIL STORAGE) (SCOTLAND) REGULATIONS 2006 IN THE MOD

30. If there is a requirement to store 205litre drums, Intermediate Bulk Containers (IBCs) at permanent locations, the secondary containment area must be designed and constructed as a permanent piece of infrastructure in accordance with current building regulations. Units may purchase suitable secondary "bunded" containers for 205litre or IBCs, but must ensure that they are compliant with the respective regulations.

31. Where existing bulk fuel sites are not fully compliant with the regulations or the requirements of the regulations are not appropriate for technical reasons (for example - complex installations), the Environment Agency / SEPA will take a pragmatic approach in line with their enforcement policy. This view will be acceptable by the Environment Agency / SEPA as long as the objectives of the regulations can be achieved through an equivalent level of protection to the environment, taking into account both the risks to the environment and costs to the operator. In any case, where the regulations are not being fully applied, a detailed Risk Assessment showing safety measures and controls put in place must be prepared.

MARITIME / SHORELINE LEGISLATION AND REGULATIONS APPLICABLE TO MOD BULK FUEL ACTIVITIES

INTERNATIONAL MARITIME CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS 1973, AS MODIFIED BY THE PROTOCOL OF 1978 (MARPOL 73/78)

32. The International Maritime Organisation (IMO), a specialised agency of the United Nations, has established international regulations which set minimum standards for vessels in order to control pollution at sea. The principle regulations dealing with various discharges of pollutants from ships are found in the International Maritime Organisation's Convention for the Prevention of Pollution from ships 1973, subsequently modified by the Protocol of 1978, collectively known as MARPOL 73/78. These have been adopted with the consent of maritime nations across the world. MARPOL regulations apply directly to vessels in international waters and, are applied through national legislation in territorial waters. The UK is a signatory to MARPOL and is committed to implementing its requirements; the MOD is required to comply with MARPOL legislation.

33. Article three of the 1973 Convention (MARPOL 73/78) contains information with respect to its application. The Secretary of State for Defence has issued an Environmental Policy statement to meet the regulatory requirements of MARPOL and other like legislation, detailed at [JSP 418](#), and is to be applied across Defence.

34. It is therefore MOD policy [JSP 418](#) to comply with the letter and the spirit of UK and international environmental regulations to which the UK is a signatory without, where at all possible, compromising the operational capability of the MOD. Regulations covering the various sources of ship generated pollution are contained in six annexes of the MARPOL 73/78 Convention, which are then implemented through specific UK legislation such as Environmental Protection Act 1990, Control of pollution Act (Landed Ships Waste) 1987 and 1989, the Merchant Shipping (Prevention of Oil Pollution) Regulations 1995, the Waste Acts and relevant Statutory Instruments (SIs).

MARPOL Applicability

35. MARPOL Annex I - Prevention of Pollution by Oil entered into force 2 October 1983 and is enacted in the UK by the Merchant Shipping (Prevention of Oil Pollution) Regulations 1995. It applies to all Government Owned vessels on government business where it is reasonable and practicable for them to comply without affecting their operational capability.

Waste being landed from ships and the duty of care

36. Waste oil and other wastes contaminated with oil are classified as Hazardous Waste by the Hazardous Waste (England and Wales) Regulations 2005, and in Scotland the Special Waste Regulations 1996. The Environmental Protection Act 1990 from which there is no Crown Immunity, places certain responsibilities on the disposers of waste. Part II, Sect 34 of the Act covers waste and places a 'Duty of Care', the general principle of which is that the responsibilities of a waste for disposal rest with the waste producer. The legal requirements of the Act extend to all types of waste landed from HM ships. It is normal practice for HM Naval Bases to provide the appropriate waste disposal facilities that may normally be expected to be landed from ships, but it is the waste producer's responsibility to ensure that correct disposal action has been taken.

INTERNATIONAL CONVENTION ON OIL POLLUTION PREPAREDNESS, RESPONSE AND CO-OPERATION – (OPRC 98)

37. The OPRC 1998 Regulations are the principal legislation on counter pollution from a harbour authority *and oil handling perspective*. In particular the OPRC obligation arises for co-operation with:

- a. Any harbour and oil handling facility offering berths alongside, on buoys or at anchor, to ships over 400 gross tonnes (GT), or oil tankers of over 150 GT.
- b. Any harbour and any oil handling facility which the Secretary of State has served the harbour authority or operator with a notice that he is of the opinion that maritime facilities are undertaken at the harbour or facility which involve a significant risk of discharge of over 10 tonnes of oil.
- c. Any harbour and any oil handling facility which the Secretary of State has served the harbour authority or operator a notice stating that he is of the opinion that it is located in an area of significant environmental sensitivity, or in an area where discharge of oil or other substances could cause significant economic damage.

38. The OPRC 98 Regulations state that harbour authorities or oil handling facilities identified must have either:

- a. A minimum level of pre-positioned oil spill combating equipment commensurate with the risk involved and programmes for its use.
- b. A programme of exercises for oil pollution response organisations and training of relevant personnel.
- c. Detailed plans and communication infrastructure for responding to an oil pollution incident.
- d. Sufficient pollution control equipment to adequately deal with a Tier 1 spill.
- e. Have in place a contract with a competent oil spill response company that has the capability to respond to a Tier 2 spill. There is no requirement for a harbour authority or oil handling facility to have in place arrangements with a competent response company, but there must be a formal agreement in place to ensure that a response will be guaranteed in the event of an accident.

STANAG 7102 – Environmental Protection Handling Requirements for Petroleum Handling Facilities and Equipment

39. STANAG 7102 covers the responsibilities of both host nations and deployed units about the minimum environmental requirements that nations should adopt during petroleum handling operations on both fixed and tactical fuel handling installations.

Pollution Risk Assessment

40. Before any credible preventative measures and Unit Spillage Response Plan (USRP) can be designed, a detailed Site/Environmental Risk Assessment will need to be carried out. The aim of a risk assessment is to identify all potential pollution risks and their effects on the environment if a spillage incident were to occur. [JSP 375](#), provides guidance on managing Health & Safety in Defence, [JSP 418](#), Part 2, Leaflets 1 & 2 provides guidance on Environmental Management Systems and associated Risk Assessment processes. Additional guidance on conducting Pollution Risk assessment is detailed in [JSP 317 Part 2 Vol 4](#).

Bibliography

1. [JSP 375](#) - Management of Health & Safety in Defence.
2. [JSP 418](#) - Management of Environmental Protection in Defence.
3. Maritime and Coastguard Agency – Oil Spill Contingency Plan Guidelines for Ports, Harbours and Oil Handling Facilities.
4. International Maritime Convention for The Prevention of Pollution From Ships 1973, As Modified By The Protocol Of 1978 (MARPOL 73/78).
5. The Control of Pollution (Oil Storage) (England) Regulations 2001.
6. The Water Environment (Oil Storage) Scotland) Regulations.
7. STANAG 7102.
8. International Convention on Oil Pollution Preparedness, Response and Co-Operation – (OPRC98).
9. Environmental Permitting Regulations 2010 (EPR).
10. Water Resources Act 1991.

10 - POLLUTION INCIDENT REPORTING FOR INLAND/SHORELINE SPILLS

Chapter Sponsor - OEA SO2 Ops

Scope

1. The purpose of this chapter is to outline the MOD policy for reporting inland and shoreline fuel or oil spillages that occur as a result of an incident or accident. It introduces a requirement to report any occurrences involving fuel spillages to the Fuel and Gas Safety Regulator (FGSR). Pollution Response Planning guidance is contained within [JSP317 Part 2 Volume 4](#).

General

2. The legislative requirement to report incidents is laid down in the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations- (RIDDOR) (INDG453), which has been translated into the MOD Health and Safety Handbook - [JSP 375, Part 2, Vol 1, Chap 16](#)

3. Inland / shoreline FLAP spills have the potential to contaminate land and pollute Controlled Waters in contravention to the EPR 2010.

4. Controlled Waters are defined by WRA 91; spills which migrate from land establishments into coastal waters, and spills from vessels in harbours are to be reported by **the spill originator**. MOD units shall report all significant FLAP spillages as SPILLREPs, or POLREPs as appropriate. Spills from Shoreline Establishments / vessels in harbours are also to be reported to the QHM / Statutory Harbourmaster as the QHM / Statutory Harbourmaster has a duty of care for pollution response in harbour areas that they manage. See [Part 2, Vol 4, Chap 3](#) for demarcation of responsibilities in shoreline areas.

5. MOD Major Accident Control Regulations (MACR) reporting may also be required in accordance with [JSP 498 MACR](#).

6. The spillage reports within this chapter have been designed to meet the environmental requirements of [DSA 01](#).

RIDDOR

7. [RIDDOR, INDG453](#), identifies the reporting action to be complied with when work related accidents and dangerous occurrences occur. There is also a requirement to report any diseases or medical disorders proven to be caused by contact with petroleum products, such as poisoning due to Benzene or Lead in Petrol, skin cancer, and occupational dermatitis. Reportable dangerous occurrences within fuels storage and handling applicable to RIDDOR are: -

- a. Dangerous occurrence on a Pipeline.
- b. A road tanker carrying a dangerous substance overturns or suffers serious damage or catches fire or the substance is released.

- c. Sudden uncontrolled release in a building of 100kg (approximately 125 litres), or more of flammable liquid.
- d. Sudden uncontrolled release in the open air of 500kg (approximately 625 litres), or more of flammable liquid.

Major Accident Control Regulations

8. Control of Major Accident Hazard Regulations ([COMAH](#)) is UK legislation made under the Health and Safety at work Act (HSWA) 1974. It has been developed in response to a European Union (*EU*) *Directive (96/82/EC)* under the terms of the European Communities Act 1972 and for technical legal reasons cannot be applied to the Military Forces or Defence Establishments of Member States.

9. MOD - *Major Accident Control Regulations (MACR)*, discharges that policy in the context of prevention of a Major Accident (MA) and the mitigation of consequences to human health and or the environment should one occur. The MOD Competent Authority (CA) is empowered by 2nd Permanent Under Secretary (2nd PUS) to introduce and regulate MACR, this is effected through [JSP 498 MACR](#).

10. **MACR Reporting.** Establishments should notify the MOD MACR CA of an incident as defined at [JSP 498 MACR](#) Chap 1.

Inland Spillages

11. All spillages are to be recorded in the originating Unit / Section Spill Register. The Pollution Control Officer (PCO FLAP), is to maintain the Establishment Spillage Register, which is to be retained by the establishment for the life of the site. The PCO FLAP is to collate all Unit and Section Spill Registers into the Establishment Spill Register MOD Form 7771. The PCO FLAP is to investigate reported spills and instruct originating units as necessary to raise subsequent SPILLREPs as appropriate.

Spillage Reporting

12. The reporting of the extent of an incident utilises the Tier system and the SPILLREP reporting system shall be raised.

13. The MOD spillage reporting system is based on the capability for containment and clean-up of an incident. The MOD applies 3 Tier spillage classification system based on this capability. The Tiers are defined as follows:

- a. **Tier 1:** Operational spills where the clean-up is entirely within the unit's or establishment's capability.
- b. **Tier 2:**
 - (1) Spillages that require assistance from another Service unit.
 - (2) Spillages that require assistance from external civilian contractors or Specialists.

(3) Spillages reportable to Environmental Regulators that have resulted in the “pollution” of controlled waters, groundwaters or other environmentally sensitive areas.

(4) Spillages reportable under RIDDOR.

c. **Tier 3:** Spills beyond the capability of local and regional resources that requires major external or national assistance.

14. All *significant* inland spillages should be reported as per SPILLREP procedure using MY SAFETY in conjunction with single service reporting procedures (NLIMS). MY SAFETY can also be used to record spill practices up to the point of reporting, this can be presented as evidence during audits.

15. The term “significant” is defined as a spillage that means:

a. Any uncontrolled release of fuel that is not captured within primary or secondary containment and is directly released into the environment.

16. Spills that do not meet the above criteria are still to be recorded on the Unit Spillage Register and investigated by PCO FLAP.

17. Units are reminded that in addition to a SPILLREP, any accident / incident that occurs on an equipment or system and results in a spill may need to be investigated by the Equipment Sponsor. Any additional investigation required should be reported through existing procedures established by units’ respective chain of command. The SPILLREP is not the mechanism to report equipment failure, operator error etc.

18. Where units are on detachment / exercise, the DTE manager / host PCO FLAP / Liaison Officer, must be informed immediately of any spillage occurring on the site, irrespective of quantity spilled. The DTE manager / estate PCO FLAP may have on-site knowledge or appropriate specialist equipment to aid in a more efficient spill clean-up than that of the visiting unit. The visiting unit maintains responsibility with regard to the cause of the spill and subsequent clean-up costs, irrespective of the extent of assistance offered by the host.

19. The SPILLREP procedure requires a report in 2 parts. An initial (Part 1) report, MOD Form 7772 issued by e-mail is used to alert staffs that an incident has or is occurring. Part 1 reports shall be submitted within 12 hours of an incident, to enable support staffs to provide and co-ordinate assistance where necessary. A follow-up (Part 2) report provides staff with information, which will be used to support equipment requirements and quantify the financial expense of pollution spills. Part 2 reports (MOD Form 7773) shall be issued at the conclusion of the spillage incident or at convenient points during an extended clean-up process; any number of successive Part 2 reports may be submitted. Subsequent Part 2 reports should have the same serial number as its Part 1 report. Once clean-up is complete a final SPILLREP Part 2 shall be submitted detailing closure action and all costs incurred.

20. Recipients for Part 1 & Part 2 SPILLREPs (MOD Form 7772 - MOD Form 7773) are, DSA-DLSR-FGSRInspGroup@mod.gov.uk and WO1 Policy at OEA David.Williams592@mod.gov.uk.

In addition, copies should be sent to TLB POCs as follows:

Air: A4 Fuels Roles Office Air-Support-Logs-Fuels@mod.gov.uk

Army: SO2 Fuels alison.dray331@mod.gov.uk

Navy: Incident Reporting Officer nicholas.barrett111@mod.gov.uk

Strategic Command: CESO UKStratCom-CESO-Team@mod.gov.uk

21. There is also a requirement to report any spillage or injury involving dangerous goods in Transit, including the loading, unloading, in-transit storage, filling, discharge, and carriage to Movement and Transport Safety Regulator if any of the following criteria are met.

- a. Requires intensive medical treatment;
- b. Requires a stay in hospital of at least one day; or
- c. Results in the inability to work for at least three consecutive days.

Loss of product means the release of dangerous goods

- d. Of transport category 0 or 1 in quantities of 50 kg / 50 l or more;
- e. Of transport category 2 in quantities of 333 kg / 333l or more; or
- f. Of transport category 3 or 4 in quantities of 1000 kg / 1000l or more.

Inshore Marine / Shoreline Spillage Reporting

22. FLAP spills which migrate from land establishments into coastal waters, and spills from vessels in harbours are to be reported by **the spill originator** in accordance with their reporting procedures (SPILLREP / POLREP as required). However, once FLAP has entered the inshore marine environment (Controlled Water), the responsibility for marine spill clean-up and subsequent reporting lies with the MOD QHM, Statutory Harbour Master, and relevant Local authority. Relationship between shoreline MOD establishments and QHM / Harbour Master is detailed at [Part 2 Vol 4 Chap 3](#).

23. Once any FLAP has entered the marine environment MOD QHM, Statutory Harbour Master, relevant Local authorities are duty bound to clean up spillages in accordance with MCA approved maritime spillage response plans in accordance with *section 293 of the Merchant Shipping Act 1995*, amended by the *Merchant Shipping and Maritime Security Act 1997*, *Marine Safety Act 2003*; and the *Marine and Coastal Act 2009*.

24. The spillage reports within this chapter have been designed to meet the environmental requirements of [JSP 418](#), and the *Merchant Shipping (Oil Preparedness, Response and Co-operation Convention) Regulations 1998*; guidelines for which are within the [Maritime and Coastguard Agency \(MCA\) Oil Spill Contingency Plan Guidelines for Ports, Harbours and Oil Handling Facilities Manual](#).

Spillage Investigations

25. All spillages are to be investigated at an appropriate level. Normally this will be at unit level, led by PCO FLAP for minor spill and Tier 1 spills. For Tier 2 and above spills, FLC advice on an appropriate level of investigation should be sought.

Bibliography

1. Statutory Instrument 1995 No 3163 – The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
2. International Carriage of Dangerous Goods by Rail, RID and Agreement Concerning the International Carriage of Dangerous Goods by Road ADR
3. Environmental Protection Act 1990 (EPA 1990)
4. Environment Act 1995 (EA1995)
5. Water Resources Act 1990
6. Statutory Instrument 2001 /2954 - Control of Pollution (Oil Storage) (England) Regulations
7. Environmental Permitting (England & Wales) Regulations 2010
8. The Water Environment (Controlled Activities) Scotland Regulations.