



Aquaculture Feed Barge Code

The Safe Construction, Maintenance and Operation of Feed Barges
within The UK Aquaculture Industry

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The safe and sustainable growth of aquaculture is critical to meeting the rising global demand for seafood. As the industry evolves, so too must the standards that underpin its infrastructure and operations. Among the most essential components of modern aquaculture systems are feed barges—floating platforms that support efficient feed storage, handling, and delivery to marine farms.

Feed barges operate in dynamic and often challenging environments. Their design and operation demand a high standard of safety, reliability, and environmental stewardship. This Code of Practice for the Safe Construction and Operation of Aquaculture Feed Barges has been developed to provide practical, up-to-date guidance to industry stakeholders, including barge designers, builders, operators, and supply chain.

This Code reflects a collaborative effort, drawing on industry expertise, engineering best practices, and regulatory frameworks to create a robust and adaptable standard. It emphasizes proactive risk management, innovation, and a shared commitment to protecting both people and the marine environment.

We encourage all stakeholders to adopt this Code as a baseline for excellence and continuous improvement. Through its application, we aim to support a thriving aquaculture sector that is safe, responsible, and resilient.

A handwritten signature in white ink that reads "G. McCormick". The signature is fluid and cursive, with a large, stylized 'G' and 'M'.

Gerry McCormick

Aquaculture Feed Barge Code of Practice' Technical Workgroup Chairman.
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Introduction

This Code of Practice provides comprehensive guidance for the design, construction, and operation of aquaculture feed barges, with a strong focus on safety, environmental protection, and regulatory compliance. It is intended for use by **Barge** designers, manufacturers, operators, and supply chain, to promote best practices and reduce risks to personnel, the environment, and assets.

By establishing clear standards and expectations, this Code aims to:

- Enhance the structural and operational safety of feed barges;
- Minimize the risk of pollution or harm to the surrounding marine environment;
- Promote consistent, high-quality practices across the industry;
- Support compliance with national and international regulations.

This document is a living resource and will be reviewed periodically in light of emerging technologies, operational experiences, and evolving regulatory requirements. It serves as a foundation for safe, **efficient**, and responsible aquaculture practices.

Any concerns, questions or suggestions for improvement of this Code shall be submitted to: The Workboat Association, via feedbargecode@workboatassociation.org and/or Scottish Salmon, via enquiries@salmonscotland.co.uk

The Technical Workgroup

A Technical Workgroup was formed in order to create this Code of Practice, the group included:

- Bakkafrost Scotland
- Cooke Aquaculture
- Loch Duart
- Mowi (Scotland)
- Scottish Salmon Producers Association
- Scottish Sea Farms
- Workboat Association

How to use this code

Application, Interpretation and Certification Limitations

This Code of Practice applies exclusively to aquaculture feed barges that are non-propelled. Propelled barges operated in the UK are required to meet the requirements of the Maritime and Coastguard Agency.

This voluntary Code of Practice demonstrates a commitment to high standards of safety, environmental responsibility, and operational excellence. While certification is not legally binding, the standards set out within this code reflect industry best practices. Adhering to such a code can:

- Enhance credibility and reputation with regulators, clients, and the public
- Promote consistent and safe operations, reducing risk of incidents
- Provide a framework for compliance in line with evolving regulations
- Support insurance and liability protection
- Foster industry-wide trust and collaboration through standardisation

Contracts to construct new **Barges** which are agreed following the date of publication of this code are expected to be compliant with this code.

Transitional Arrangements

All existing **Barges** will be compliant where possible within 6 years of this Code's publication.

Barge Registry

Barges are to be registered voluntarily on the scheme via:

www.workboatassociation.org/feedbargecode

The **Barge** Owner will be required to register open an account before entering any information related to any **Barges** they own.

Authorisation of Inspectors

Barge Owners are required to designate a suitably experienced person(s), internally or third-party, to conduct the inspections. Their details will be required to be registered on the scheme separately as an **Authorised Person**.

Inspection

The inspection shall be carried out by an **Authorised Person**.

Certification

Barges successfully inspected in compliance with the Code will be provided with a certificate, valid for 6 years, subject to a successful **Intermediate Inspection**.

Definitions

- **Accommodation space** means any **space**, excluding **Machinery Space**, which is enclosed on all sides by solid divisions, provided for the use of persons on-board.
- **Area of Operation** means the location of which the **Barge** is intended to operate, including any expected weather, tide or sea conditions associated with the location.
- **Authorised Person** means a person who is authorised and registered by the **owner/managing agent** to carry out the required inspection as per this code. (Not to be confused with *authorised personnel*, who are people that the owner/manager grants access to their property).
- **Barge** means an aquaculture feed barge, of which this code is applicable to.
- **Cargo** stores or equipment stored on board the **Barge** that are not for use on board the **Barge** or by the **Barge's** systems.
- **Certificate of Construction** means the certificate awarded to the **Barge** following successful inspection to the construction requirements of this code.
- **Certificate of Equivalent Construction** means the certificate awarded to the **Barge** following inspection to the construction requirements of this code, but where some equivalent measures have been taken due to assessed non-compliances.
- **Compliance Inspection** means the inspection that is required to provide a **certificate of construction** or **equivalent construction**.
- **Conditional Load Line Certificate** means a certificate provided by the **Barge's** registered flag state, confirming that the **Barge** meets the requirements of the **IMO's** Load Line Convention.
- **Confined Space** means any relevant **spaces** on board the **Barge** as defined by the **HSE's** 'Confined Spaces Regulations 1997' Regulation and Guidance 1.
- **COSHH** means any relevant substances as defined by the **HSE's** 'Control of Substances Hazardous to Health' (**COSHH**) Regulations 2002 (as amended).
- **Dangerous Goods** means any relevant substances or articles as defined by the **IMO's** **IMDG Code**.
- **EEBD** (Emergency Escape Breathing Device) is a supplied air or oxygen device used to escape hazardous atmospheres in the workplace, where a lack of breathable oxygen exists.
- **Efficient** in relation to a fitting, piece of equipment or material means that all reasonable and practicable measures have been taken to ensure that it is suitable for the purpose for which it is intended.
- **EICR** (Electrical Installation Condition Report). It is a formal document that is produced following an assessment of an electrical installation. It must be carried out by an experienced qualified electrician or approved contractor.

- **Feed Pipe Selectors** mean a junction unit that allows the distribution of feed from one storage location to different destinations within a fish farm. Each selector is made up of a number of outlets equal to the number of different destinations for food to be delivered within the farm. By selecting an outlet, food is routed by means of a delivery pipe to its destination.
- **Feedbarge Code Inspection Code of Conduct** is a separate document which prescribes the way in which the inspection shall take place and the expected behaviour and conduct of the inspector.
- **Freeboard** means the distance measured vertically downwards from the lowest point of the upper edge of the **weather deck** to the waterline in still water.
- **Hazardous spaces** means a **space** where combustible or explosive gases or vapours may accumulate in dangerous concentrations, and are divided into three zones (refer to IEC 60079-10-1:2020 for details):
 - Zone 0** – a **space** where an explosive atmosphere is present frequently or for long continuous periods;
 - Zone 1** – a **space** where an explosive atmosphere is present occasionally during normal operation; or
 - Zone 2** – a **space** where an explosive atmosphere is present rarely, and only occurs for short periods, during normal operations.
- **Heating appliance** means an appliance designed to heat air, water or a solid medium by means of combusting **liquid fuel**.
- **HSE** means the UK Health and Safety regulator, the Health and Safety Executive.
- **IMDG Code** means the International Maritime **Dangerous Goods** Code, as amended, published by the **IMO**.
- **IMO** means the International Maritime Organization
- **Intermediate Inspection** means an inspection in compliance with this code occurring between 33 months and 39 months after the original certificate date. This inspection does not require an out of water inspection.
- **Lifebuoy** means a ring-shaped life-saving buoy designed to be thrown to a person in water to provide positive buoyancy and aid the prevention of drowning.
- **Lifting device** means a device used for lifting or lowering loads, and includes its attachments used for anchoring, fixing, supporting the device and connections between device and load.
- **Liquid fuel** means fuel that is liquid at atmospheric pressure and used for heating or for a cooker.
- **Liquid fuel appliance** means a heating or cooking appliance that is intended burn **Liquid Fuel**.
- **Load Line Exemption certificate** means the **Barge** has been granted exemption from **IMO's** load line convention, by the relevant maritime regulator, as per article 6 of the load line convention.

- **Machinery Space** means any **space** which contains any **Machinery System**.
- **Machinery System** means any propelling machinery, propulsion motors, boilers, oil fuel units, steam, internal combustion engines, generators, and **liquid fuel appliances**.
- **Manual Call Points** means electromechanical devices that collectively form part of a fire detection and alarm system / emergency warning system. Allowing somebody to trigger the alarm by activating the call point manually.
- **MCA** means the UK Maritime and Coastguard Agency.
- **Minor Hull Damage** means damage in which its length (in any plane) is not exceeding 5% of the maximum length of the **Barge** in its longest direction (LOA). Or, if the **Barge** is constructed of concrete; any crack forming in the casting.
- **Modification** means any change to the **Barge** or its equipment that would affect the **Barge's** compliance with this code's requirements.
- **Navigation lights/day shapes** are mast head signals visually indicating the status of a vessel or floating object to other water users. They indicate whether the vessel or floating object is underway, making-way, anchored, under tow, working below the water or aground. **Navigation lights** are used during the night and at times of restricted visibility, **Day shapes** are used during daylight hours.
- **PAT** means Portable Appliance Testing (**PAT** inspection or **PAT** testing), a process by which electrical appliances are routinely checked for safety.
- **Planned Maintenance System** means a system that **Barge Owners/Operators** use to plan, perform and document a **Barge's** maintenance at intervals complying with regulations, best practices and the manufacturer's requirements. The objective is to ensure safe and reliable upkeep, operations (including associated equipment), in addition to compliance with all applicable regulations.
- **Plastic** means both thermoplastic and thermosetting plastic materials, with or without reinforcement, such as uPVC and fibre reinforced plastics (FRP). The definition includes synthetic rubber and materials of similar thermo/mechanical properties.
- **Recess** means an indentation or depression in a deck, and which is surrounded by the deck and has no boundary common with the shell of the **Barge**. Where an appropriate ISO standard is used, the definition should be taken from those **standards** as applicable.
- **Risk Assessment** means a process of identifying and documenting what hazards currently exist or may appear in the workplace. A **risk assessment** defines which workplace hazards are likely to cause harm to employees, public or environment.
- **Safe haven** means a harbour or shelter of any kind which affords safe entry and protection from the force of weather.
- **Space** means any partitioned area on board (excluding **machinery space**), which is enclosed on all sides by solid divisions, this includes **spaces** that are designed to be accessed by persons and those that are not.

- **Standard** means those recognised **standards** such as BS (British Standard), EN (European Standard accepted by the European Committee for Standardization, CEN), IEC (International Electrotechnical Commission) and ISO (International Organization for Standardization) and includes any **standards** which amend or replace them or are an equivalent **standard**.
- **Toolbox talk** means an informal group discussion that focuses on a particular safety issue with the relevant personnel. **Toolbox Talks** spark discussion and action, guiding workers and teams through assessing and preventing hazards on the job.
- **Owner/Operator** means the **Barge** owner, managing agent or person who operates the vessel or **Barge**.
- **Watertight** means capable of preventing the passage of water in either direction.
- **Weathertight** means capable of preventing the passage of water in either direction.
- **Weather deck** means the main deck which is exposed to the elements.

Construction and Structural Strength

The purpose of this section is to provide requirements for construction and structural strength of the **Barge** to ensure sufficient strength to withstand all the loads that may be imposed on it during its life by operation, and by any sea or weather conditions likely to be encountered in the **Barge's Area of Operation**

General Requirements

- A **Barge** shall be designed and constructed to be **weathertight** in a manner which will prevent the water ingress.
- A hinged doorway located in the side of the superstructure shall not open inwards and shall be sized such that the covering overlaps the doorway on all sides and has **efficient** means of opening and closure which can be operated from either side.
- **Barges** shall be fitted with a **watertight weather deck** over the length of the **Barge**.
- **Freeboard** to the **weather deck** shall be positive in all loading conditios.

Structural Strength

- A **Barge** shall be considered to be of acceptable structural strength, subject to the presentation of a valid **Certificate of Construction**.

Certificate of Construction

- A **Certificate of Construction** shall note the **Barges** wind or wave height restrictions or limitations, the **Area of Operation** for the **Barge** shall be limited to those wave heights or wind restrictions.
- A **Barge** which has not been built and supplied with a valid **Certificate of Construction** shall be considered to be of acceptable structural strength after a **Compliance Inspection** by an **Authorised Person**, a **Certificate of Equivalent Construction** will be supplied in retrospect.

Construction Materials

- A **Barge** may be constructed of a variety of materials.
- The construction materials of the Hull, Deck and Superstructure of the **Barge** shall be noted on the **Certificate of Compliance** and the owner must carry out a suitable **Risk Assessment** of the outwardly facing construction materials, which is to be used to support the creation of a **Planned Maintenance System** related to the upkeep and predicted life expectancy of the material.

Cathodic Protection

- Where the hull of a **Barge** is constructed in metal, suitable cathodic protection / sacrificial anodes shall be fitted and to the exterior of the hull and maintained suitably. (Unless another system of cathodic protection is utilised, such as ICCP)

Anchoring, Towing and Lifting Arrangements

- A minimum of four separate suitably strong securing points shall be located on the **Barge** specifically designed for the **Barge's** mooring anchors, where abrasion risks exist, a fairlead or roller shall be fitted to prevent wear damage from the anchor equipment.
- These 'Anchor-points' should be labelled obviously and inspected routinely for any signs of material deterioration or structural failure.
- Suitably strong securing points, free from lateral obstacle, shall be located on the **Barge** specifically designed for towing the **barge**.
- These 'tow-points' should be labelled obviously and inspected prior to any tow commencing, for any signs of material deterioration or structural failure.
- Where a **Barge** is fitted with a **lifting device**, then the structure of the **Barge** and any associated fittings used in the activity shall be suitable and sufficiently strong for the intended use, including when operating at the maximum capacity of any **lifting device**.
- A **Barge** fitted with a **lifting device** shall have documented (valid) stability calculations, written by a naval architect/suitably qualified marine engineer.
- An inclinometer or other on-board device to display heel angle to the crane or **lifting device** operator shall be fitted or provided and used whilst conducting lifting operations.
- For circular **Barges**: A clearly visible (in alternate colours to the **Barges** regular colour) line showing the maximum load conditions of the **Barge** shall be painted around all 360° of the hull.
- Prominent clear notice(s) shall be displayed on or near the crane or **lifting device** and contain the following information and instructions;
 - the maximum permitted load and outreach of the **lifting device** or the Safe Working Load (SWL), whichever is the lesser.
 - details of all accessways leading below the **weather deck** which shall be securely closed prior to undertaking lifting operations.

Personnel Access / Boarding Arrangements

- The **Barge owner/operator** is responsible for providing, where appropriate, a safe means of access to and from a **Barge**.
- A **risk assessment** shall be carried out by the **Barge owner/operator** to assess the health and safety of all persons requiring access to and from **Barges** during the normal course of their responsibilities.
- Considerations to allow for safe access to **Barges** shall include, but not limited to, specific fendering arrangements to allow a vessel to get safely alongside with reduced gap 'step-across' arrangements, ladder & handrail suitability and flush deck fittings positioned within walkways.
- Walkways shall be, were practicable, free from any lines, hoses, **cargo** or equipment crossing them and restricted free unhindered movement of personnel.
- The internal arrangements of the **Barge** shall be made in such a way that personnel access and emergency extraction is unhindered from areas that require regular attendance or inspection.
- Internal and external pipes, cables and hoses shall be arranged in such a way to prevent the opportunity of tripping or entanglement during personnel access.
- Internal vertical ladders should be regularly inspected and fitted with suitable fall prevention system(s).

Fendering

- To reduce the opportunity of expected damage, fendering, such as solid rubber, wood, pneumatic or engineered rubbing strakes, shall be fitted on the outer perimeter of the **Barge** where it is intended that vessels or equipment may moor or frequent.

Handrails and Guards

- There shall be sufficient hand holds and grab rails within **accommodation spaces** to allow safe movement of personnel. Where persons are expected to access or work on board the deck of a **Barge**, the area of the **Barge** shall be fitted with either bulwarks, three courses of guardrails or three courses of taut guard wires.
- It is recommended that; the bulwark top, top course of guardrails or top course of taut guard wires shall be not less than 1000 mm above the deck where fitted, the distance between the lowest course of guardrails or taut guard wires and the deck shall not exceed 230 mm; where fitted, the distance between other courses of guardrails or taut guard wires shall not exceed 380 mm; and where fitted, guardrails and guard wires shall be supported by stays or stanchions.
- In the case where guardrails or guard wires are not fitted, suitable and specifically designed / located strong points shall be fitted to allow the safe use of work- positioning and / or fall arrest equipment.
- These strong points should be labelled obviously and inspected prior to any use, for any signs of material deterioration or structural failure.
- Fall prevention handrails shall also be positioned around the seaward and on board access areas to **feed pipe selectors**.

Strong points for use with Safety Harnesses

- Strong points for the attachment of safety harness lifelines shall be provided at the following positions:
 - .1 close to a companionway.
 - .2 on exposed decks.
 - .3 the perimeter of roofs (if un-guarded by suitable handrails).
 - .4 the top of a ladder.
 - .5 **feed pipe selectors**.
 - .6 other locations where a fastening point(s) would mitigate the risk of falling overboard.
 - .7 strong points shall be inspected every 6 months by a competent person.

Decks

- Any **recess** in the **weather deck** shall be **watertight** to the interior of the **Barge** and shall have **efficient** means of drainage overboard
- Arrangements for the size and drainage of a **recess** shall be physically demonstrated that, with the **Barge** upright, the **recess** drains overboard from a swamped condition within 3 minutes
- If a **recess** is provided with a locker which gives direct access to the interior of the hull, any such locker shall be fitted with **weathertight** cover(s) and in addition, the cover(s) to the locker shall be permanently attached to the **Barge's** structure and fitted with **efficient** locking devices to secure the cover(s) in the closed position

Water Freeing Arrangements

- Where a **Barge** is fitted with bulwarks such that shipped water may be trapped behind them, the bulwarks shall be provided with freeing ports that will ensure the deck can be effectively drained.
- The area of freeing ports shall be at least 4% of the bulwark area and be situated in the lower third of the bulwark height, as close to the deck as practicable.
- Where a non-return shutter or flap is fitted to a freeing port it shall have sufficient clearance to prevent jamming and any hinges shall have pins or bearings of non-corrodible material.
- Structures and **spaces** considered to be non-**weathertight** shall be provided with **efficient** drainage.
- Where **cargo** is to be stowed on deck, the stowage arrangement shall be such as to not impede the free flow of water from the deck.
- Where the **owner/operator** of a **Barge** intends to operate in sea areas where ice accretion can occur, the water freeing arrangements shall minimise the risk of icing impeding the free flow of water from the deck.

Watertight Bulkheads

- **Barges** will be sub-divided in construction by **Watertight** bulkheads
- Where pipes, cables, etc. penetrate **watertight** bulkheads, they shall be provided with valves and/or **watertight** glands, as appropriate.
- A door in a **watertight** bulkhead shall be fitted in such a way that the bulkhead, when the door is closed, retains its **watertightness**. The door shall be kept closed at sea, unless opened for access only, whilst the **Barge** is manned. A notice shall be fitted to both sides of the door "To be kept closed at sea, open for access only". Any **watertight** door shall be provided with a suitable safety provision to avoid injury to personnel by accidental closure of the door.
- An accessway which is used for escape purposes shall be capable of being opened, closed and where necessary, unlocked, from both sides.

Weathertight Integrity

The purpose of this section is to set requirements to ensure that any water from weather or sea conditions likely to be encountered in the intended **area of operation** will not penetrate into a **Barge**, or remain on board, lowering a **Barge** above its anticipated deepest draft and causing down-flooding.

Hatchways and deck openings

- Hatchways, where practicable, shall be kept securely closed at sea. However, if a hatchway is required to be open at sea for lengthy periods, it shall be:
 - 1) kept as small as practicable
 - 2) be located on the centre line of the **Barge** or as close thereto as practicable
 - 3) shall comply with the following coaming requirements;
- The minimum opening dimension (in any plane) of any doorways or hatches must be 800mm, in compliance with Chapter 7 of the Scottish Government's [Fire safety for non-residential premises: practical guidance](#)
- Any **weathertight** coamings used to prevent down-flooding of a **Barge** whilst access hatchways/opening lockers are open, may be of portable construction, provided it can be suitably secured to the structure of the **Barge** and can be locked in position whilst in use.

Skylights, Windows and Portlights

- All windows fitted above the **weather deck** shall be of **weathertight** construction
- It is recommended that windows are not fitted below the **weather deck**.
- Any windows fitted below the **weather deck** shall be of **watertight**, non-opening construction

Through hull fittings (Penetrations)

- Any through hull fitting (including water-based feeding systems) below the **weather deck** shall be provided with a **watertight** means of closure and if fitted below the waterline, the means of closure shall be either remotely operated or readily accessible in an emergency. Any discharge lines shall also have an automatic non-return valve fitted
- When an opening below the **weather deck** is for a removable piece of equipment, such as a sensor or camera, which is capable of being withdrawn at sea, the opening shall be provided with an effective means of closure when such a fitting is removed.
- Inlet and discharge pipes from marine toilets shall be provided with a **watertight** means of closure. When the rim of a marine toilet is less than 300 mm above the deepest anticipated waterline of the **Barge**, anti-siphon measures shall be provided.
- Observation glasses fitted in sea water systems below the deepest anticipated waterline, including any trim or heel, shall be so protected as to minimise the risk of mechanical damage, failure and consequential flooding.

Machinery, Power Generation and Fuel Systems

Conventional Fuel Power Systems

The purpose of this section is to set out the requirements for **machinery systems**, fuel supply and handling including stowage of spare petrol where appropriate.

Installation

- Machinery, power generation and fuel **systems** shall be installed in such a way as to reduce the risk of injury to persons during normal movement about the **Barge**.
- **Hazardous spaces** shall be continuously ventilated. Means of ventilation shall be appropriate to the **space** ventilated.
- Means shall be provided to isolate a source of fuel which may feed a fire in a **machinery space**. The means of closure shall be positioned outside the **machinery space** and shall be fitted as close to the fuel tank as possible. If the means of closure fitted is remotely operated, it shall have a manual override.
- Where the machinery's oil fuel system is provided with water separator filter(s) of a type which has **plastic** or glass bowl(s), it shall be located so that it can be easily seen and protected against heat and accidental damage.
- All remote machinery isolation controls shall be installed in an obvious, easily accessible location, close to the area associated personnel activity and coloured in such a way to make them obvious to users.
- All remote machinery isolation controls shall be of a design to protect them from deterioration caused by weather/water ingress.

Fuel Tanks and Ventilation Pipes

- The **Barge** may be fitted with a generator(s) to provide power, these may include an integral or external fuel tank.
- Generators fitted with an internal fuel tank shall be provided with a safety warning sign displayed showing details of appropriate precautions to be taken when filling the fuel tank.
- All fuel tanks shall be designed for the intended fuel type and constructed (and coated) of a suitable fuel and corrosion resistant material.
- A fuel tank shall be protected against the effect of fire in the **machinery space**.
- A rigid **plastic** or aluminium fuel tank shall not contribute to any additional fire risks, be fitted in the **machinery space** and shall not form part of a **machinery space's** boundaries.
- A fuel tank(s) shall not be fitted in an area containing a **heating appliance(s)**. Where this is impracticable, the installation shall, where possible, mitigate against any additional fire risk.
- All **Barges**, including those with portable tanks, shall be fitted with means to drain any spillage occurring during fuel handling into a suitable receptacle.
- A fuel filling or fuel ventilation pipe(s) shall be arranged to prevent over pressure of the fuel tank systems during filling.
- A fuel ventilation pipe(s) from a fuel tank intended to be filled on board transfer pumps or a pressurised system shall have a diameter of 1.25 times the diameter of the filling pipe.
- Small tanks intended to be filled directly from a shore fuel line may have a vent pipe of minimum inside diameter (ID) of 11 mm if the filling pipe runs directly and near vertically to the top of the tank and has a minimum ID of at least 32 mm (solid pipe) or 38 mm (hose).
- A vent pipe(s) shall lead to the open atmosphere, terminate in a position level with or higher than the fuel filling mouth, be protected against water ingress, be protected from flame ingress, and be protect against any other identified hazards.
- **Spaces** containing a fuel tank shall be ventilated. Where a petrol tank(s) is fitted, it shall meet the ventilation requirements of ISO 11105

Fuel Carrying Pipes

- Fuel pipes shall be constructed of a fuel compatible, fire resistant, noncorrosive and a non-kinking material.
- Permanently fitted fuel pipes shall be adequately supported along their length, particularly at pipe connections. The method of supporting shall be appropriate for the material of the fuel pipe and its location in the fuel system.
- High pressure fuel pipe(s) and associated fittings on a **machinery system(s)** shall be designed and installed to reduce the risk of oil mist fires.
- Short lengths of flexible fuel pipes may only be permitted where necessary to allow for movements and vibration between fixed fuel pipes and fuel tanks or fuel consumers.
- They shall be suitable for the carriage of fuel, fire resistant and metal reinforced.
- They shall be secured by either metal hose clamps or permanently attached end fittings such as swaged sleeve or sleeve and threaded insert. Every pipe connection shall have a means of preventing slippage and shall not provide a path for fuel leakage.
- Non-permanently installed fuel tanks must be fitted with dry-release couplings to prevent the risk of any spillage should the fuel pipe(s) come under any tension.
- Any flexible fuel pipes shall be renewed according to the manufacturer's instructions. The date of fitting and date for renewal shall be recorded in the **Barge's Planned Maintenance System**.

Noise and Vibrations

- A **Barge owner/operator** shall meet the requirements for the protection of all persons on board from the risks related to exposure to noise and vibration at work, as per the applicable national regulations.
 - The Control of Noise at Work Regulations 2005
 - Exposure action value 80 dB(A) at which level employers must assess the risk to workers' health and provide them with information and training.
 - Exposure action value of 85 dB(A) at which level employers must provide hearing protection.
 - Exposure limit value of 87 dB(A), taking account of any reduction in exposure provided by hearing protection, above which workers must not be exposed.

*(A) (daily or weekly average exposure)

- The Control of Vibration at Work Regulations 2005
 - **Whole Body Vibration**
 - Exposure action value of 0.5 m/s² A(8) at which level employers should introduce technical and organisational measures to reduce exposure.
 - Exposure limit value of 1.15 m/s² A(8) which should not be exceeded.
 - **Hand-arm Vibration**
 - Exposure action value of 2.5 m/s² A(8) at which level employers should introduce technical and organisational measures to reduce exposure.
 - Exposure limit value of 5 m/s² A(8) which should not be exceeded.

Electrical systems

The purpose of this section is to set out minimum requirements to satisfy appropriate national regulations to ensure safety of marine electrical installations.

Installation

- Installation of electrical equipment shall be in accordance with applicable national regulation; the international marine electrical standard (IEC 60092) is strongly recommended.
- Electrical equipment and their installation shall be suitable for use in a marine environment and meet **standard(s)** as listed in **MCA MIN 698**.
- The electrical equipment and installations shall be earthed and bonded or such that the **Barge** and any persons on board are protected against electrical hazards.
All exposed non-current carrying conductive parts of both fixed and portable electrical equipment which may, under fault conditions, become live (including similar parts inside non-metallic enclosures) are to be connected to earth unless the equipment is;
 1. supplied at a voltage not exceeding 50 V direct current or 50 V root mean square between conductors, achieved without the use of autotransformers
 2. supplied at a voltage not exceeding 250 V by safety isolating transformers supplying only one consuming device
 3. constructed in accordance with the principle of double insulation (Class II) as per IEC 61440 or equivalent insulation intended to prevent the appearance of dangerous voltages on its accessible parts due to a fault in the basic insulation.
- Electrical cabling shall be installed in such a way to protect it from chafing or direct contact with heat or water *unless cabling is specifically designed for outside use.
- Electrical equipment and cabling shall be installed in such a way to allow for inspection and maintenance to be performed without the requirement to cut or disconnect electrical cabling. Sufficient additional cabling will be provided behind electrical equipment to allow for it to be removed from its housing safely without causing restrictions or tensioning of cables.
- Electrical systems installed on board, including any **Barge** related portable electrical equipment shall be annually inspected by either an Electrical Installation Condition Report (**EICR**) or Portable Appliance Test (**PAT**).

Lighting

- An electric lighting system shall be installed which is capable of supplying an appropriate level of light to all enclosed **accommodation** and working **spaces**.
- For lighting distribution in **accommodation** and working **spaces**, the lighting shall be distributed on different final circuits to maintain a level of lighting in case of failure of a single distribution circuit.
- For **Barges** carrying out deck operations in the hours of darkness, an appropriate level of light shall be provided for those areas.

Batteries

- Battery systems, including any back up battery system, shall be provided to satisfy the designed electrical requirements of the **Barge**.
- The battery terminals shall be protected from contact with metallic objects.
- All battery charging systems shall be fitted with circuitry to prevent overcharging and over-voltage and shall have a charge indicator.
- All back up batteries shall be fully charged and checked routinely.
- A battery disconnect switch shall be provided to simultaneously isolate all nonearthened poles.
- Batteries shall be firmly secured to avoid movement and located in a position not likely to flood in normal operations or in the event of **minor hull damage**.
- Ventilated batteries shall be installed with drip trays to collect any electrolyte spillage.
- Where there is a possibility of dangerous gases occurring within the battery stowage **space**, the **space** shall be ventilated. Where ventilated, air shall be supplied at a level below the top of the batteries and shall be exhausted from the highest point of the **space** directly to the open air. The system shall be designed in a way that dangerous gases may not re-enter the battery stowage **space**.
- Installation and ventilation arrangements shall follow national regulation appropriate for battery installations.

Electrical Cables

- Electrical cables shall be located such that they are protected from degradation, avoid contact with damaging surfaces and are protected from chafe where they pass through a part of the hull structure or storage **space**. They should also be located to minimise the chances for electromagnetic interference (EMI)

Hazardous Spaces

- Where electrical equipment is installed in a **space** where there is a risk of explosion, it must comply with the **HSE**'s regulations for 'Hazardous Area Classification and Control of Ignition Sources'.
Lighting in **hazardous spaces** shall have two or more sub-circuits.
- Where electric cables pass through bulkheads or decks separating **hazardous spaces** and non-**hazardous spaces** the integrity of the bulkhead or deck shall not be compromised.
- Electric cables shall not, where practicable, pass through **hazardous spaces**, except when powering equipment installed within the **space**, or within gas tight metal pipework.

Lightning Protection

- Where a considerable risk of lightning strike is identified, the **Barge** shall be fitted with suitable lightning strike protection.

Fire Safety

The purpose of this section is to provide a level of fire safety for the **Barge** which is designed to extinguish minor fires, prevent minor fires becoming major fires and in the event of the major fire; permit enough time for the evacuation of the **Barge**. This section provides minimum requirements to maintain a level of structural integrity that ensures the **Barge** remains habitable following a minor fire.

Machinery Space

- **Machinery spaces** on new build **Barges** shall be fitted with remote fire alarm systems capable of notifying a suitable person(s) ashore
- **Machinery spaces** shall be capable of being isolated to minimise the risk of fire extinguishing medium escaping.
- The following shall be capable of being stopped from outside, or remotely to, a **machinery space** in the event of a fire:
 - .1 **machinery**
 - .2 fans within **machinery space(s)**
 - .3 fans feeding **machinery space(s)**
 - .4 pumps transferring fuel or oil
 - .5 centrifuges
 - .6 any other equipment in areas identified to increase risk of fire acceleration
- Systems fitted with automatic fans which stop in the event of a fire shall have a manual override.
- Linkages forming part of the remote operation for flaps, cut-offs and similar devices shall be of a fire-resistant construction and shall be unlikely to fail in the event of fire.
- Materials stowed in a **machinery space(s)** must be:
 - .1 required for the operation of maintenance in the **machinery space**
 - .2 non-combustible.
- Only non-combustible materials that are required for the operation and maintenance of machinery may be stowed in **machinery space(s)**. Stowed materials in a **machinery space(s)** shall be adequately secured and shall not obstruct access to or from the **machinery space(s)**.
- In the **machinery space** windows shall only be fitted as an observation port meeting the following requirements:
 - .1 fitted only in an internal boundary bulkhead or door;
 - .2 be non-opening;
 - .3 have a maximum diameter of 150 mm or equivalent rectangular area;
 - .4 fitted in a steel frame or other equivalent material;
 - .5 fitted with a permanently attached fire retardant cover with securing arrangements;
 - .6 constructed of fire rated toughened safety glass;
- The **Barge** shall have means to retain any oil leakage within the confines of a **machinery space**.
- A **machinery space(s)** shall be kept clean and clear of any oily waste, and all oily residues shall be collected and retained on board (e.g. in a dedicated stowage tank) for discharge to on shore collection facilities.
- Any thermal or acoustic insulation fitted inside a **machinery space** and shall be of a non-combustible material(s)
- Non-solvent based intumescent materials may be used where the insulation performance meets or exceeds the requirements for 'A' or 'B' Class Insulation.

- Insulation shall be protected from damage and against impregnation by flammable vapours and liquids. Where insulation is cut, the edges shall be protected against such impregnation.
- Vapour barriers and adhesives used in conjunction with insulation need not be of non-combustible materials but shall be kept to the minimum quantity practicable and their exposed surfaces shall have low flame-spread characteristics.

Open Flame, Liquid fuel and Fired Heating Appliances

- Open flame gas appliances shall be designed and constructed for marine use, and where applicable shall comply with the requirements of Regulation (EU) 2016/426 as amended.
- Installation of a gas appliances shall be in accordance with national regulation.
- Combustible materials, and other surfaces, which do not have a surface spread of flame rating (such as curtains, bedding or upholstery), shall not be located within 600mm of open flame or fired **heating appliances**.
- Open flame appliance(s) shall be inspected by a Gas Safe Registered marine qualified technician and shall be issued with a safety certificate. Inspections shall be carried out annually or following installation.
- **Liquid fuel appliances** shall be designed and constructed for marine use, have overheat control devices and have a flame failure device if the fuel supply is pressurised, unless it is a wick type burner.
- Appliances and their exhaust systems shall be installed in accordance with the appliance manufacturer's instructions. Any **modification** to the **Liquid fuel appliance** shall be done in consultation with the **Liquid fuel appliance** manufacturer.
- **Liquid fuel appliances** shall be installed so that the outgoing products of combustion pass through sealed ductwork terminating outside the **Barge**.
- Operating controls for **Liquid fuel appliances** shall be easily accessible and in a safe location to prevent the likeli of injury.
- In the event of fire, a **space** containing **Liquid fuel appliances** shall be capable of being isolated by means of a valve(s) operated from outside of the **space**.
- Where user awareness for the safe operation of an appliance is required, a permanently legible sign shall be provided in the immediate vicinity covering safe operation, refuelling procedure (if applicable) and any unique hazards involved with its use.
- A suitable receptacle shall be provided to collect any spillage which occurs during the filling and draining of a fuel tank for portable equipment powered by a petrol engine.
- Where open flame, gas or **Liquid fuel appliances** are installed in, or adjacent to accommodation areas, audible carbon monoxide (CO) detector(s) shall be fitted in accordance with the manufacturer's instructions for detection.

Assessment of the ignitability of upholstered furniture

- Upholstery covering fabrics shall satisfy the cigarette and butane flame tests in force at the time of initial certification.
- For upholstered furniture and mattresses only Combustion Modified High Resilient (CMHR) foams shall be used.

Detection

- All fire and gas detectors shall at a minimum be maintained and tested in accordance with the manufacturer's recommendations.
- Fire detectors complying with EN 54 shall be fitted in the following locations:
 - .1 **machinery space(s)**;
 - .2 **accommodation spaces**;
 - .3 all **spaces** containing open flame, gas or **liquid fuel** appliances;
 - .4 all areas of concentrated electrical equipment; and
 - .5 all other areas as identified by the **Authorised person** as being at risk from fire.
- Fire detector(s) shall be of an appropriate type to respond to potential hazard(s) e.g. smoke, flame, heat.
- Where a fire detector(s) is fitted it shall be audible from the **space(s)** concerned, any **accommodation space(s)** (if applicable), the deck, and shall be capable of being heard with doors closed, machinery running and in all anticipated weather and operational conditions.
- **Machinery spaces** shall be fitted with fire detector(s) which detect smoke and heat, or flame.
- Where open flame, gas or **liquid fuel appliances** are installed in, or adjacent to accommodation areas, a carbon monoxide (CO) detector(s) shall be fitted in accordance with the manufacturer's instructions for detection.
- Where a CO detector(s) is fitted it shall be audible from the **space(s)** concerned, any **accommodation space(s)** (if applicable), the deck, and shall be capable of being heard with doors closed, machinery running and in all anticipated weather and operational conditions.
- A CO detector(s) shall be provided in **spaces** where exhaust gases may accumulate in the event of an exhaust leak.
- Any **space** which contains gas consuming appliances or into which flammable gas may be leak or accumulate, shall be provided with a hydrocarbon gas detector and alarm.
- The hydrocarbon gas detector and alarm shall be designed to comply with a **standard** relating to electrical equipment in hazardous areas.
- **Manual Call Points** shall be positioned on board in regularly occupied areas in order to raise an alarm effectively.
- For new build **Barges**: The on board fire alarm system shall be connected to the remote system(s) capable of notifying a suitable person(s) ashore.

Means of Escape

- All **Barges** shall have means of escape.
- All escape routes shall be located so that a single hazardous event is not likely to cut-off all escape routes.
- Any identified means of escape shall not endanger any person using it.
- Any means of escape shall be clearly marked for its purpose on both sides, and the function of each escape route shall be practically demonstrated.
- Two separate means of escape shall be provided in:
 - .1 **accommodation spaces** containing sleeping bunks / cots.
 - .2 any **spaces** identified by the Certifying Authority as being at high risk from fire.
 - .3 machinery or battery **spaces** except where;
 - .1 usually unmanned during normal operation.
 - .2 any person entering and moving about the **space** is within 5 metres of the entrance at all times.
 - .3 the entrance gives ready escape, at all times, in the event of fire.
- Where a hatchway or companion hatch opening is used as part of an escape route it shall be capable of being opened from both sides.

Fire Control and Safety Plan

- **Barges** shall have a fire control and safety plan(s) which shall be prominently displayed in a suitable and easily observed position(s).
- The fire control and safety plan(s) shall be kept up to date.
- The fire control and safety plan(s) shall detail the following:
 - .1 the type and position of all fire appliances.
 - .2 the location of fire detectors.
 - .3 locations and means of control of systems and openings which shall be closed down in a case of a fire.
 - .4 a procedure for persons on board to follow prior to or in event of activation of the fixed fire extinguishing system.
 - .5 means of escape and any additional access points.
 - .6 the location(s) of life-saving appliances.
 - .7 the location(s) of embarkation stations and muster points.

Fire Ports

- **Machinery Spaces** may be fitted with fire port(s), so that fire extinguishing mediums are able to be discharged into the associated **space** without a person needing to enter the **space** itself.
- Fire ports shall be:
 - .1 constructed of fire-resistant material.
 - .2 appropriately sized and positioned to accept the discharge nozzle.
 - .3 openable to provide access for discharge of the medium into the **space**.
 - .4 labelled with "fire port" or an appropriate graphical symbol.

Protection of Accommodation Spaces

- **Accommodation Spaces** not Containing Sleeping Bunks / Cots or Cooking and **Heating Appliances**, shall have a minimum of one portable fire extinguisher, size and medium to be dictated by internal **risk assessment** (non-Powder) located within the **space**.
- **Accommodation spaces** containing cooking and **heating appliances**, shall comply with the following requirements;
 - .1 **spaces** containing cooking and **heating appliances** without open flame shall have a minimum of one 21A/34B rated portable fire extinguisher.
 - .2 **spaces** containing cooking and **heating appliances** with open flame shall have a minimum of one 21A/34B rated portable fire extinguisher, and a fire blanket that meets the requirements of the appropriate national **standard**.

Portable Fire Extinguishers

- Portable fire extinguishers shall be marked in accordance with ISO 7165, BS EN 3 or equivalent.
- Extinguishing media containing halons or per-fluorocarbons shall not be used. For details on accepted extinguishing media types see ISO 7165.
- Portable fire extinguishers shall be located within:
 - .1 2m from any permanently installed open flame, gas or **liquid fuel appliances**;
 - .2 3m from any fire ports, or 3m from any machinery, whichever is applicable.
- All portable fire extinguishers shall be readily accessible.
- Portable extinguishers may be stored in a locker or in other means of protection, but shall remain readily accessible at all times. The locker or protection opening shall identify that it contains a portable extinguisher.
- Portable extinguishers not certified or listed for marine use which are located where they may be exposed to water shall have the extinguisher operating nozzle and triggering devices shielded.
- All portable fire extinguishers shall be serviced by a **competent person** in accordance with the manufacturer's instructions.
- Portable carbon dioxide (CO₂) fire extinguishers shall not be located in **accommodation spaces** containing sleeping bunks.
- A maximum of one portable carbon dioxide fire extinguisher may be located in an **accommodation space**.
- Portable carbon dioxide fire extinguishers shall each have a maximum capacity of 2 kg

Fixed Fire Extinguishing Systems

- Where a fixed fire extinguishing system is installed in a **machinery space** it shall be of the approved type appropriate to the **space** to be protected.
- Fixed fire extinguishing systems shall meet the manufacturer's installation and maintenance requirements and shall be serviced at minimum on an annual interval or as per manufacturer's recommendations, whichever is more frequent.
- Where activation of the fixed fire extinguishing system is automatic, or the cylinders containing extinguishing media are located within the **machinery space**, a visual alarm shall be displayed outside the **machinery space** during discharge of fire extinguishing media.

Fire Pumping

- All **Barges** must be fitted with a power driven self-priming fire pump(s) which ensures that the main pressure and availability can be maintained following the loss of a **machinery space**.
- A fire pump shall be fitted with sea and hose connections capable of delivering one jet of water to any part of the **Barge** through hose and nozzle, one fire hose of adequate length with a 10 mm nozzle and a suitable spray nozzle.
- Where a **Barge** has two independent power bilge pumps fitted, one of these pumps may be used as a fire pump where an accessible change-over arrangement is fitted. The ability to remove accumulated fire extinguishing water shall not be compromised, and contaminated bilge water shall not be pumped onto a fire.

Bilge Pumping

The purpose of this section is to set out requirements for **Barge** bilge pumping systems and associated piping for the **efficient** drainage of bilge water, and drainage of flooded **spaces**. It shall be noted that a fitted bilge pump system is not to be relied upon to deal with a large ingress of water into a **space**, but rather to deal with leakages.

Bilge Pumping System Requirements

- A bilge pump shall be permanently installed, self-priming and capable of being operated with all accessways closed.
- A bilge suction line shall be fitted with an **efficient** strum box to protect from obstruction.
- A bilge suction valve of a permanently installed bilge pump shall be of a non-return type.
- Bilge pumps shall not discharge into **weather deck recesses**.
- All **spaces** where bilge water is likely to occur shall be able to be drained when the **Barge** is heeled to an angle of 10° degrees.

Bilge Pumping Carriage Requirements

- A **Barge** shall have at least one hand bilge pump and one engine driven or independently powered bilge pump, which shall be situated in each separate **space**. If more than one powered pump is provided, they shall be capable of being powered by more than one independent power source (generator or battery). All pumped **spaces** shall be capable of being drained after the failure of one pump.
- The **Barge** shall have bilge pumps with a combined capacity of not less than 140 litres per minute.
- Bilge pumping arrangements should consider:
 - .1 Multiple pumps per watertight compartment (considering compartment size and access restrictions).
 - .2 Independent or multiple outlets for overboard bilge pumps to prevent restricted flow
 - .3 Generator auto start system linked to bilge alarms activation

Bilge Alarms

- Bilge alarms shall be audible from a regularly occupied **space** on board (or remotely) and be capable of being heard in all anticipated weather and operational conditions.

Bilge Pumping System testing and inspections

- Bilge pumping systems shall be tested and inspected at least once every 3 months. This shall include;
 - .1 correct functioning of the pumps
 - .2 correct functioning of any automatic (float or saturation) switches
 - .3 correct functioning of the alarm system
 - .4 inspection and maintenance/cleaning of strum boxes
- The results of each inspection shall be recorded and available for review.

Stability

The purpose of this section is to set out the stability requirements for all **Barges**.

Freeboard and Freeboard Marking

- The **freeboard** for a **Barge** shall be calculated with the **Barge** in its **area of operation** water body (sea water or fresh water), upright, in its normal trim and fully loaded with weights to compensate for both **cargo** and non-**cargo** deadweight items as certificated to be carried (the weight of each person taken to be 82.5kg).
- The **freeboard**, measured from the lowest point of the **weather deck** to the water surface, shall be designed appropriate to the expected sea states for the **barge's** intended area of operation. In all cases, this shall not be less than 300mm around the entire periphery of the **Barge**.
- The **Barge** shall be marked in no less than 2 independent places (on opposite sides of the hull) with a **freeboard** mark consisting of a bar of 300mm in length and 25mm in depth,
- The **freeboard** mark shall be permanent and painted black on a light background or in white or yellow on a dark background.
- A **Barge** shall not operate in a condition which will result in its **freeboard** marks being totally submerged when it is at rest and upright in calm water.

Damage Stability

- The **Barge**, where **minor hull damage** or failure of any one hull fitting in any one **watertight compartment** has occurred, shall not exceed 7° degrees list from the upright angle of equilibrium.

Life-Saving Appliances

The purpose of this section is to set out the minimum requirements for life-saving appliances should they be kept on board.

Retro-reflective materials

- The following life-saving appliances shall be marked with retro-reflective materials in accordance with the guidelines in IMO Resolution A.658 (16), as amended:
 - .1 liferafts.
 - .2 **lifebuoys** (liferings).
 - .3 lifejackets.
 - .4 thermal protective aids (TPA).

Liferafts or Support Craft

- **Barges** shall either have a permanently moored support vessel alongside whilst manned, or shall be supplied with a liferaft for use in an emergency to evacuate the **Barge**.
- Liferafts shall be constructed to either of the following;
 - .1 **SOLAS standard** and **UKCA** or **MER** approved, or **MCA DfT** approved.
 - .2 Be built to the ISO 9650 – Small Craft Inflatable Liferafts, Part 1, Type 1, Group A **standard** and certified to Part 3 of ISO 9650.
 - .3 Be the open reversible type, constructed to **IMO High Speed Craft Code 2000 standard** and **MER** approved (“Wheelmarked”) or **DfT** approved.

Lifebuoys (Liferings)

- **Lifebuoys** shall:
 - .1 not be of an inflatable type;
 - .2 be marked with two means of identifying the **Barge** / Owner (by public).
 - .3 be fitted with lights
 - .4 if of a light-weight type, be fitted with either a buoyant line or a drogue
- Where fitted, buoyant lines shall be a minimum of 18m in length.

Recovery of Persons from the Water

- A risk assessed procedure for recovery of persons from the water shall be identified and communicated to the relevant persons.

Stretchers

- All **Barges** with accommodation on board for personnel, and any **Barge** with a deck area of more than 50m² shall have a stretcher on board for recovery and emergency evacuation of personnel.
- Stretchers shall be of a design suitable to fit within the internal construction of the **Barge** from all **spaces** where personnel access is required for regular attendance or inspection. (Taking into account; steep ladders, small/half landings, turning ladders and small passageways/throughways).
- Newly designed and constructed **Barges** shall have emergency evacuation and stretcher use considered during the design process.

Table of International Life-Saving Signals

- All **Barges** shall carry a Table of International Life-Saving Signals. This shall be in the form of either one **SOLAS** No. 1 poster, or two **SOLAS** No. 2 posters.

Training Manual

- The **Barge** shall have a training manual, which shall be maintained and kept both onshore and on board in a location that prevents damage due to exposure.
- The Training manual shall, as a minimum, contain:
 - .1 the procedure for boarding and access.
 - .2 the number and positions of stowage of the life-saving equipment (if provided).
 - .3 the correct use of the life-saving equipment (if provided).
 - .4 the recovery of persons from the water procedure. (As per section 'Recovery of Persons from Water').
 - .5 the "Personal Survival at Sea" booklet, e.g. **MCA** Booklet **MCA/075**.

Communications Equipment

The purpose of this section is to set out requirements for **Barge** communications equipment, including installation, operation, maintenance and testing.

General

- All persons on board **Barges** shall be equipped with a continuously available communication system suitable to send and receive calls in the **Barges Area of Operation**.
- The communication system shall provide capabilities for contacting fellow offshore workforce, on shore workforce, local public and the Coastguard for the requirements of maritime distress and safety communications.
- A prominent clear notice shall be displayed on board in a suitable area, provided clear summary of the radio distress, urgency and safety procedures. If a fixed radio installation is fitted, this notice shall be displayed in full view of the radio operating position.
- A manned **Barge** shall carry at least one radio (installed or portable) capable of sending and receiving VHF channel 16, and fitted with a Digital Selective Calling (DSC) facility.

Radio Installation

- Any fixed installation radio aerials shall be mounted on the highest point practicable (and structurally supportive, for **Area of Operation**) on the **Barge**.
- Any fixed radio installations shall be located to aid operational availability and be protected against damage or water & weather.
- Fixed radio installation(s) shall have a clear summary of the radio distress, urgency and safety procedures displayed in full view of the radio operating position(s).
- In geographic areas where transmission quality may be reduced due to surrounding landscape or other, **Bargel owners/operators** shall consider alternative communications such as Medium Frequency radio (MF), mobile telephone or mobile satellite communications systems.
- Where batteries are used for the electrical supply to radio equipment, an alternative power supply shall be provided by either; charging facilities or a back-up battery of capacity sufficient to arrange alternative communications systems,
- Battery electrical supply to radio installations shall be located in a position not likely to flood in normal operations or in the event of **minor damage** to the **Barge**, and shall be arranged so that radio communications, as far as practicable, are not interrupted in adverse conditions including extremes of temperature and harmful effects of water.
- Users of Marine Radio systems shall be trained in how to do so appropriately.

Portable VHF Radio

- A portable VHF radio shall have brief and clear operating procedures provided if not already printed on the casing.
- A portable VHF radio shall have means to attach to clothing or a lanyard with a low breaking strain safety link.
- A portable VHF radio and spare batteries shall be protected against water damage, either by design or by a waterproof cover, to a depth of 1 metre for a period of 5 minutes.
- A portable VHF radio, batteries and any waterproof covers shall not have any sharp projections that might damage a survival craft or lifejacket when worn.

Test and Maintenance

- A **Barge owner/operator** shall ensure that any marine radio equipment is tested and operating effectively on a regular and structure basis.
- In addition, testing of communications shall be carried out following any power or communications outage either on the **Barge** or on shore at the Fish Farm operating base.
- Equipment shall be maintained regularly according to the manufacturer's instructions.

Barge Visibility and Signalling Devices

The purpose of this section is to set out requirements for **Barge** visibility and signalling appliances.

Radar Reflector

- **Barge's** under 10m length, and all barges built of non-steel construction, shall be provided with a radar reflector of an appropriate **standard**.
(See **MCA** MIN 698 for example.)
- The radar reflector shall be fitted on the **Barge** in accordance with the manufacturer's instructions

Equipment / Anchor Spread

- Where practicable, buoys and surface gear related to the **Barges** anchor spread or it's associated 'saturated' equipment, should be visibly marked by both; distinctive colour for hours of good visibility, and retro-reflective materials (or if appropriate, lights) for hours of restricted visibility or darkness.

Navigation lights

- **Barges** shall be fitted with **navigation lights** in compliance with the COLREGS. (All-round white light, whilst anchored).
- Whilst under towing conditions, **Barges** shall be fitted with **navigation lights** for towage, in compliance with the COLREGS.
- Emergency power supply(s) to **navigation lights** are recommended to be designed to supply power to the equipment for a minimum of 12 hours in the event of failure of the main electrical supply.

Anchors and Cables

The **Barge** shall be equipped with anchor(s) and cable(s) or chain(s) to hold it in the desired position afloat. The fish farm planning approval states the minimum agreed requirements for anchors and rope/chain of each independent fish farm array, including the feed **Barge(s)** These guidelines set out the minimum perceived best practice.

Anchors, Chains and Cables

- The **Barge** shall be equipped with at least 3 anchors.
- The **Barge's** anchors and chains shall comply with the minimum requirements tabled below.
 - Chain cable diameter given is for short link chain.
 - Chain cable shall be sized in accordance with BS 7160 or equivalent.
 - Where rope or wire is used instead of chain, the breaking strength shall be equivalent to that of the chain specified in the table.

Loaded Displacement	Anchor	Anchor Chain diameter.
(Tonnes)	(kg)	(mm)
25	30	10
50	40	12
75	50	12
100	75	13.5
125	90	13.5
150	100	13.5
175	125	16
200	130	17.5
225	150	17.5
250	180	17.5
275	225	17.5
300	230	17.5
350	240	17.5
400	245	17.5
450	250	19
500	255	19
550	260	19
600	265	19
650	270	20
700	300	20
750	360	20

- Where a **Barge** has an unusually high windage (as a result of a high **freeboard**, equipment, hoppers, large **deckhouses** or superstructures, or other factors) the mass of the anchor and the anchor cable diameter shall be increased above that required in the table based upon a suitable **Risk Assessment** to account for the increased wind loading.

Buoys

- Where appropriate, anchor spreads should be marked by buoys to highlight a danger to navigation. These should be along the cable (or on the anchor itself) at the point of which the shallow depth of the spread could become a danger to navigating traffic.

Personnel Spaces

The purpose of this section is to set out the minimum requirements for working spaces, accommodation and recreational facilities for **Barges** where they are manned for more than 12 hours continuously or used as offshore accommodation.

General

- **Spaces** where **personnel** are expected to stand for prolonged periods or be accommodated, shall have a minimum headroom of 190 centimetres.
- The floors of personnel **spaces** shall have a non-slip surface and provide a good foothold.
- All furniture and fittings in shared internal **spaces** shall be made of (or covered in) a material which is impervious to dirt and moisture. All metal parts of furniture and fittings shall be rust resistant

Sanitary, Food preparation and Hygiene Facilities

- All **Barges** fitted with marine toilet(s) shall have suitable receptacle(s) for the safe disposal of non-flushable sanitary wastes, and a means of washing hands shall be made available.
- Where a **Barge** is fitted with food preparation or storage facilities, there shall be secure and hygienic storage for food and garbage in the vicinity, and a means of washing hands shall be made available.
- All hot water supply systems shall be appropriately designed, installed and maintained for the pressure and temperature at which they are intended to operate.
- In **spaces** where sanitary or food preparation facilities are provided there shall be ventilation that draws from the accommodation and extracts to the open air.
- Each set of sanitary facilities shall be provided with a door that is lockable.
- Where a sanitary system is fitted with a holding tank it shall be designed to ensure that any fumes from the holding tank are not released into the sanitary **space** if the water seal of the toilet is broken.
- There shall be weekly inspections carried out on board the **Barge** and shall as a minimum include; the supplies of food and drinking water, all **spaces** and equipment used for the storage, preparation and handling of food and drinking water. The results of each inspection shall be recorded and available for review.

Accommodation Facilities on Barges Manned for More Than 12 Hours

- Accommodation shall provide decent living conditions and recreational facilities for all persons on board.
- Sleeping accommodation below the **freeboard** is not permitted.
- All **accommodation spaces** shall be adequately heated and insulated for the **area of operation** and anticipated weather conditions.
- Excessive noise and vibration shall be limited within **accommodation spaces** to as far as practicable and in accordance with relevant national regulations.
- All **accommodation spaces** shall be adequately ventilated.
- Mechanical ventilation shall be provided to all **accommodation spaces** below the **weather deck** where an air conditioning system(s) is not fitted and where 9 or more persons are provided bunks or cots below the **weather deck**.
- Such mechanical ventilation shall provide at least 6 changes of air per hour when the access openings to the **spaces** are closed.
- An adequate supply of fresh drinking water shall be provided and easily accessible in locations throughout the **accommodation spaces**. In addition, an emergency reserve supply of drinking water shall be carried, sufficient to provide at least 2 litres per person.
- A separate bunk or cot shall be provided for each person on board.
- A bunk or cot will be not less than 198 centimetres in length and not less than 80 centimetres in width over half the length of the berth. A taper is permitted from half the length of the berth towards the foot of the berth but under no circumstances is the berth permitted to be narrower at any point than 50 centimetres.
- Where a sleeping room(s) is adjacent to a **machinery space(s)**, food preparation facilities(s), storeroom(s), drying room(s), or communal sanitary **space(s)**, there shall be a bulkhead between **spaces** with a door that can be locked
- The maximum number of persons sleeping per room is to be no more than two.
- A **Barge** shall have adequate stowage facilities (minimum of 125 litres) for the clothing and personal effects of each person sleeping on board.
- An electric lighting system shall be installed capable of supplying adequate light to all enclosed **accommodation spaces**.
- For each 6 persons sleeping on board, there shall be at least one set of sanitary facilities, such that the ratio of sanitary facilities does not exceed 6:1.
- At least one flushing marine toilet and one wash hand basin which is separated from the rest of an **accommodation space** which is used for food preparation or sleeping shall be provided for every 12 persons on board.
- Where a **Barge's** general lighting is provided by a centralised electrical system, an alternative source of lighting shall be provided by either an emergency power supply or an independent light source.
- The alternative source of lighting shall be sufficient to enable the safe mustering and evacuation of all persons on board in the event of an emergency and to enable the rescue of person(s) from the water.

Maintenance of Barges

The purpose of this section is to set out requirements for the **Barge**'s structural upkeep, equipment & machinery, and life-saving equipment maintenance and testing.

General

- The **Barge**, its machinery, equipment and fittings shall be designed to be **efficient** for its intended purpose, use and be suitable for the intended **area of operation** of the **Barge**. This shall include an ongoing maintenance and inspection regime that ensures the continued effective operation.
- It is the responsibility of the **Barge owner/operator** to ensure that the **Barge** is maintained in accordance with manufacturer's recommendations or best engineering practice.

Planned Maintenance System

- The **Barge owner/operator** shall develop documented procedures for a more detailed inspection and maintenance program for the **Barge** and its equipment (Known as a **Planned Maintenance System**).
- The frequency of the required inspection and maintenance shall be determined by the **Barge owner/operator**.
- Underwater inspections of the **Barge** shall be carried out at least annually. The use of divers or ROVs to carry out underwater inspections is permitted, though it is required to conduct at least one out-of-water survey once in every 6 year period, unless the **Barge** is constructed of concrete. Taking Concrete **Barges** out of the water on a regular basis is not recommended, due to the adverse strains affecting the **Barge's** construction). Concrete **Barge** inspections shall be conducted in water only.
- All inspections and maintenance activities (including underwater inspection) shall be recorded.
- The **Planned Maintenance System** shall include as a minimum structural upkeep, equipment & machinery, and life-saving equipment.
- The **Planned Maintenance System** shall as a minimum set out the following instructions as appropriate:
 - .1 required criteria for inspection checklists
 - .2 log of records of inspection
 - .3 schedule of periodic maintenance and inspection
 - .4 maintenance and repair instructions
 - .5 list of replaceable parts
 - .6 list of sources for spare parts

Maintenance of life-saving appliances

- The **Barge's** instruction manual for on board maintenance of life-saving appliances shall be kept in a location familiar to authorised personnel (on board or ashore), and shall as a minimum set out the following instructions as appropriate:
 - .1 required criteria for inspection checklists
 - .2 log of records of inspection
 - .3 schedule of periodic maintenance and inspection
 - .4 maintenance and repair instructions
 - .5 list of replaceable parts
 - .6 list of sources for spare parts

- The **Barge Owner/Operator** is responsible for ensuring that authorised personnel have sufficient training and instruction on the maintenance of lifesaving appliances, and the location of the instruction manual.

Deficiencies of Hull, Equipment & Machinery or Safety Equipment

- A clear procedure for reporting deficiencies of Hull, Machinery or Safety Equipment shall be implemented within the **Planned Maintenance System** understood by all personnel.
- All deficiencies of Hull, Machinery or Safety Equipment shall be recorded and reported to the **Barge owner/operator** who shall implement corrective action.

Operational Safety of Barges

The purpose of this section is to set a minimum required level of operational safety to ensure protection of company personnel, public, the **Barge**, fish livestock and the environment.

Safety Management System

- The company Safety Management System shall be updated to include the following considerations pertaining to the **Barge**:
 - .1 **Risk Assessments** for Safe Working
 - .2 Responsibilities of Authorised Personnel
 - .3 Training of Authorised Personnel
 - .4 Procedures to ensure safe operation of the **Barge**
 - .5 emergencies

Cyber Security

- The **Barges owner/operator** shall conduct a **risk assessment** related to cyber security threats, both malicious and non-malicious.
- The cyber security **risk assessment** shall include at a minimum the following:
 - .1 identification of the computer-controlled systems, assets, data and capabilities which could impact **Barges** operations if disrupted
 - .2 established roles and responsibilities of those managing and defending the **Barges** cyber-risks
 - .3 means to successfully detect a cyber-incident in a timely manner;
 - .4 resilient means to restore key systems;

Unauthorised access

- Signage stating “No unauthorised access” shall be placed in a clear position at **Barge** boarding areas.
- Cabin doors, hatches, and storage compartments, shall be capable of being locked.
- Any control systems accessible from the external areas of the **Barge** are recommended to be locked off or by other means isolated from use when leaving the **Barge** unattended.
- CCTV installation is recommended when possible.

Risk Assessments

- The **Barge owner/operator** shall produce an effective **Risk Assessments** which shall identify risks to personnel, public, the **Barge**, fish livestock and the environment. The outcomes from the **risk assessments** shall inform the development of safe systems of work.

Accident Reporting

- A clear procedure for reporting of accidents shall be understood by all personnel.
- All accidents and near-misses shall be recorded and reported to the **Barge owner/operator** who shall implement corrective action.
- The **owner/operator** shall communicate any relevant accidents in a timely manner with the required National Authorities.

Health and Safety at Work

- A **Designated person(s)** shall be delegated to take responsibility for health and safety on board the **Barge**, and that person(s) shall be clearly identifiable to all related personnel.
- The **Barge**, whilst moored, shall be operated and maintained in compliance with the requirements of the **HSE**.

Medical Stores

- The **Barge** shall be fitted with a UK approved industrial first aid kit and eyewash facilities compliant with BS 8599-1. Additional first aid equipment may be required subject to a **Risk Assessment**.

Log out, Tag out (LOTO)

LOTO is a safety procedure designed to prevent unexpected startup of machinery and equipment during maintenance or servicing. It ensures that dangerous energy sources—such as electricity, hydraulics, pneumatics, or mechanical systems—are completely shut off and can't be reactivated until work is complete.

Key steps of LOTO:

1. **Prepare for Shutdown** – Identify all energy sources that need to be controlled.
2. **Shutdown Equipment** – Turn off the machinery following operational procedures.
3. **Isolate Energy Sources** – Physically disconnect or block energy supply systems (e.g., circuit breakers, valves, removing keys or power cables).
4. **Apply Lockout Devices** – Locking mechanisms (padlocks, tie-wraps or socks) are placed on isolation points.
5. **Apply Tagout Devices** – Warning tags are attached to indicate that equipment is under maintenance and must not be operated, also who is to be contacted to confirm if the Tag can be removed.
6. **Release Stored Energy** – Ensure no residual energy remains in the system.
7. **Verify Isolation** – Confirm that equipment cannot be reactivated and is Isolated.
8. **Perform Maintenance** – Work safely while the system remains locked/tagged out.
9. **Remove Locks & Tags** – After maintenance, locks and tags are carefully removed by authorized personnel.
10. Ensure all affected systems run suitably as per before the LOTO procedure.

Permit to Work

The Permit to Work system is a formal process that controls hazardous work by ensuring proper authorization and safety precautions. It provides documented permission before high-risk tasks—such as **Hot work**, electrical work, **Confined space entry**, or working at heights—are carried out.

Key steps of Permit to Work:

1. Clearly define the scope of work, hazards, and controls.
2. Specify the authorised personnel and necessary safety precautions.
3. Identify a formal approval process before work begins.
4. Identify the role of any necessary supervisors or safety officers.
5. Ensure workers understand the risks involved in the work ahead and follow safe work practices.
6. Carry out completion checks and sign off the closure of the permit.

PPE

The purpose of this section is to set a minimum requirement for Personal Protective Equipment (PPE) for those accessing and working on board **Barges**.

All Personal Protective Equipment must meet the minimum applicable UK **Standards** for the supply and maintenance of PPE: Including, but not limited to; the 'Personal Protective Equipment at Work Regulations 1992 (as amended 2022)' and the 'Health and Safety at Work etc. Act 1974'.

Lifejackets

- Lifejackets shall comply with the requirements of the 'Aquaculture Safety Group advisory note 01, 2022: Safety Over Water - Advice on Personal Floatation Devices (PFDs)'.
- All lifejackets shall be fitted with a whistle, retro-reflective materials and a light.

Safety Harnesses

- Each person who may be required to work at height or on an exposed area of deck, shall be provided with a safety harness.
- Safety Harnesses shall be fitted with attachments suitable for use with the associated anchor points designated on the **Barge**.

Search and Rescue Locating Devices

- Personnel being **accommodated** on board a **Barge**, shall be supplied Personal Locator Beacons (PLB's), and wear them [activated] when outside.
- A compatible system for detecting and alerting co-workers of the activation of such devices must be in use in the area.

Clothing and Footwear

- Each person accessing the **Barge** shall have:
 - .1 protective clothing appropriate to the prevailing air and sea temperatures that provides protection from precipitation and spray from the sea.
 - .2 footwear with slip resistant soles.

Thermal Protective Aids (TPAs)

- A TPA shall be provided for each person **accommodated** on board when the sea surface temperature is expected to fall below 10°C degrees centigrade.
- Where **immersion suits** are provided, TPA's are not required in addition.
- Where immersion suit(s) are provided, they must be compatible with the lifejackets provided.
 - Immersion suit(s):
 - .1 may be of the non-insulated type.
 - .2 shall be compatible with the lifejackets provided.

High-Risk Operations

The purpose of this section is to set the minimum additional requirements for **Barges** engaged in **lifting** or Diving activities. It is not intended to serve as comprehensive guide; operators shall seek alternative guidance when performing operations over and above the intentions of the minimum requirements of this section.

Lifting Operations

- The **Barge owner/operator** shall conduct a **Risk Assessment** before any lifting operation or examination or testing of lifting equipment is carried out.
- Where a saturated load is required to be lifted, prior to the lifting operation taking place, the **Master** shall give due consideration to the additional weight due to the item being saturated. Where a load is being lifted from the seabed consideration shall be given to suction and snagging.
- **Barges** fitted with more than one crane and/or **lifting device(s)** shall have documented procedure(s) in place for safe operation where crane(s) and/or **lifting device(s)** are operated simultaneously.
- Load tests and inspections to verify the safe operation of the **lifting device**, its foundation and supporting structures shall be carried out to the satisfaction of the **competent person** in accordance with LOLER Regulations. Tests shall be conducted in accordance with the manufacturer's recommendations for the installation. Such tests shall be repeated after any **modifications** (including any structural **modification**).
- A thorough examination of the **lifting device**, including functional tests, shall be carried out annually.
- Where a land-based hydraulic crane that is not supplied with marine environment features is installed, it shall be subject to an enhanced inspection and maintenance schedule suitable for the environment and usage, as per BS 7121, BS EN 13852, EN 12999 and the PUWER Regulations. The enhanced inspection regime shall include inspection of electrical connectors and components.
- A **Toolbox talk** shall be held before commencing any lifting operations.

Barges used for Diving

- Precautions shall be taken to ensure safe means of access from the water and that the diver and/or equipment is protected from damage/injury or endangerment.
- All practicable precautions shall be taken during diving operations to minimise the risk of persons in the water receiving injury from entanglement or rotating equipment.
- No diving operations are to take place until a valid **Risk Assessment** specific to the job at hand has been conducted, and a relevant **Toolbox talk** has taken place with all direct stakeholders.

Confined (Enclosed) Space Entry

- **Confined Space** entrances shall be marked clearly with signage stating "**CONFINED SPACE, NO ENTRY**", and shall be secured shut without a quick-opening mechanism such as a handle.
- **Confined Space** entry shall only be carried out by suitably trained personnel.
- No **Confined Space** entry shall take place without a valid **Permit to Work** being obtained from the appropriate management (as per the individual company's procedures).
- If it is at all possible to carry out the necessary work without accessing a **Confined Space**, this is the primary option. *Such as breaking up clumps or crusts of food within food hoppers, this may be possible using a pole or lance from outside the hopper without the need for personnel to physically enter the hopper.*

- Clear procedures for accessing **Confined Space** and responding to emergency situations (Rescue Plan) shall be identified and understood by all relevant personnel.
- A **Toolbox talk** shall be held before commencing any **Confined Space** entry, covering at least any hazards arising from the work, and any hazards from outside the **space**.

Information on the precautions and content for procedures and **Toolbox talks** can be found in the **HSE's Confined Spaces Regulations 1997** (Regulation and Guidance 4 and 5).

Towing of Barges

The purpose of this section is to set the minimum requirements for non-propelled **Barges** it is not intended to serve as comprehensive guide to towing.

All **Barges** being towed in UK waters require a UK Load Line Exemption/Certificate issued by the **MCA**.

Towing Arrangements

- Whilst preparing to be towed, the **Barge** shall ensure that any accessways, hatches, hull penetrations & valves, windows, openings and external appliances are secured in a closed position, blanked or sealed.
- Newly design or constructed **Barges** shall be supplied with instructions and materials to suitably prepare the **Barge** for towage, including but not limited to; means to blank windows, fix vent closers, secure access means and make the **Barge watertight** etc.
- The decks shall be clear of any loose **cargo**, stores, equipment or material
- All loose ropes or covers shall be stowed internally (apart from those acting as a part of the emergency towing arrangements).
- The **Barge** shall be unmanned during the tow, unless for the purpose of inspection or maintaining safe navigation, responding to emergencies or to access towing equipment or **navigation lights/day shapes**. The location and means of boarding should be suitable for both for daylight and night-time operations. Where transfer of crew is necessary, appropriate personal protective equipment shall be worn.
- A towed **Barge** shall be equipped with:
 - .1 two **lifebuoys** and lines
 - .2 an anchor and cable suitable for holding the tow in an emergency
 - .3 a pre-rigged emergency towline suitable for continuing the tow in an emergency
- Where any quantities of oil and pollutants are carried on board these shall be restricted to the minimum required for safe operation of the voyage.

Toolbox talk

- A **Toolbox talk** shall be held before commencing any towage operation.

Risk Assessment of Towing Operations

- The **owner/operator** of a **Barge** that requires **towing**, shall ensure the vessel carrying out the tow is suitable for the activity and has conducted a risk assessment and plan of towing operations which shall include the following risk mitigating actions:
 - .1 weather, sea state and environmental conditions likely to be encountered during the planned voyage
 - .2 any restrictions applicable to the towed object that may limit the safe speed
 - .3 limitations of towing equipment in use at the time of the planned voyage
 - .4 adequate towline length and control systems
 - .5 effective communications between the vessel undertaking the tow and the **Barge**
 - .6 Safety of personnel during towing operations (see MIN 698);
 - .7 The safe means of access to a vessel undertaking a **tow**, or to a **Barge** under tow
 - .8 The availability of **safe havens** on the planned route; and
 - .9 Adequate accommodation, emergency escape provisions and equipment including life-saving appliances and fire appliances where a towed **Barge** is intended to be manned at sea.
- Where area(s) of risk not covered above are identified, mitigating action(s) shall be included and implemented as part of the **risk assessment**.

Load Line Exemptions & Warranty Surveys

- A towed **Barge** shall be assessed to establish a suitable margin of safety on the (positive) stability and **freeboard** for the towed voyage.
- A vessel may only tow a **Barge** to **sea** from a point of departure in the UK which has been surveyed and issued with an appropriate **conditional Load Line** or **Load Line Exemption Certificate** for the towed voyage by the vessel's registered flag state. The certificate shall be displayed on board the towing vessel and the Tow Master shall be provided with a copy.

The Towed Barge

- A towed **Barge** shall be equipped with:
 - .1 two **lifebuoys** and lines.
 - .2 an anchor and cable suitable for holding the tow in an emergency.
 - .3 a pre-rigged emergency towline suitable for continuing the tow in an emergency.

Authorisation to access Barges

The purpose of this section is to set out the minimum authorisation requirements for personnel accessing and operating **Barges** and their associated equipment.

Training and Emergency Drills

- Those with authorisation to access the **Barge** shall have familiarisation training on Life-Saving Appliances and emergency procedures on board, including abandoning the **Barge**, to ensure that they are able to respond effectively in emergency situations.
- On board training including practice of fire, flooding and abandon **ship** drills (including the use of stretchers from inside **Barges** shall be routinely carried out by the authorised personnel and the results shall be recorded.

Single Handed Operations

Single handed boarding/operations of **Barges** are not permitted.

Responding to Unauthorised Access

Clear procedures for responding to unauthorised boarding situations shall be identified understood by all relevant personnel.

Stowage, Segregation and Transfer requirements

The purpose of this section is to set out the stowage, segregation and transfer requirements for material and equipment that cause danger or health issues if incorrectly handled or managed. All areas where the below items are stored shall be inspected routinely, records shall be made as to the results of the inspections, and any findings shall be communicated with the **Barge owner/operator**.

COSHH

- The Recording, Stowage and Segregation requirements of **COSHH** shall at all times be maintained in compliance with the national regulations. *More information can be found here: <https://www.hse.gov.uk/coshh/>*
- No discharge into the sea shall contain chemicals or other substances in quantities or concentrations which are hazardous to the marine environment
- No persons shall handle **COSHH** without the suitable PPE as per the manufacturer's guidelines.

Food products

- Where a **Barge** is fitted with food preparation facilities there shall be secure and hygienic storage for food and garbage in the vicinity.
- Food storage areas will be routinely cleaned to prevent contamination of food.
- Any temperature-controlled food storage facilities (such as fridges or freezers) shall be routinely inspected for correct working order.

Veterinary products

Some **Barges** may be used to store medical supplies for fish health management, especially in operations requiring frequent monitoring and treatment. In this case, veterinary products shall only be handled by suitably trained and authorised personnel, the storage location on board the **Barge** shall be segregated from any accidental/unwanted contamination with feed stocks.

Tools

The **HSE** provides guidance on the safe storage of tools and equipment in the workplace. **HSE** Regulation states "employers must ensure that work equipment is stored properly to prevent risks to health and safety". This includes:

- Selecting appropriate storage solutions to minimize hazards.
- Ensuring tools are safely used and stored by trained personnel.
- Regularly inspecting and maintaining equipment to keep it in safe working condition.

Mortalities

Storing aquaculture stock mortalities on board feed barges is not recommended due to safety, environmental and biosecurity concerns; however, where there are systems which are purpose-built to macerate and ensile mortalities (i.e., through acidification), this method may be used under controlled conditions to manage fish waste until it can be offloaded and disposed of as per relevant legislation. Each **Barge** should have a stability plan showing the maximum load that can be stored on it.

Where feed barges are equipped with mortality ensiling systems using formic acid to stabilise macerated fish waste, in these cases, the barge's ensiling area must be designed with enclosed, corrosion-resistant storage tanks, sealed transfer systems, and secondary containment for spills. Operators must comply with the **COSHH** Regulations regarding the use, storage, and handling of formic acid, including PPE requirements, suitable spill response procedures, and regular inspection and maintenance routines for the ensiling systems, which should be documented.

Transfer arrangements of chemicals, including diesel fuel

- Substances and Articles defined in the **IMDG Code**, including Diesel fuel (UN1202) being transferred to a **Barge** from a vessel are considered to be **Dangerous Goods** and must comply with the **IMDG Code** and the **MCA's** interpretation of the **Dangerous Goods** regulations.
- The **Barge** shall carry on board an up to date plan of mechanisms to deal with oil spillage during the transfer of oil within the **Barge** and to/from the **Barge** and other facilities.
- A **Barge owner/operator** shall carry out a **risk assessment** for transfer of oil operations. The **risk assessment** shall include but not be limited to:
 - .1 the hose not breaking free.
 - .2 pollution.
 - .3 fire safety.
 - .4 training.
- The **Barge** shall have documented procedures which detail the loading, discharging, handling and transferring of fuel. The documented procedures shall be kept on board at all times and the persons authorised to carry out such activities shall be familiar with them.
- All fuel, and products posing a risk to the environment (spilt) shall be documented in a record book or log book and treated as an incident/accident or near-miss.
- A **Barge** shall carry suitable clean up equipment which shall be readily available when transferring fuel. Drains and scuppers shall be plugged during fuel transfer operation(s) to prevent oil entering the water.
- Fuel pump(s) for the transfer of oil shall have an emergency shut-down button which is easily accessible from a permanently manned position during fuel transfer operation(s).
- A **Barge** shall have suitable stowage provided for fuel transfer hoses.
- Fuel transfer hose(s) shall meet the following requirements:
 - .1 they shall have a dry break coupling fitted.
 - .2 they shall be bonded.
 - .3 they shall be of a suitable type for the product being transferred, system pressure and height of usage.
- Fuel transfer hose(s) shall be maintained to a good condition and shall be inspected at minimum on an annual interval or as per the manufacturer's recommendations, whichever is more frequent. Worn or damaged hoses shall be replaced.
- Records of MGO transfers including; times, start and finish quantities on board and quantities transferred, shall be made during every transfer.

Prevention of Pollution

The purpose of this section is to set out the minimum requirements to satisfy appropriate national and international regulations and **standards** to ensure prevention of marine pollution.

On shore Waste Reception Facilities

- **Barge owners/operators** shall provide means capable of receiving the types and quantities of prescribed wastes from the **Barge** (including mortalities), taking into account the maintenance and operational requirements, its size and geographical location.

Sewage

- **Barge's** which operate in an area where the direct overboard discharge from a water closet is prohibited shall be fitted with a 'holding tank' of sufficient capacity to store waste for discharge to shore facilities.

Garbage

- All material wastes (including all used oil, oil filtering equipment and contaminated materials) created by the **Barge** and it's users shall be removed from the **Barge** for responsible discharge at waste reception facilities on shore organised by the **owner/operator**.

Anti-foul Systems

- All **Barges** shall comply with The Merchant Shipping (Anti-fouling Systems) Regulations 2009 (SI 2009 No. 2796) as amended.

Pollution Prevention

- A **risk assessment** of potential pollutant spills associated with the **Barge** shall be carried out and recorded by the **owner/operator**.
- Equipment and training to limit and control the risk of pollution from pollutant spills associated with the **Barge** shall be provided by the owner based upon the **risk assessment**.

FURTHER REFERENCE

This guide should be read alongside the following:

- IMO Resolution A.658 (16), as amended (Retro-reflective life-saving appliances)
- IMO International Maritime Dangerous Goods Code, as amended
- Merchant Shipping (Marine Equipment) Regulations 2025
- MCA MIN 698 amendment 1 (Workboat Code edition 3)
- MCA Booklet "Personal Survival at Sea" MCA/075.
- HSE Health and Safety at Work Act 1974
- HSE's Confined Spaces Regulations 1997
- HSE Provision and Use of Work Equipment Regulations 1998 (PUWER)
- HSE Electricity at Work Regulations 1989
- HSE Personal Protective Equipment at Work Regulations 1992 (as amended)
- HSE Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)
- HSE (COSHH) Regulations 2002 (as amended)
- HSE Control of Noise at Work Regulations 2005
- HSE Control of Vibration at Work Regulations 2005
- Gas Appliance Regulations (EU) 2016/426 as amended
- BS 7121 (Safe use of Cranes)
- EN Standards; EN 3, EN 54, EN 12999, and EN 13852
- ISO Standards; ISO 7165, ISO 9650, and ISO 11105
- IEC Standards; IEC 60079-10-1:2020, IEC 60092, and IEC 61440
- Aquaculture Safety Group note 01, 2022: Safety Over Water - Advice on PFDs

This document is reviewed periodically.

Please check www.workboatassociation.org/feedbargecode for the current version.



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