

Department of Economic Development

Isle of Man Ship Registry

Consultation Paper:

Maritime Labour Convention 2006

Title 3 – Accommodation, Recreational Facilities, Food and Catering

This consultation paper is part of a series setting out the Isle of Man Ship Registry's proposals for implementing the International Labour Organizations Maritime Labour Convention 2006 (MLC).

The Isle of Man has chosen to break the consultation into distinct and manageable parts and this second paper deals with proposals for the implementation of Title 3 – Accommodation, Recreational Facilities, Food and Catering. Consultation documents on the three remaining Titles will follow as soon as they are prepared.

You are invited to examine these proposals and provide written feedback to the Isle of Man Ship Registry by **Friday 1st July 2011**

Feedback can be accepted by mail or email and should be sent to:

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A public summary of the responses received to the consultation will be made available to the public within 3 months of the closing date of the consultation.

Background to the Maritime Labour Convention:

In 2006, the ILO adopted the Maritime Labour Convention (MLC) which consolidates and updates more than 65 international maritime labour instruments adopted over the last 80 years. For the first time, the Convention provides a global legal instrument for maritime labour standards for the world's ship owners, seafarers and maritime nations. The Convention sets out a wide range of rights relating to decent working conditions for seafarers and covers subjects including health, safety, minimum age, recruitment, hours of work and other vital issues affecting seafarers' lives.

The Convention is made up of 3 related parts, the Articles, the Regulations and the Code. The Articles and Regulations set out the core rights and principles, whilst the Code contains details for the implementation of the Regulations. The Code is made up of two parts, Part A mandatory standards and Part B non mandatory standards. The Regulations and the Code are organised into five titles:

Title 1: Minimum requirements for seafarers to work on a ship

Title 2: Conditions of employment

Title 3: Accommodation, recreational facilities, food and catering

Title 4: Health protection, medical care, welfare and social security protection

Title 5: Compliance and Enforcement

Application of MLC:

MLC applies to any ship whether publically or privately owned, ordinarily engaged in commercial activities, except for:

- (a) Ships engaged in fishing or similar pursuits;
- (b) Ships of traditional build such as dhows and junks;
- (c) Warships or naval auxiliaries; or
- (d) Ships which navigate exclusively in inland waters or waters within, or closely adjacent to, sheltered waters or areas where port regulations apply.

MLC applies to all seafarers and this means any person who is employed or engaged or works in any capacity on board a ship.

The majority of MLC requirements place a responsibility on the shipowner for which Article 2(1)(j) of the Convention contains the following definition:

“shipowner” means the owner of a ship or any other organisation or person such as the manager, agent or bareboat charterer, who has assumed the responsibility for the operation of the ship from the owner and who, on assuming such responsibility, has agreed to take over the duties and responsibilities imposed on shipowners in accordance with the Maritime Labour Convention, regardless of whether any other organisation or persons fulfil certain of the duties or responsibilities on behalf of the owner.

Isle of Man Implementation of MLC:

The Isle of Man government is committed to operating a high quality international registry and to providing an international framework in compliance with the applicable international maritime conventions established by IMO and ILO, whilst supporting best practice in the operation of registered vessels.

In preparation for ratification of the MLC, the Isle of Man Ship Registry is developing regulations which will provide the framework for Isle of Man registered vessels to which MLC applies (MLC ships) to achieve compliance.

The intent of Isle of Man MLC regulations is to give effect to the Maritime Labour Convention 2006:

- without any expansion of scope;

and to the greatest extent possible

- without any requirements additional to those of the convention; and
- to allow shipowners and seafarers to develop flexible approaches to compliance with required standards.

Accordingly, Isle of Man MLC regulations (and any related legislative amendments) will not affect requirements for ships to which MLC does not apply and these ships shall continue to be required to comply with existing regulations.

For ships to which MLC applies, existing regulations about similar matters will no longer apply.

Proposed Implementation of Title 3 – Accommodation, Recreational Facilities, Food and Catering (A3.1-3.2):

MLC title 3 consists of 2 regulations and associated standards and guidelines.

Regulation 3.1 – Accommodation and recreational facilities

Purpose: To ensure that seafarers have decent accommodation and recreational facilities on board.

Regulation 3.2 – Food and Catering

Purpose: To ensure that all seafarers have access to good quality food and drinking water provided under regulated hygienic conditions.

It is proposed Isle of Man MLC regulations will implement Title 3 regulations and standards as set out in the table below. For ease of reference the complete MLC text for Title 3 regulations and the standards are included in the table.

MLC Title 3 is different from the other titles as the guidelines need to be taken into account to show methods of compliance, whereas in other titles this is not necessarily so. The Isle of Man Ship Registry has given appropriate consideration to all MLC guidelines for implementation of the regulations and standards contained within Title 3.

Left hand column of following tables

Proposed Requirements - are the Isle of Man proposals which will implement the regulations and standards contained within Title 3 and will become the new regulations. In the case of the proposed design and construction requirements, the plan approval requirements from existing regulations are included.

Right hand column of following tables

Guidelines for compliance - The right hand column provides guidance as to evidence of compliance when the proposed requirements in the left hand column are not prescriptive. If the right hand column is empty the left hand column must be applied as written.

Large Commercial Yacht compliance with Regulation 3.1

LY2 will be revised to include what has been accepted as a “substantial equivalent” for yacht code compliance. The revised chapter 21 of LY2 will set out the regulatory requirements for yachts constructed following the entry into force date of the MLC for the Isle of Man.

Title 3 – Accommodation, Recreational facilities, Food and catering.

3.1 Accommodation and Recreational facilities

Design and Construction

Proposed Requirements – Design and Construction

MLC requirements for design and construction of accommodation and recreational facilities will only apply to ships constructed following the entry into force date of the convention for the Isle of Man. Ships constructed before this time will continue to comply with existing regulations.

A ship shall be deemed to have been constructed on the date when its keel is laid or when it is at a similar stage of construction.

Department to inspect for compliance

The Department will implement an inspection regime for MLC ships that will include assessment of compliance with accommodation and recreational facility requirements for ships to which these regulations apply.

Department to inspect ship plans

The Department shall inspect plans for ships:

- (1) before construction begins;*
- (2) before construction of crew accommodation begins; or*
- (3) before the ship is substantially altered;*

and assess them for compliance with Isle of Man requirements

Shipowners must submit plans before construction

Shipowners planning to construct ships for registration in the Isle of Man shall submit the following plans to the Department –

- (1) before construction begins, a plan of the ship on a scale not smaller than:
 - (i) 1 in 100 in the case of a ship of less than 150 metres in length, and*
 - (ii) 1 in 200 in the case of any other ship showing clearly the proposed arrangements of the crew accommodation in the ship and its proposed position in relation to the ship's other**

<p>spaces; and</p> <p>(2) before construction of any part of the crew accommodation begins:</p> <p>(i) plans of the proposed crew accommodation on a scale not smaller than 1 in 50 showing clearly and in detail the purpose for which each space in the crew accommodation is to be appropriated and the proposed disposition of the furnishings, fittings and obstructions in it; and</p> <p>(ii) plans showing clearly the proposed arrangements for supplying water to the crew accommodation, for covering the floors, and for heating, lighting, ventilating, insulating and draining the crew accommodation.</p>	
<p>Shipowners must submit plans before substantial alterations</p> <p><i>Before a ship is substantially altered, shipowners must submit plans to the Department and a statement of compliance must be issued by the Department with respect to the submitted plans before construction work related to the plans shall commence.</i></p>	
<p>Department to certify plans as compliant</p> <p><i>Where plans have been submitted and assessed as compliant with Isle of Man requirements, the Department must issue a statement of compliance.</i></p>	
<p>Timing of seafarer accommodation inspections</p> <p><i>shipowners must ensure that inspections are carried out by the Department when:-</i></p> <p>(1) a ship is registered or re-registered; or</p> <p>(2) the seafarer accommodation has been substantially altered. [A3.1.3]</p>	
<p>Department can decide if a ship is substantially altered</p> <p><i>If there is any doubt or dispute about the need for an inspection following alterations to seafarer accommodation, the Department must decide if the accommodation has been substantially altered and an inspection is required.</i></p>	

<i>Seafarer Accommodation</i>	
<i>Proposed requirements – Seafarer accommodation</i>	Guidelines for compliance – Seafarer Accommodation
<p><i>For seafarer accommodation -</i></p> <p>1. <i>The minimum permitted headroom where full and free movement is needed must not be less than 203 centimetres unless the Department has agreed to permit a limited variation to this requirement;</i></p> <p><i>The Department may approve a limited variation for headroom in seafarer accommodation only if the requested variation is reasonable and will not result in discomfort for seafarers.</i></p>	
<p>2. <i>All accommodation must be adequately insulated;</i></p>	<p>2.1. External bulkheads of sleeping rooms and mess rooms should be insulated.</p> <p>2.2. All machinery casings and all boundary bulkheads of galleys and other spaces in which heat is produced should be insulated where there is a possibility of resulting heat effects in adjoining accommodation or passageways.</p> <p>2.3. Measures should be taken to provide protection from heat effects of steam or hot-water service pipes or both.</p> <p>2.4. Sleeping rooms, mess rooms, recreation rooms and alleyways in the accommodation space should be insulated to prevent condensation or overheating.</p>
<p>3. <i>There will be no direct openings into sleeping rooms from cargo and machinery spaces or from galleys, storerooms, drying rooms or communal sanitary areas.</i></p>	
<p>4. <i>Any part of a bulkhead separating sleeping rooms from cargo and machinery spaces, galleys, storerooms, drying rooms or communal sanitary areas must be constructed of steel or an equivalent material meeting SOLAS requirements and be watertight and gastight.</i></p>	
<p>5. <i>The material used to construct internal bulkheads, panelling and sheeting, floors and joining must be suitable for the purpose and conducive to ensuring a healthy environment.</i></p>	<p>5.1. The bulkhead surfaces and deckheads should be of material with a surface easily kept clean. No form of construction likely to harbour vermin should be used.</p> <p>5.2. The bulkhead surfaces and deckheads in sleeping rooms and mess rooms should be capable of being easily kept clean and be light in</p>

	<p>colour with a durable, nontoxic finish.</p> <p>5.3. The decks in all seafarer accommodation should be of SOLAS approved material and construction and should provide a non-slip surface impervious to damp and easily kept clean.</p> <p>5.4. Where the floorings are made of composite materials, the joints with the sides should be profiled to avoid crevices.</p>
<p>6. <i>Drainage must be sufficient for the purpose of eliminating health and safety risks for seafarers</i></p>	
<p>7. <i>All structures, furniture and fittings, and the means of access to and egress from the seafarer accommodation, shall be so situated, constructed and arranged as to minimise any risk of injury to seafarers.</i></p>	<p>7.1. handrails should be provided in passageways and stairways and should be of robust construction and strongly secured to bulkheads;</p> <p>7.2. fixed furniture should be strongly secured;</p> <p>7.3. means should be provided to secure portable furniture;</p> <p>7.4. doors, including those to cupboards and other items of furniture, should be so secured as not to open accidentally;</p> <p>7.5. drawers should be so designed as not to slide open and fall out accidentally;</p> <p>7.6. tables, shelves, stowage racks and other similar fittings should be fitted with retaining lips or bars or with non-slip surfaces so that objects placed on them will not slide off.</p>

Ventilation	
Proposed requirements - Ventilation	Guidelines for compliance – Ventilation
<p><i>For seafarer accommodation -</i></p> <p>1. <i>Sleeping rooms and mess rooms must be ventilated.</i></p>	<p>1.1. The system of ventilation for sleeping rooms and mess rooms should be controlled so as to maintain the air in a satisfactory condition and to ensure a sufficiency of air movement in all conditions of weather and climate.</p> <p>1.2. The ventilation system in the galley should be independent from other ventilation systems on board the ship and arranged to ensure an adequate supply of fresh air and the efficient discharge of fumes into the open air. The system shall include a supply fan and an exhaust fan to draw off fumes from cooking appliances and discharge them into the open air.</p>
<p>2. <i>Ships, except those exclusively engaged in trade where temperate climatic conditions do not require it, must be equipped with air conditioning for seafarer accommodation, for any separate radio room and for any centralised machinery control room.</i></p>	<p>2.1. Air-conditioning systems, whether of a centralised or individual unit type, should be designed to:</p> <p>maintain the air at a satisfactory temperature and relative humidity as compared to outside air conditions, ensure a sufficiency of air changes in all air-conditioned spaces, take account of the particular characteristics of operations at sea and not produce excessive noises or vibrations; and</p> <p>facilitate easy cleaning and disinfection to prevent or control the spread of disease.</p> <p>2.2. Power for the operation of the air conditioning and other aids to ventilation should be available at all times when seafarers are living or working on board and conditions so require. However, this power need not be provided from an emergency source.</p> <p>2.3. Sufficient spare parts should be carried as required to enable the air conditioning plant to be available at all times.</p>
<p>3. <i>All sanitary spaces must have ventilation to the open air, independently of any other part of the accommodation.</i></p>	<p>3.1. In ships provided with an air conditioning system, sanitary accommodation, laundries, drying rooms and changing rooms should be provided with mechanical exhaust ventilation capable of ensuring rates of air changes sufficient for the type of accommodation for which it is provided.</p>

Heating	
Proposed requirements - Heating	Guidelines for compliance – heating
<p><i>For seafarer accommodation –</i></p> <ol style="list-style-type: none"> <i>Adequate heat must be provided through an appropriate heating system except in ships exclusively on voyages in tropical climates.</i> 	<ol style="list-style-type: none"> The system of heating the seafarer accommodation should be available for operation at all times when seafarers are living or working on board and conditions require its use. In all ships in which a heating system is required, the heating should be by means of hot water, warm air, electricity, steam or equivalent. However, within the accommodation area, steam should not be used as a medium for heat transmission. Radiators and other heating apparatus should be placed and, where necessary, shielded so as to avoid risk of fire or danger or discomfort to the occupants. Sleeping rooms, mess rooms, day rooms, recreation rooms, rooms for watching films and television, hobbies and games rooms, offices, studies, sanitary accommodation and hospitals should be installed with a main heating system capable of ensuring that when: the temperature of the ambient air is -1°C or less, then the temperature in that room or seafarer accommodation can be maintained to at least 21°C.

Lighting	
Proposed requirements – Lighting	Guidelines for compliance – Lighting
<p><i>For seafarer accommodation –</i></p> <p>1. <i>Lighting must be sufficient for the purpose of eliminating health and safety risks for seafarers.</i></p>	
<p>2. <i>Sleeping rooms and mess rooms must be adequately lit by natural light and provided with adequate artificial light, except where special arrangements are in place for passenger ships or special purpose ships.</i></p>	<p>2.1. For natural light: “adequately lit” means lit by natural light which is bright enough in day time in clear weather to enable a person with normal sight to read an ordinary newspaper in those parts of the room which are available for free movement.</p> <p>2.2. In all ships, electric light should be provided in the seafarer accommodation.</p> <p>2.3. If there are not two independent sources of electricity for lighting, additional lighting should be provided by properly constructed lamps or lighting apparatus for emergency use.</p> <p>2.4. Levels of artificial light should at a minimum meet the levels in Annex I to this paper.</p> <p>2.5. In sleeping rooms an electric reading lamp should be installed at the head of each berth capable of emitting at least 200 lumens.</p> <p>2.6. In hospitals a portable electric lamp should be provided, capable of emitting 600 lumens.</p>

<i>Sleeping rooms</i>	
<i>Proposed requirements – Sleeping rooms</i>	Guidelines for compliance – sleeping rooms
<p><i>For seafarer accommodation –</i></p> <p>1. <i>In ships other than passenger ships sleeping rooms must be situated above the load line amidships or aft, except in exceptional circumstances where the size, type or intended service of the ship renders any other location impractical, sleeping rooms may be located in the fore part of the ship but never forward of the collision bulkhead.</i></p>	
<p>2. <i>In passenger ships and in special purpose ships the Department may permit the location of sleeping rooms below the load line, but in no case immediately beneath working alleyways.</i></p> <p><i>When considering a request for approval of a limited variation for location of sleeping rooms in passenger ships and special purpose ships the Department will consider whether or not satisfactory arrangements are made for lighting and ventilation.</i></p>	
<p>3. <i>For ships other than passenger ships, if accommodation is required for seafarers, an individual sleeping room must be provided for each seafarer.</i></p>	<p>3.1 Where the size of the ship, the activity in which it is to be engaged and its layout make it reasonable and practicable, sleeping rooms should be planned and equipped with a private bathroom, including a toilet, so as to provide reasonable comfort for the occupants and to facilitate tidiness.</p>
<p>4. <i>For ships of less than 3,000 gross tonnage or special purpose ships, the Department may grant an exemption from the requirement for individual sleeping rooms after consultation with appropriate shipowners' and seafarers' organisations.</i></p>	<p>4.1 In the case of seafarers performing the duty of petty officers there should be no more than two persons per sleeping room.</p> <p>4.2 As far as practicable, sleeping rooms of seafarers should be so arranged that watches are separated and that no seafarers working during the day share a room with watchkeepers.</p>
<p>5. <i>If sleeping accommodation on board ships is required:-</i></p>	
<p><i>i. separate sleeping rooms must be provided for men and for women;</i></p>	
<p><i>ii. sleeping rooms must be of adequate size and equipped to ensure reasonable comfort and facilitate tidiness;</i></p>	
<p><i>iii. a separate berth for each seafarer must be provided;</i></p>	<p>iii.1 Berths should not be arranged in tiers of more than two; in the case of berths placed along the ship's side, there should be only a single tier where a sidelight is situated above a berth.</p> <p>iii.2 The lower berth in a double tier should be not less than 30</p>

	<p>centimetres above the floor; the upper berth should be placed approximately midway between the bottom of the lower berth and the lower side of the deckhead beams.</p> <p>iii.3 The framework and the lee-board, if any, of a berth should be of approved material, hard, smooth, and not likely to corrode or to harbour vermin.</p> <p>iii.4 If tubular frames are used for the construction of berths, they should be completely sealed and without perforations which would give access to vermin.</p> <p>iii.5 Each berth should be fitted with a comfortable mattress with cushioning bottom or a combined cushioning mattress, including a spring bottom or a spring mattress. The mattress and cushioning material used should be made of approved material. Stuffing of material likely to harbour vermin should not be used.</p> <p>iii.6 When one berth is placed over another, a dust-proof bottom should be fitted beneath the bottom mattress or spring bottom of the upper berth.</p>
<p><i>iv. the minimum inside dimensions of a berth must be at least 198 centimetres by 80 centimetres</i></p>	
<p><i>6. The floor area for seafarers' sleeping rooms must be not be less than</i></p>	
<p><i>i. 4.5 square metres in ships of less than 3,000 gross tonnage;</i></p>	
<p><i>ii. 5.5 square metres in ships of 3,000 gross tonnage or over but less than 10,000 gross tonnage;</i></p>	
<p><i>iii. 7 square metres in ships of 10,000 gross tonnage or over</i></p>	
<p><i>7. A limited variation to floor area requirements for sleeping rooms can be approved by the Department for ships of less than 3,000 gross tonnage, passenger ships or special purpose ships.</i></p>	<p>7.1 Space occupied by berths and lockers, chests of drawers and seats should be included in the measurement of the floor area. Small or irregularly shaped spaces which do not add effectively to the space available for free movement and cannot be used for installing furniture should be excluded.</p>
<p><i>8. For ships of less than 3,000 gross tonnage other than passenger ships or special purpose ships, sleeping rooms must not be occupied by more than two seafarers and the floor area of such sleeping rooms must not be less than 7 square metres.</i></p>	
<p><i>9. On special purpose ships where an exemption has been</i></p>	

<p><i>approved from the requirement for individual sleeping rooms and on passenger ships the floor area of sleeping rooms for seafarers not performing the duties of ships' officers must not be less than:-</i></p>	
<p><i>i. 7.5 square metres in rooms accommodating two persons;</i></p>	
<p><i>ii. 11.5 square metres in rooms accommodating three persons;</i></p>	
<p><i>iii. 14.5 square metres in rooms accommodating four persons.</i></p>	
<p><i>10. On special purpose ships sleeping rooms may, if an exemption has been approved by the Department, accommodate more than four persons and the floor area of such sleeping rooms must not be less than 3.6 square metres per person.</i></p>	
<p><i>11. On ships other than passenger ships and special purpose ships, where no private sitting room or day room is provided, for seafarers who perform the duties of ships' officers, the floor area per person for sleeping rooms must not be less than:-</i></p>	
<p><i>i. 7.5 square metres in ships of less than 3,000 gross tonnage;</i></p>	
<p><i>ii. 8.5 square metres in ships of 3,000 gross tonnage or over but less than 10,000 gross tonnage;</i></p>	
<p><i>iii. 10 square metres in ships of 10,000 gross tonnage or over.</i></p>	
<p><i>12. On passenger ships and special purpose ships where no private sitting room or day room is provided, for seafarers who perform the duties of ships' officers, the floor area per person for sleeping rooms must be not less than 7.5 square metres for junior officers and not less than 8.5 square metres for senior officers.</i></p>	
<p><i>13. The master, chief engineer and the chief navigating officer must have, in addition to their sleeping rooms, an adjoining sitting room, day room or equivalent space.</i></p>	<p>13.1 Consideration should be given to extending the requirements for a day room to the second engineer officer when practicable.</p>
<p><i>14. Ships of less than 3,000 gross tonnage may apply to the Department for an exemption from the requirement to</i></p>	

<p><i>provide additional space for the master, chief engineer or the chief navigating officer and the Department may approve this exemption following consultation with appropriate shipowners and seafarers' organisations.</i></p>	
<p><i>15. For each seafarer occupying a sleeping room, the furniture must include a clothes locker with a minimum volume of 475 litres and a drawer or equivalent space with a minimum volume of 56 litres or if the required drawer space is incorporated in the clothes locker space then the combined volume of these spaces must be at least 500 litres.</i></p> <p><i>The locker space provided to each seafarer must be fitted with a shelf and be able to be locked by the seafarer.</i></p>	<p>15.1 The furniture should be of smooth, hard material not liable to warp or corrode.</p> <p>15.2 Sleeping rooms should be fitted with curtains or equivalent for the sidelights.</p> <p>15.3 Sleeping rooms should be fitted with a mirror, small cabinets for toilet requisites, a book rack and a sufficient number of coat hooks.</p>
<p><i>16. Each sleeping room must include a fixed, drop-leaf or slide-out table or desk and a comfortable seat.</i></p>	

Mess rooms	
Proposed requirements – Mess rooms	Guidelines for compliance – Mess rooms
<p><i>For seafarer accommodation –</i></p> <ol style="list-style-type: none"> 1. <i>Mess rooms must be located apart from sleeping rooms and as close as practicable to the galley.</i> 	
<ol style="list-style-type: none"> 2. <i>The Department may grant an exemption from the requirement for location of mess rooms away from sleeping rooms and close to the galley after consultation with appropriate shipowners and seafarers' organisations.</i> 	
<ol style="list-style-type: none"> 3. <i>Mess rooms must be large enough and contain sufficient furniture and other equipment to accommodate the number of seafarers likely to use the room at any one time.</i> 	<ol style="list-style-type: none"> 3.1 On ships other than passenger ships, the floor area of mess rooms for seafarers should be at least 1.5 square metres per person with a variation to a minimum of 1.0 square metre per person of the planned seating capacity. 3.2 In all ships, mess rooms should be equipped with tables and appropriate seats, fixed or movable, sufficient to accommodate the greatest number of seafarers likely to use them at any one time.
<ol style="list-style-type: none"> 4. <i>Mess rooms must be equipped with facilities that provide continuous access to refreshments.</i> 	<ol style="list-style-type: none"> 4.1 There should be available at all times when seafarers are on board: <ol style="list-style-type: none"> 1. a refrigerator, which should be conveniently situated and of sufficient capacity for the number of persons using the mess room or mess rooms; and 2. facilities for hot beverages; and cool water facilities. 4.2 Where available pantries are not accessible to mess rooms, adequate lockers for mess utensils and proper facilities for washing utensils should be provided. 4.3 The tops of tables and seats should be of damp-resistant material
<ol style="list-style-type: none"> 5. <i>Where appropriate, provision must be made for separate or common mess room facilities.</i> 	<ol style="list-style-type: none"> 5.1 Mess room facilities may be either common or separate. Account should be taken of factors such as the size of the ship and the distinctive cultural, religious and social needs of the seafarers. 5.2 Where separate mess room facilities are to be provided to seafarers, then separate mess rooms should be provided for: <ol style="list-style-type: none"> 1. master and officers; and 2. petty officers and other seafarers.

Sanitary facilities	
Proposed requirements – Sanitary facilities	Guidelines for compliance – Sanitary facilities
<p><i>For seafarer accommodation –</i></p> <p><i>1. Shipowners must provide all seafarers with convenient access to sanitary facilities on the ship which:-</i></p>	
<p><i>i. meet minimum standards of health and hygiene and reasonable standards of comfort;</i></p>	<p>i.1 Washbasins and tub baths should be of adequate size and constructed of approved material with a smooth surface not liable to crack, flake or corrode.</p> <p>i.2 All toilets should be of an approved pattern and provided with an ample flush of water or with some other suitable flushing means, such as air, which are available at all times and independently controllable.</p>
<p><i>ii. are separate for men and for women;</i></p>	
<p><i>iii. are in easy access of the navigating bridge; and</i></p>	
<p><i>iv. are in easy access of the machinery space or near the engine room control centre.</i></p>	
<p><i>2. The Department may provide exemptions from the requirements for provision of sanitary facilities close to the navigation bridge, machinery space or engine room control centre for ships of less than 3,000 gross tonnage after consultation with appropriate shipowners' and seafarers organisations.</i></p>	
<p><i>3. A minimum of one toilet, one wash basin and on tub or shower or both must be provided close to sleeping rooms for every six persons or less who do not have personal facilities.</i></p>	<p>3.1 Sanitary accommodation intended for the use of more than one person should comply with the following:</p> <ol style="list-style-type: none"> 1. floors should be of approved durable material, impervious to damp, and should be properly drained; 2. bulkheads should be of steel or other approved material and should be watertight up to at least 23 centimetres above the level of the deck; 3. the accommodation should be sufficiently lit, heated and ventilated; 4. toilets should be situated convenient to, but separate from, sleeping rooms and wash rooms, without direct access from the sleeping rooms or from a passage between sleeping rooms and toilets to which there is no other access; this requirement does not apply where a toilet is located in a compartment between two sleeping rooms having a total of not more than four seafarers; and

	<p>5. Where there is more than one toilet or shower in a compartment, they should be sufficiently screened to ensure privacy.</p> <p>3.2 The provision of the following private and semi- private bathrooms for seafarers:-</p> <ol style="list-style-type: none"> 1. in ships of 5,000 GT or over but less than 15,000 GT at least five officers' sleeping rooms should be provided with adjoining private bathrooms for the use of the officers occupying those sleeping rooms; 2. in ships of 15,000 GT or over every officer's sleeping room should be provided with an adjoining private bathroom for the use of the officer occupying that sleeping room; 3. in ships of 10,000 GT or over but less than 15,000 GT, every officer's sleeping room which is not provided with an adjoining private bathroom should have a semi-private bathroom appropriated to it. 4. In ships of 25,000 GT or over, other than passenger ships, every rating's sleeping room which is not provided with a private bathroom shall have a semi-private bathroom appropriated to it. These semi-private bathrooms shall not be shared by petty officers and other ratings.
<p><i>4. With the exception of passenger ships, each sleeping room must be provided with a washbasin having hot and cold running fresh water unless an equivalent washbasin is provided in a private bathroom.</i></p>	
<p><i>5. In passenger ships normally engaged on voyages of not more than four hours duration, the Department may approve alternative arrangements for the provision of sanitary facilities, including a reduction in the number of facilities required.</i></p>	

<i>Laundry facilities</i>	
<i>Proposed requirements – Laundry facilities</i>	Guidelines for compliance – laundry facilities
<p><i>For seafarer accommodation –</i></p> <ol style="list-style-type: none"><li data-bbox="331 212 1025 276"><i>1. Shipowners will ensure that appropriately situated and furnished laundry facilities are available on board ship.</i>	<ol style="list-style-type: none"><li data-bbox="1171 164 2033 371">1. The laundry facilities provided for seafarers' use should include:<ol style="list-style-type: none"><li data-bbox="1211 212 1518 244">i. washing machines; and<li data-bbox="1211 260 2033 323">ii. drying machines or adequately heated and ventilated drying rooms; and<li data-bbox="1211 339 1760 371">iii. irons and ironing boards or their equivalent.

<i>Hospital Accommodation</i>	
<i>Proposed requirements – Hospital Accommodation</i>	Guidelines for compliance – Hospital Accommodation
<p><i>For seafarer accommodation –</i></p> <p>1. <i>Ships carrying 15 or more seafarers and engaged in a voyage of more than three day's duration must provide separate hospital accommodation which is used exclusively for medical purposes.</i></p>	
<p>2. <i>The Department may approve a limited variation to the requirement to provide hospital accommodation for ships engaged in coastal trade.</i></p>	
<p>3. <i>Hospital accommodation must be easy to access in all weathers and provide comfortable housing for seafarers and be conducive to their receiving prompt attention.</i></p>	<p>3.1 Hospitals should be situated and arranged such that a stretcher can be easily carried into it and placed alongside at least one single tier bed.</p> <p>3.2 The hospital accommodation should be designed so as to facilitate consultation and the giving of medical first aid and to help prevent the spread of infectious diseases.</p> <p>3.3 To help prevent the spread of infectious diseases and for patient comfort every hospital should be fitted with mechanical exhaust ventilation independent from any ventilators provided for other parts of the seafarer accommodation.</p> <p>3.4 Every bed in a hospital should be provided with a bell-push alarm which shall summon a response enabling prompt and proper attention to the occupant.</p> <p>3.5 Every hospital should be provided with one single tier bed for every 50 or fraction of 50 seafarers to a maximum of four (4).</p> <p>3.6 Sanitary accommodation should be provided for the exclusive use of the occupants of the hospital accommodation, either as part of the accommodation or in close proximity thereto. Such sanitary accommodation should comprise a minimum of one toilet, one washbasin and one tub or shower.</p>

Recreational facilities

Proposed requirements – Recreational facilities

For seafarer accommodation –

- 1. Appropriate seafarers' recreational facilities, amenities and services, as adapted to meet the special needs of seafarers who must live and work on ships, must be provided on board for the benefit of all seafarers.*

- 2. All ships must have space or spaces on open deck to which seafarers can have access when off duty which are of adequate area having regard to the size of the ship and the number of seafarers on board.*

Guidelines for compliance – Recreational facilities

- 1.1 Furnishings for recreational facilities should as a minimum include a bookcase and facilities for reading, writing and, where practicable, games.
- 1.2 Consideration may also be given to including the following facilities at no cost to the seafarer, where practicable:
 1. a smoking room;
 2. television viewing and the reception of radio broadcasts;
 3. showing of films, the stock of which should be adequate for the duration of the voyage and, where necessary, changed at reasonable intervals;
 4. sports equipment including exercise equipment, table games and deck games;
 5. where possible, facilities for swimming;
 6. a library containing vocational and other books, the stock of which should be adequate for the duration of the voyage and changed at reasonable intervals;
 7. facilities for recreational handicrafts;
 8. electronic equipment such as a radio, television, video recorders, DVD/CD player, personal computer and software and cassette recorder/player;
 9. where appropriate, the provision of bars on board for seafarers unless these are contrary to national, religious or social customs; and
 10. reasonable access to ship-to-shore telephone communications, and email and Internet facilities, where available, with any charges for the use of these services being reasonable in amount.
- 1.3 Every effort should be given to ensuring that the forwarding of seafarers' mail is as reliable and expeditious as possible. Efforts should also be considered for avoiding seafarers being required to pay additional postage when mail has to be readdressed owing to circumstances beyond their control.

Miscellaneous provisions	
Proposed requirements – Bedding, mess utensils and miscellaneous provisions	Guidelines for compliance – bedding, mess utensils and miscellaneous provisions
<p><i>For seafarer accommodation –</i></p> <p>1. <i>All ships must have separate offices or a common ship’s office for use by deck and engine departments.</i></p>	
<p>2. <i>The Department may exempt ships of less than 3,000 gross tonnage from the requirement to provide separate offices or a common ship’s office for use by deck and engine departments after consultation with appropriate shipowners’ and seafarers’ organisations.</i></p>	
<p>3. <i>For ships regularly trading to mosquito infested ports –</i></p>	
<p><i>i. All seafarer accommodation must be protected by means of screening against the admission of mosquitoes;</i></p>	
<p><i>ii. All screening must be made of rust-proof wire or other suitable material and fitted to or provided for all sidescuttles and windows and skylights which are capable of being opened and all natural ventilators and all doors leading to an open deck.</i></p>	
<p><i>iii. Any screening door which is fitted pursuant to this regulation and leads directly into a permanent or temporary hospital must be self closing;</i></p>	
<p><i>iv. Seafarer accommodation which is fitted with an air conditioning system screening need not be provided for any sidescuttles or windows and doors leading from that seafarer accommodation to the open deck if they are self closing.</i></p>	
<p>4. <i>Requirements for bedding and mess utensils.</i></p>	<p>The shipowner should provide free of charge to the seafarer:</p> <p>4. 1 Clean bedding and mess utensils for use on board during service on the ship, the seafarers shall be responsible for their return at times specified by the master and on completion of service in the ship.</p> <p>4.2. Bedding which should be of good quality, and plates, cups and other mess utensils which should be of approved material which can be easily cleaned.</p> <p>4.3 Towels, soap and toilet paper.</p>

Noise, vibration and chemicals

Proposed requirements – Noise and vibration

For seafarer accommodation –

- 1. Accommodation, recreational and catering facilities shall meet the requirements of the Isle of Man regulations and guidelines implementing Regulation 4.3 of the Maritime Labour Convention 2006 with respect to preventing the risk of exposure to hazardous levels of noise, vibration and chemicals.*

Guidelines for compliance – noise and vibration

- 1.1 Accommodation, recreational and catering facilities should be located as far as practicable from engines, steering gear rooms, deck winches, ventilation, heating and air conditioning equipment and other noisy machinery and apparatus.
- 1.2 Acoustic insulation or other appropriate sound absorbing materials should be used in the construction and finishing of bulkheads, deckheads and decks within the sound producing spaces as well as self-closing noise isolating doors for machinery spaces.
- 1.3 Engine rooms and other machinery spaces should be provided, wherever practicable, with soundproof centralized control rooms for engine-room personnel. Working spaces, such as the machine shop, should be insulated, as far as practicable, from the general engine-room noise and measures should be taken to reduce noise in the operation of machinery.

<p><i>Inspection of Accommodation and recreational facilities</i></p>	
<p><i>Proposed requirements – Inspection of Accommodation and recreational facilities</i></p>	<p>Guidelines for compliance – Inspection of Accommodation and recreational facilities</p>
<p><i>For seafarer accommodation –</i></p> <ol style="list-style-type: none"> <i>1. Shipowners must ensure that seafarer accommodation is inspected at least weekly.</i> 	
<ol style="list-style-type: none"> <i>2. Seafarer accommodation must be inspected by, or under the authority of the master and the officer doing the inspection must be accompanied by at least one other seafarer.</i> 	
<ol style="list-style-type: none"> <i>3. Inspections of seafarer accommodation must ensure that the accommodations are clean, decently habitable and maintained in a good state of repair.</i> 	
<ol style="list-style-type: none"> <i>4. All inspections of seafarer accommodation must be recorded in the official log book including time and date of inspection, names and ranks of person making the inspection and any findings.</i> 	
<p><i>Variations</i></p>	
<p><i>Proposed requirements – Variations</i></p>	<p>Guidelines for compliance – Variations</p>
<p><i>For seafarer accommodation –</i></p> <ol style="list-style-type: none"> <i>1. For ships where there is need to take account, without discrimination, of the interests of seafarers having different and distinctive religious and social practices, the Department may, after consultation with appropriate shipowners’ and seafarers’ organisations, permit variations to these requirements, on condition that such variations do not result in facilities less favourable than those which would result from application of the requirements.</i> 	

3.2 Food and Catering	
<i>Proposed requirements – General</i>	Guidelines for compliance – General General guidelines for food and catering are contained in Annex II
<p>1. <i>Shipowners must ensure that ships carry on board and serve food and water of appropriate quality, nutritional value and quantity to adequately cover the requirements of the ship and take into account the different cultural and religious backgrounds of seafarers on board.</i></p>	
<p>2. <i>Seafarers must not be charged for food or water provided while on board ship.</i></p>	
<p>3. <i>Ships must carry sufficient quantity of food and water supplies to meet the requirements of all seafarers on board for the duration of the voyage.</i></p>	
<p>4. <i>The selection of food carried on board must take into account: -</i></p>	
<p><i>i. the nature of the voyage;</i></p>	
<p><i>ii. the religious requirements and cultural practices of seafarers on board as they relate to food; and</i></p>	
<p><i>iii. the potential for the food carried to provide variety and nutritional value.</i></p>	
<p>5. <i>The organisation and equipment of catering facilities on board ship must be adequate to provide for all seafarers on board to be provided with varied and nutritious meals prepared and served in hygienic conditions.</i></p>	
<i>Proposed requirements - Qualifications, competences and training</i>	Guidelines for compliance – Qualifications, competences and training
<p>1. <i>All staff working in on board catering facilities to produce or serve meals for seafarers must have been trained or instructed in food and personal hygiene and storage and handling of food on board a ship.</i></p>	
<p>2. <i>Ships' cooks must be qualified and have completed a training course including practical cookery, food and personal hygiene, food storage, stock control, environmental protection and catering health and safety or demonstrate</i></p>	<p>2.1 A ship's cook should have qualifications equivalent to a certificate of competency as a ship's cooks, such as:-</p>

<i>equivalent competencies.</i>	<ol style="list-style-type: none"> 1. NVQ Level II in catering and hospitality; or 2. certificates of qualification as ships cooks issued by members that have ratified the Maritime Labour Convention 2006; or 3. certificates of qualification as ships cooks issued by members that have ratified the Certification of Ships Cooks Convention, 1946 (No.69)
3. <i>No seafarer under the age of 18 can be employed or engaged or work as a ship's cook.</i>	
4. <i>For ships without a ships' cook, any person processing food in the galley must have been trained or instructed in food and personal hygiene and storage and handling of food on board a ship.</i>	
5. <i>A ship's cook must be onboard ship for any ship:</i>	
<i>i. with six or more seafarers;</i>	
<i>ii. on voyages of more than three days; and</i>	
<i>iii. travelling more than 36 hours from a safe port.</i>	
6. <i>The Department may approve a limited variation to the qualification requirement for ships' cooks:-</i>	
<i>i. for a specified ship;</i>	
<i>ii. until the next convenient port of call or for a specified period not exceeding one month; and</i>	
<i>iii. on condition that the person to be appointed to the position of ship's cook is trained or instructed in food and personal hygiene and storage and handling of food on board a ship.</i>	
7. <i>In deciding a request for a limited variation to the requirement for a ship's cook the Department must consider whether or not the circumstances of the request constitute an exceptional necessity.</i>	
<i>Proposed requirements – Inspections</i>	Guidelines for compliance – Inspections
1. <i>Inspections of food and catering facilities must be conducted</i>	

<i>at least weekly by or under the authority of the master, and involving at least one other seafarer involved in catering, and must include examination of:-</i>	
<i>i. supplies of food and drinking water;</i>	
<i>ii. all spaces and equipment used for the storage and handling of food and drinking water; and</i>	
<i>iii. galley's and any equipment for the preparation or service of meals.</i>	
<i>2. The details of food and catering inspections, including the name of the persons who conducted the inspection, the inspection date and any findings, must be recorded in official log book.</i>	

Annex I

1. The standards of artificial electric lighting should meet the following minimum requirements of illuminance:

1. Sleeping Rooms and Day Rooms

- | | |
|--|---------|
| (a) At general measurement points | 50 lux |
| (b) At every mirror | 200 lux |
| (c) At every seat at a writing desk or table | 150 lux |
| (d) At not less than half the seats (other than those mentioned in (c) above) in a sleeping room provided for use of more than one person. | 150 lux |

2. Mess Rooms

- | | |
|-----------------------------------|---------|
| (a) At general measurement points | 100 lux |
| (b) At every table and sink | 150 lux |

3. Recreation Rooms (including rooms for watching films and television, hobbies and game rooms)

- | | |
|---|---------|
| (a) At general measurement points | 50 lux |
| (b) At every recreational table | 100 lux |
| (c) At every seat at a writing desk or table | 150 lux |
| (d) At not less than half the seats (other than those mentioned in (c) above) | 150 lux |

4. Hospital Wards

- | | |
|------------------------------------|---------|
| (a) At general measurements points | 50 lux |
| (b) At any washbasin | 100 lux |

5. Offices and studies

- | | |
|--|---------|
| (a) At general measurement points | 100 lux |
| (b) At every seat at a writing desk or table | 200 lux |

6. Sanitary Accommodation

- | | |
|-----------------------------------|---------|
| (a) At general measurement points | 100 lux |
| (b) At any mirror | 200 lux |

7. Laundries

- | | |
|-------------------------------|---------|
| At general measurement points | 100 lux |
|-------------------------------|---------|

8. Drying Rooms

- | | |
|----------------------------|--------|
| At the centre of the space | 50 lux |
|----------------------------|--------|

9. Galleys (including bakeries and pantries)

- | | |
|----------------------|---------|
| At working positions | 300 lux |
|----------------------|---------|

The lights shall be positioned to ensure that food preparation tables, range tops, serving tables and washing up sinks receive the maximum amount of light.

10. Dry provision store rooms and cold store rooms

At general measurement points 100 lux

The lights shall be placed to ensure that shelves and cupboards receive the maximum amount of light

11. Passageways, companionways and covered deck recreation spaces

At general measurement points 50 lux

A light shall be placed at the head of each stairway, ladder and hatchway.



MLN 000

Formerly No

DEPARTMENT OF ECONOMIC DEVELOPMENT

TITLE 3.2 Food and Catering

This MLN provides guidance on compliance with Isle of Man requirements for implementation of MLC. Implementation of these guidelines will be taken as evidence of compliance with Part x of the *Merchant Shipping (MLC) Regulations 2011*.

Documents referred to in this notice:

The Maritime Labour Convention 2006 and *The Merchant Shipping (MLC) Regulations 2011*

Most regulations and notices are available on the Isle of Man Government web site: <http://www.gov.im/dti/shipping> or by contacting marine.survey@gov.im

Key Points

- All shipowners should provide free of charge food and drinking water of appropriate quality, nutritional value and quantity to meet the needs of those on board.
- Food hygiene principles and the provision and maintenance of fresh water must be applied regardless of the age, size and type of vessel.
- Bacterial contamination is the most serious risk to food and fresh water safety.
- Those preparing or serving food must be properly trained and demonstrate a working knowledge of the principles and practices of food hygiene.
- Prevention using a risk assessment and management approach is one of the most effective means of ensuring food and fresh water safety.
- The Isle of Man requires that "The Code of Safe Working Practices for Merchant Seamen" is carried on board ships registered in the Isle of Man. Detailed advice specific to galley operations is available in Chapter 14.
- The Maritime Labour Convention 2006 also covers standards for Food and Catering for ships to which the convention applies (Title 3.2 of the Convention) and this Maritime Labour Notice reflects that provision.

1. Guidelines for Compliance – Food and Catering

Part 1: Food safety and hygiene including advice on diet and nutrition

Part 2: Water, including its supply, storage and distribution and advice on maintenance of water systems.

Part 1: Food safety and hygiene including advice on diet and nutrition

This Part covers construction, design, equipment and maintenance of galley areas, health and safety, diet and nutrition, food and personal hygiene, preparation, cooking and food service, storage and cleaning.

2. Design, Construction, equipment and maintenance of galley areas

1. Food areas should be designed constructed, equipped and properly maintained to enable good hygiene and suitable health and safety standards. Materials used should be durable, non absorbent, smooth and easy to clean with no sharp edges or corners. Decks should be anti-slip and provide adequate drainage if necessary. All spaces should be well lit.
2. The design and layout should enable clear access below, behind or between equipment or it should be properly sealed/integrated to prevent the accumulation of debris in inaccessible spaces. So far as practical, refrigeration units should not be located close to ovens or other large galley cooking units. There should be adequate working space to provide a safe working environment.
3. Ventilation should be adequate with suitable mechanical extraction to maintain reasonable temperatures and humidity levels. Condensation particularly on deck heads can be a problem but with suitable mechanical ventilation this can be kept under control. Supplementary ventilation should be provided for particular hot spots. Ventilation ducting should be accessible and regularly cleaned to minimise the risk of fire. An intervening air space should be provided between any WC and the galley/food preparation rooms.
4. Equipment should be adequate for the number of crew and fit for purpose. Equipment and utensils shall be fixed in place or stored safely to avoid damage or injury when the ship rolls. Equipment should be stored so as to protect it against contamination.
5. Dedicated hand wash basins with provision for soap and towels should be provided for the use of the catering staff. In addition dedicated sinks for food preparation and equipment washing should also be provided.

3. Health and Safety Issues

1. The galley and store area working environment contains many obvious and potential hazards such as extreme surface and ambient temperatures, humidity, cleaning substances, electrical equipment, fumes and knives. Equipment such as deep fat fryers, are also potentially hazardous. Practical control measures should be in place to reduce the risk of injury in the catering environment, which should include:
 1. Anyone working in the catering areas should be provided with appropriate protective clothing and specialist anti slip, protected toe cap footwear.
 2. Knives and other sharp utensils should not be left in a sink or washing up bowl submerged in water.
 3. Stowage - items should be properly secured:
 - i. Pots and pans should be secured during cooking and only filled to safe levels particularly in heavy seas.
 - ii. Protective guards shall be fitted on mechanical fans, food mixers and other kitchen equipment with exposed blades or other dangerous parts.
 - iii. Electrical equipment, including wiring in the galley and store areas should be regularly inspected by either a qualified member of the crew or a shore side contractor.
 4. Burns and scalds are common injuries. A first-aid box should be provided either in the galley or a suitable area convenient to the galley. The contents of the first-aid box should be checked and when necessary replenished at appropriate intervals. A notice stating the

action to take if someone is burned or scalded should be prominently displayed in or close by the galley.

5. The use of anti bacterial hand cleaners, moisturising cream and barrier creams should be encouraged to reduce the risk of skin infections particularly dermatitis.
6. Detailed advice specific to galley operations is available in Chapter 14 of the Code of Safety Working Practices for Merchant Seamen.

4. Diet and Nutrition

1. A good variety of food provides a healthy diet. Meals should provide a balance of carbohydrates, protein, fat and fibre, vitamins and minerals. Food should be prepared and cooked with minimum levels of salt, fat and sugar. As a general guide,
 1. High energy food (carbohydrates) includes bread, potatoes, rice pasta, and breakfast cereals.
 2. High protein food includes fish, meat, poultry, eggs, milk and other dairy products (check the fat content of some cheeses)
 3. Vitamins and Minerals are contained in fruit and vegetables, fresh, frozen, dried and canned including fruit juice.
 4. Drinks – as with food a balanced intake is important. Not too much sugar, caffeine and calories. Water, fruit juices and low fat milk are all good alternatives.
 5. Provision should be made for any special needs because of religion, special dietary requirements, or customary dietary practices where certain rules or requirements in relation to some food or with the way the food is prepared must be observed.
 6. Catering staff should be aware of the dangers associated with food allergies. If a person with a food allergy inadvertently eats even a small amount of that food this can make them very ill or in extreme cases cause death. Some problem ingredients are peanuts, nuts, gluten, fish, soya, celery, mustard, sesame seeds and sulphur dioxide.

5. Food Hygiene

1. HACCP

1. In the case of companies operating large passenger/cruise ships and other vessels with a substantial crew complement, the philosophy of the International Safety Management Code is likely to have been extended already to include food and fresh water safety and hygiene issues, based on a Hazard Analysis and Critical Control Point (HACCP) system. A HACCP system is a structured and documented hazard analysis system, identifying critical control points and specific actions to be taken at those points. HACCP is required under food safety legislation, and is applicable to food businesses. Such systems are based on a robust food safety policy and detailed procedures, all fully documented that will extend far beyond the primary advice contained in this MLN.

2. Food hygiene practice

1. Traditionally the basis for food hygiene standards has been the use of clean well maintained catering spaces and the avoidance of unsanitary conditions. Even in clean, well-maintained galleys however, food may be handled carelessly with insufficient regard to food safety. Good food hygiene is more than cleanliness; it requires food to be protected from the risk of harmful contamination by bacteria, chemicals and other foreign bodies from point of delivery to point of consumption. Bacterial contamination is the most serious risk to food safety and causes the majority of food poisoning cases but physical and chemical contamination may also occur accidentally. For example, from loose buttons, jewellery, other foreign bodies or from cleaning agents.
2. Good food hygiene is also about sourcing safe food. In certain circumstances unsafe food will always remain unsafe regardless of the measures taken.

3. Bacteria

1. No catering environment operates without harmful bacteria being present at some time, and plenty of food is produced in environments where microbiological environmental levels are very low. A good HACCP system will prevent illness in these circumstances. Small numbers of certain bacteria such as Salmonellae can cause serious illness. Most pathogenic bacteria are destroyed by adequate cooking but harmful preformed bacterial toxin, mycotoxins and algal toxins are unaffected by heat. Pathogenic bacteria also thrive in cool, dry and anaerobic conditions. Raw meat is considered to be high risk because of the likely presence of E.Coli, Salmonellae, L. monocytogenes. Depending on the source viable cysts of intestinal parasites may also exist. Good practice before cooking or processing should prevent bacteria multiplying to the extent that would cause illness or food spoilage.
2. Bacteria levels rise rapidly in a warm moist environment on certain foods that support their growth, such as high protein foods. However foods with high levels of sugar, salt or other preservatives do not provide favourable growth conditions.
3. "High risk" foods, those most commonly implicated in food poisoning cases, are considered to be food that supports bacterial growth and is ready to eat without further cooking. For example:
 - i. cooked meat, poultry and rice;
 - ii. meat products such as gravy and stock;
 - iii. milk, cream, eggs, and egg products, and
 - iv. shellfish and other seafood's
4. Raw meat although a source of bacteria is not considered to be "high risk" because it is generally cooked before consumption.
5. People often harbour some types of harmful bacteria at some point - hands are particularly susceptible. Other common sources are pests such as insects, flies, rodents etc, dust and waste food.

4. Bacterial Food Contamination

1. Contaminated food looks, tastes and smells completely normal unless it is so contaminated spoilage occurs. Bacteria levels in high risk food and raw meat will rise rapidly in warm conditions. Contamination usually occurs through recklessness, ignorance and people taking short cuts, and handling or storing food carelessly.
2. Bacteria can pass directly from the source to high risk food, for example raw meat can contaminate cooked meat where human, animal or insect intervention occurs. Cross contamination, where bacteria are transferred by some other means is a constant threat to food safety. The main "vehicles" are hands, hand and food contact surfaces, cloths and equipment. Other "vehicles" include water, other foods and insects.

5. Examples of reasons for food poisoning

1. Preparation of food too far in advance and stored at room temperature;
2. Cooling food too slowly prior to refrigeration;
3. Not reheating food to high enough temperatures to destroy harmful bacteria;
4. Using contaminated cooked food;
5. Undercooking;
6. Not thawing frozen meat for sufficient time;
7. Cross contamination from raw food to cooked food;
8. Storing hot food below 63°C;

9. Infected food handlers, and
10. Improper use of leftovers.

6. Prevention of bacterial food poisoning

1. Food must be protected against contamination. High standards of personal cleanliness and food safety must be observed. Any existing bacteria already in the food must be prevented from growing to dangerous levels. Most bacteria can be destroyed by thorough cooking but not pre-formed toxins. To reduce the risk of food poisoning a range of control measures should be put in place covering:
 - i. Personal Hygiene;
 - ii. Temperature control (keep food hot $>63^{\circ}\text{C}$ or cold $<5^{\circ}\text{C}$);
 - iii. Segregation of raw and cooked foods;
 - iv. Ensuring no risk of cross contamination via hands, cloths etc;
 - v. Thorough cooking;
 - vi. Adequate and proper cleaning, and
 - vii. Purchasing safe supplies and ensuring safe delivery.

7. Cross contamination with food allergens

1. It is important for catering staff to be aware of the risk of allergen cross contamination in situations where a seafarer has asked for food to be free of a certain ingredient that they are allergic or intolerant to. A number of steps can be taken to reduce the risk, including preparing the food from scratch, keeping surfaces clear of the allergen of concern, using separate utensils to prepare and serve the allergen free food, avoiding transference of crumbs or seeds from other foods and by using correctly labelled airtight containers.

8. Personal Hygiene

1. It is essential for food handlers to strictly observe and practice high standards of personal cleanliness. They should be clean and tidy and wear suitable light coloured protective clothing
2. There must be adequate wash-hand basins with soap and hand drying facilities available to the catering staff. Disposable towels or a hot air dryer is better than a traditional towel. Food handlers must wash their hands regularly and always on entering the galley, before handling any food or equipment, after smoking and/or touching hair, nose, mouth, dirty clothing etc. Hands must also be washed after visiting the WC, and in between handling raw and cooked food.
3. Toilets with wash-hand basins should be situated near to, but separate from, the galley. Prominent signs about washing hands should be displayed
4. Food handlers should avoid so far as possible direct contact between hands and food, by using tongs for example. Appropriate protective gloves may be worn but they can give a false sense of security.
5. Cuts, spots, sores, etc should be completely covered by coloured waterproof dressings.

9. Fitness to work

1. Anyone working with food with food poisoning symptoms, for example diarrhoea and vomiting, or suspected of carrying food poisoning organisms because of close contact with a confirmed case should be immediately excluded from any job which might expose food/water to the risk of contamination. If a food handler has suffered sickness and diarrhoea they should not handle food for at least 48 hours after the symptoms have ceased. Several other conditions require infected persons to be similarly excluded for varying lengths of time according to medical advice. Secondary infections associated with boils and septic cuts, respiratory infections from

heavy colds may also require the suspension of food handlers until successfully treated.

10. Preparation and cooking

1. Defrosting of raw meat and poultry should be carried out in controlled conditions and not simply be left to thaw at room temperatures, particularly in a warm galley. Thawing should take place in a cool, clean area, separate from other foods that may be exposed to risk of contamination from thawed liquid. The food should be covered and stored in a container on a grille so that it is not resting in the thawed liquid. If there is a food handling room within the cold stores area this may be used. It is important to check that meat or chicken etc is thoroughly defrosted before cooking.
2. Bacteria thrive in warm conditions, so raw meat, poultry, fish etc should not be left in the so called danger zone (5°C - 63°C) for longer than is absolutely necessary. A general rule when handling food during and after preparation would be a single period of up to 2 hours at room temperatures. In very high temperatures the handling period should be reduced to about 1½ hours.
3. Most harmful bacteria can be destroyed by thorough cooking. It is however acceptable to serve a "rare" steak, or beef and lamb joint if it is a whole cut or joint of meat and the steak or joint has been properly sealed over a high heat to destroy any bacteria that might be on the surface. The following types of meat can have bacteria distributed throughout the mass of the meat, they must therefore be cooked thoroughly:
 - i. Poultry
 - ii. Pork
 - iii. Burgers, sausages, kebabs
 - iv. Rolled joints using more than one cut
 - v. Mince meat
4. A skewer may be used to test that poultry and meat joints are thoroughly cooked, juices should run clear. A centre temperature of 75°C is usually required and may be verified using a probe thermometer. The probe having been properly disinfected before use. Furthermore the thermometer's manufacturer's instructions must be followed and its accuracy verified.
5. Where practical, separate work surfaces should be set aside for the preparation of raw meat which should not be used for the preparation of foods that will be eaten without further cooking. If the same work surface has to be used, care must be taken to ensure it is cleaned and disinfected between handling raw and cooked meats or other ready to eat products. Separate chopping boards clearly assigned, generally, by colour may be used to maintain segregation.

11. Food Service

1. Ideally food should be consumed as soon as it is prepared /cooked but patterns of work and other unplanned factors can delay meal times. If there are significant delays, cold cuts can be stored in the fridge or in a chill display unit until the crew are ready to eat. Hot food can be safely left in the pot over a very low heat so long as it is regularly stirred to maintain a safe temperature of 63°C or it can be stored in a hot press.

12. Left Over's

1. Cooling of high risk food must be done quickly to avoid potential health risks. Small amounts of food should cool relatively quickly but the process can be speeded up if necessary. For example,
 - i. If available use a larder with a lower room temperature.
 - ii. Pour liquids into shallow pans and stir frequently.

iii. Split food into relatively small pieces or batches.

iv. Use an iced water bath.

2. Once cold, leftovers should date marked and be suitably stored in a fridge and used within 2 days preferably served cold for example as part of a salad. If reheating is absolutely necessary food should be rapidly and thoroughly reheated, but only once. Reheated leftovers must have a core temperature of 75°C.

13. Stores

1. Ships should have adequate storage facilities for all stores. If storage spaces are inadequate, stock levels should be reduced by taking on stores more frequently or if that is not possible, additional storage should be made available. All stock should be rotated as and when necessary.

14. Cold Stores

1. Safe temperatures for cold stores are generally considered to be 5°C or colder and minus 18°C or colder for chill and freezer cabinets respectively but a slight tolerance of one or two degrees is unlikely to create any significant risk to food safety. If cabinets do not have a means of checking temperatures, a suitable thermometer should be provided. Thermometers should be calibrated periodically but a simple check on a monthly basis, using boiling water (99°C to 101°C) or melting ice (-1°C to +1°C) will verify the accuracy of the thermometer.
2. In freezer units, the combination of high humidity's and fluctuating temperatures (warmer than minus 10°C) accelerate mould and other spoilage bacterial growth. Fluctuating temperatures may also cause an accumulation of ice deposits. Food should never be stored in at the front of cooling unit as this restricts the circulation of air. Suitable packaging is essential to avoid the loss of moisture from the surface of food which can produce a freezer burn effect on exposed meat cuts or joints.
3. If defrosting is not an automatic process, equipment should be defrosted regularly to maintain its efficiency.
4. Although fridges and freezer cabinets should be maintained according to the ship's planned maintenance system, cooks and others working in the galley should regularly check the condition of door seals and closing devices as well as routinely monitoring temperatures.
5. Provided food has been maintained in a hard frozen condition from production to delivery and during storage on board ship, it may be used beyond the best before date.
6. Chilled raw food must always be kept apart from cooked food or milk for example that requires no further treatment before consumption. Separate refrigerators are preferred although if in the same unit, the raw food must always be placed at the bottom to avoid drip contaminating ready prepared food. Food should also be covered or wrapped to prevent drying out, cross-contamination and absorption of odour.

15. Stores

1. Dry food stores should be dry, cool, (where possible around 10°C), well lit and ventilated. There should be adequate shelving and pallets to avoid stowage directly on to the deck. Care should be taken to ensure stock is used in strict date rotation and that supplies have the best possible durability date. Perishable provisions should neither be ordered nor accepted in quantities greater than can be consumed before the expiry date. Daily checks should be made on short-life perishable food such as fresh fruit and vegetables.

16. Cleaning

1. To avoid a build up of dirt and waste, a "clean as you go" routine should be applied.
2. Trays, knives, cutting boards, food preparation machinery and work tops etc that come into contact with food should be thoroughly cleaned and disinfected. Mechanical dishwashers

disinfect by virtue of the high rinse temperature. Where dishes are hand washed they should be left to dry rather than use drying cloths, so long as they are put away as soon as they are dry.

3. Cloths and towels are a perfect breeding ground for bacteria so they must be washed regularly or discarded. Mops and waste bins should also be regularly washed and stowed in designated places.
4. Galley spaces should be cleaned at the end of each working day. Time should be set aside to do a regular systematic thorough clean of all areas including cupboards, store rooms, the deck and bulk heads, extractor fans and canopies. Greasy ventilation ducting is a serious fire hazard and should therefore be cleaned regularly. The frequency of cleaning should be determined using a risk assessment process.
5. Care should be taken to protect food and equipment during cleaning operations. Cleaning products and equipment should be safely stored away, preferably in a designated locker.
6. Garbage and food waste segregation and disposal arrangements should maintain operational health and safety standards and be in accordance with the ship's garbage management plan.

17. Pests

1. Good housekeeping obviously minimises the risk of infestation and it is important to ensure that areas, particularly refuse areas are kept in a clean and tidy condition. Waste bins should be emptied regularly and lids should always be fitted unless they are being used. They should also be washed after emptying.
2. Flies and cockroaches and rodents present a serious hazard. Food suspected of being contaminated by rodents, flies or cockroaches must be destroyed.
3. A responsible member of crew should carry out routine inspections of food areas, particularly undisturbed areas. If pests are found appropriate action should be taken to eradicate or minimise the problem. This should include the use of a pest control book and if necessary the employment of a certified pest control agent.
4. Any treatments used should comply with the "Recommendations on the Safe Use of Pesticides in Ships".

Part 2: Water, including its supply, storage and distribution and advice on maintenance of water systems.

This Part covers fresh water loading and supply arrangements, disinfection, storage, distribution systems and maintenance.

1. Introduction

1. Isle of Man regulations require the water provided to the ship does not contain anything which is likely to cause sickness or injury to health or which renders any water unpalatable. In addition the Merchant Shipping (Crew Accommodation) Regulations 1978 (SI1978 No795) and the Merchant Shipping (MLC) Regulations 2011 require the supply of hot, fresh water and cold drinking water to any sink, wash hand basin or other washing facility in a galley.
2. Improperly managed water is an established infectious disease transmission route on ships. Outbreaks of illness have been associated with contaminated bunkered water, cross connections between potable and non-potable water, improper loading procedures, poor design and construction of potable water storage tanks and inadequate disinfection. Evidence from outbreaks indicates that sewage is one of the more common sources of the pathogens that cause waterborne disease outbreaks on ships. *Ref WHO GSS*
3. The most effective means of ensuring the safety of the fresh water supply is through the use of a risk assessment and management approach that covers the whole process from loading to delivery at the tap and includes a planned maintenance system. All of the information gathered should be used to develop a Fresh Water Safety Plan (FWSP), particularly for ships with a complex system, which could be incorporated into the ship's planned maintenance system. An FWSP should be based on the following format.
 1. System assessment and hazard analysis (including an assessment of source water loaded on to the ship)
 2. Management plan and control measures, (the selection and operation of appropriate treatment processes)
 3. Monitoring and corrective action system in accordance with the Plan (the prevention of contamination/re-contamination during storage and distribution)
4. Control measures (treatments) will be influenced by the quality of the source water.
5. In addition to the above the ship should consider requesting water samples or water analysis data from the supplier prior to bunkering.

2. Fresh water loading and supply arrangements

1. Freshwater obtained from shore mains supply or water barge should be transferred by a designated fresh water hose. Hoses should be durable, with a smooth, impervious lining, and equipped with fittings, including adapters, to permit connection to the shore potable water hydrants and filling connections to prevent their use for loading other liquids. Hoses should be:
 1. clearly marked (generally coloured blue)
 2. stowed in a locker clear of the deck
 3. drained and capped at both ends after use
 4. flushed through and discharged to waste before loading.
2. Often ships use quayside hoses, in which case a designated crewmember should ensure that such hoses are in good condition and that they are routinely disinfected, safely stowed and capped in a clean environment.

3. Every potable water tank should have a filling line to which a hose can be attached. This line should not be cross-connected with any line of a non-potable water system. Each line should be clearly identified as such and painted blue with a screw cap or plug fastened by a short chain so that the cap does not touch the deck when hanging free.

3. Disinfection

1. There should be no facility for by-passing primary automatic disinfection systems. Automatic disinfection systems should have a failsafe control arrangement with an audible/visual automatic alarm to prevent the passage of water in the event of any malfunction. The power supply required to operate the alarm should be independent of the disinfection unit power supply.

4. Chlorination

1. The Isle of Man generally accepts chlorine as a disinfectant which requires around 20 minutes contact time to react. It can be the case that shore mains water only contains low concentrations of free chlorine which may be further decreased within the ship environment. Although there is no requirement to do so and control measures will be influenced by the quality of the source water, it is considered good practice to add chlorine as a routine when loading fresh water to a level that produces a 0.2 mg/L (ppm) residual free chlorine or 1.0 mg/L (ppm) chloramine when chloraminated water is supplied. Chlorine should preferably be applied as a hypochlorite solution, using a commercial hypo chlorinator designed for the purpose or by using an automatic chlorination unit in the ship's deck filling line. The concentration may also be achieved by the manual method using the formula contained in the "WHO's Guide to Ship Sanitation". A commercial test kit should be used to check the free chlorine or chloramine levels.

5. Silver-coated filter candles

1. These filters retain suspended matter and they have a bactericidal effect. Treatment is instantaneous without any addition of chemicals.

6. Electro-Silver Ionisation

1. Electro-silver ionisation may be used for the automatic disinfecting of fresh water produced on board ships. Units should be set up by the manufacturer to ensure a minimum concentration of 0.1ppm to be added to the water under maximum flow conditions. The minimum time required for silver to take effect is 4 hours after passing through the unit. This should ensure a maximum 0.08 ppm in the system

7. Ultra-Violet Sterilisation

1. Although the sterilisation process is instantaneous, ultra-violet steriliser units have no dispersal or residual properties. For this reason UV treatment is generally used only as a supplementary system, fitted downstream of the water tank or supply pump. UV units may however be effective in certain cases where service lines are relatively short. They should be installed so that the direction of flow is vertical to keep deposits in the tubes to a minimum. The water should be continuously circulated in the system through the UV unit. There should be a means to measure the intensity of UV radiation and a switch-off mechanism with an alarm should be fitted in the event of UV radiation being too weak. The performance of the tubes should be regularly monitored.

8. Thermal Disinfection (Calefaction)

1. Potable water supply lines contaminated with Legionella may not be reliably disinfected by means of chemical agents. Heating the flowing water throughout the distribution system (Legionella tends to grow in dead legs and low-use areas) to a temperature of at least 60°C and maintaining this temperature for 30 minutes is another established method used to destroy the Legionella bacteria. If the water temperature is increased the period for

maintaining the temperature will be proportionately reduced. This method may be used in conjunction with chemical treatments.

9. Fresh Water production on board

1. Sea water that is to be treated on ships should be taken from areas relatively free from pollution, including air pollution. Twenty miles from land is generally considered to be a safe distance but it may be in excess of the twenty miles in some cases. Judgment should be used based on a risk assessment which should include consideration of the possible effect that ship operations might have on the quality of the water intake.
2. The seawater inlets (sea chests) should be located forward and if possible on the opposite side of the ship from all overboard waste water and ballast tanks discharge outlets. Sea water should pass through suitable filters before entering the water making equipment.
3. The manufacturers' operating instructions should be clearly posted in the plant room and strictly followed.
4. By-passes should not be installed around treatment units except where necessary as part of the treatment process. There should be an adequate store of spare replacement parts particularly for any vital or fragile parts. Distillation units should indicate low range salinity levels, operational temperature levels and have an automatic discharge to waste. They should also have an alarm with trip setting or equivalent.
5. Any chemicals used in an injection system to a sea suction intended to prevent the growth of organisms in the ship's piping system serving water making plant should be suitable for that purpose.
6. High pressure distillation and reverse osmosis plants are highly effective in removing micro-organisms and chemical constituents. They can therefore be employed as a single treatment so long as they remain effective. There is therefore a need for highly reliable on-line monitoring linked to rapid management intervention. They can however be combined with the application of a low level of residual chlorine or other equivalent disinfectant. Because low pressure evaporators operate at lower temperatures, this type of plant should be fitted with an automatic disinfecting unit, generally chlorine or electro silver ionisation is used, before it is pumped to the storage tanks.
7. Desalinated water effectively demineralises the seawater which makes it corrosive with the potential to damage lines, tanks etc. Also the taste of desalinated water is bland, and may be considered unpalatable. Appropriate stabilising and mineralising chemicals treatments should therefore be applied before the water is passed into the storage tank.

10. Filtration

1. Filters should be used only where necessary as part of a purification system than includes disinfection. Terminal or tap filters often collect bacteria and accelerate its growth and for this reason their use should be discouraged unless they can be disinfected or replacement cartridges are used. Filters should be maintained or replaced according to manufacturers' instructions.

11. Water storage and distribution systems

1. Potable water storage tanks

1. Storage tanks should normally be sited above the inner bottom and independent of the hull and not adjacent to tanks containing oil. They should be sited and be of such dimensions that they are readily accessible to facilitate inspection, cleaning and coating.
2. Tanks should be clearly marked "Potable Water". They should be used in regular rotation to avoid stagnation.

3. Storage should normally never be less than a 2 day supply. Consideration should be given to the size of the ship's complement of officers and crew, the maximum number of passengers, the time and distance between ports of call and the availability of water suitable for treatment with facilities aboard. Storage may be decreased if the water supply can be supplemented by water produced by water making plants, but only to the amount that can be reliably supplied by the water making plant.
4. Coatings systems other than cement should be specially developed for use in potable water tanks. Manufacturer's recommendations for application and drying or curing of the coating must be followed. All items that penetrate the tank, for example bolts, pipes, pipe flanges should be coated with the same product.

2. Distribution systems

1. The freshwater distribution pumps should not be capable of being connected to any other service. The suction lines of the pumps should not be cross-connected with the piping or storage tank of any non-potable-water system. Lines should not be submerged in bilge water, or pass through tanks storing non-potable liquids. Overflows, vents and drains from tanks, and drains from the distribution system (including any treatment plant) should not be connected directly to sewage drains.
2. Potable water piping should be painted or hatched blue. If the direction of flow is important, this shall be shown by means of an arrow pointing in the respective direction. Potable water outlets should be labelled POTABLE WATER. All non-potable outlets should be labelled UNFIT FOR DRINKING. If hot water piping and cold water piping run adjacent to one another, appropriate thermal insulation should be carried out.
3. Calorifiers and pressure tanks should be fitted with efficient connections at the lowest point of the unit so that loose scale or sludge can be completely drained off after cleaning and maintenance. They should have adequate access to enable thorough cleaning.
4. The design of the distribution system should provide maximum circulation, avoiding dead legs and optimum conditions for bacterial growth (15°C to 50°C). The risk increases where sections of the system are not kept in continuous use. To minimise the risk a ring main system with circulation pumps in hot and cold water lines should be considered for large scale demand such as passenger ships for example.
5. Corrosion and scale inhibitors if used should be suitable for use in fresh water systems.

3. Taps and other fixtures

1. Fixtures should be resistant to the corrosive effects of salt water and saline atmosphere and fit for use with fresh water systems. They should be easy to clean and so designed to function easily and efficiently. Approved mixer taps should be fitted to showers and it is recommended that wash-hand basins should have hot and cold mixer taps.

12. Maintenance of water systems

1. All elements of the freshwater production, treatment and delivery system including filters, pumps, calorifiers, pressure tanks etc should be inspected, cleaned, flushed out, or items replaced where appropriate, according to the manufacturer's instructions and the planned maintenance system.

The following maintenance is recommended.

Freshwater Storage Tanks	
Persons inspecting or working in freshwater tanks should wear clean protective clothing and footwear which has not been used for any other work area and they should not be suffering from any skin infection or communicable disease.	
Actions	Intervals
To be thoroughly pumped out and where necessary hosed prior to refilling.	6 monthly
To be opened up, emptied, ventilated and inspected and thoroughly cleaned, recoated as necessary, aired and refilled with clean freshwater chlorinated to a concentration of 0.2ppm free chlorine. The cleaning process should include disinfection with a solution of 50ppm chlorine.	12 monthly
The system (from machinery space to furthest outlets should be charged with super-chlorinated freshwater at a concentration of 50ppm for a period of 12 hrs and then completely flushed out and refilled at 0.2ppm residual free chlorine	Refit or drydock
Pressure Tests on all FW tanks (After the pressure test, the system to be thoroughly flushed with potable water.	Intervals not greater than 5 years

Distribution Systems Maintenance

Parts	Actions	Intervals
Filters	Clean Change	Monthly or according to manufacturer's instructions
UV exposure area	Clean	According to manufacturer's instructions
Calorifiers	To be opened up, inspected scaled and cleaned. Before draining temperatures should be raised to 70°C for at least an hour to ensure destruction of bacteria which may have colonised the lower and cooler zone of the unit	Periodically (general recommendation - annual inspection)
Shower heads	Particularly in accommodation that has been out of use for an extended period. Clean in a 50ppm chlorine solution.	3 monthly
FW Hoses	Flush and fill with 50ppm chlorine solution and allow to stand for at least an hour before emptying and stowage.	6 monthly or more frequent if required.

13. Health and Safety

1. Adequate care should be taken when handling chemicals or biological agents, for example chemicals, corrosion inhibitors, filters etc. Suitable risk assessments and control measures should be applied.
2. The rules for classification and construction of seagoing ships stated by the relevant classification societies should be observed. Reference should also be made to the following British Standards in relation to sanitary design and construction of ship water supplies obtainable on the internet at www.iso.org/iso/en/ISOOnline .

1. ISO 15748-1: 2002 – Ships and marine technology – Potable water supply on ships and marine structures – Part 1: Planning and design.
2. ISO 15748-2: 2002 – Ships and marine technology – Potable water supply on ships and marine structures – Part 2: Method of calculation.

The WHO Guide to Ship Sanitation

This Guide provides advice on a number of topics, including the management of swimming pools and spas on board ships, and is available on the internet as a draft at: www.who.int/water_sanitation_health/hygiene/ships/shipsanitation/en/

The HSE Approved Code of Practice and Guidance for the Control of Legionella Bacteria in Water Systems.

This guide provides practical advice for the control of Legionella bacteria in any undertaking involving a work activity and to premises controlled in connection with a trade, business or other undertaking where there is a reasonably foreseeable risk of exposure to Legionella bacteria. Although the Code of Practice is not specific to a marine environment, it does provide advice about prevention or controlling exposure to the bacteria and treatment and control programmes. [The Code of Practice may be obtained from the Health and Safety Executive \(www.hse.gov.uk\).](http://www.hse.gov.uk)