Maritime & Coastguard Agency

INSTRUCTIONS FOR THE GUIDANCE OF SURVEYORS ON

PROTECTION OF THE CREW

MSIS27.9

Rev 11.26



PREFACE

0.1 These Marine Survey Instructions for the Guidance of Surveyors (MSIS) are not legal requirements in themselves. They may refer to statutory requirements elsewhere. They do represent the MCA policy for MCA surveyors to follow.

0.2 If for reasons of practicality, for instance, these cannot be followed then the surveyor must seek at least an equivalent arrangement, based on information from the owner/operator. Whenever possible guidance should be sought from either Principal Consultant Surveyors or Survey Operation Branch, in order to maintain consistency between Marine Offices.

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RECENT AMENDMENTS

The amendments made in the most recent publication are shown below, amendments made in previous publications are shown in the document Amendment History.

Version Number	Status / Change	Date	Author Reviewer	Content Approver	Next Review Date/Expiry Date
11.19	Update to reflect ILO188 requirements	11/2019	D Fenner	G Stone	01/11/21
09.21	• Update to Reflect MSN 1871 Amendment No.2 • Updates to referenced MGNs and Sis • Updates to Medical Care and Medical Stores section • Updates to PFDs/Lifelines section • Updates to Annex 3	31/08/21	D Fenner	G Stone	01/09/23
04.22	• Amendments to text to clarify suitably qualified personnel • Amendment to numbering	09/03/2022	D Fenner	G Stone	01/09/25
11.26	Update on checks on lifting equipment undertaken by owners in accordance with Safety Bulletin 20	11/26	D Fenner	S Rogers	10/28

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9.1 STATUTORY PROVISIONS

9.1.1 The UK has implemented the ILO Work in Fishing Convention, 2007 (ILO 188). Information on the provisions implementing ILO 188 can be found here:

https://www.gov.uk/government/collections/ilo-work-in-fishing-convention

9.1.2 The principal statutory provisions concerning Protection of the Crew in Fishing Vessel are contained in:

- The Fishing Vessels (Codes of Practice) Regulations 2017 S.I. No. 943,
- The Merchant Shipping and Fishing Vessels (Medical Stores) Regulations 1995 S.I. No. 1802 as amended by;
  - S.I. 1996 No. 2821.
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 S.I. No. 2962, as amended by;
  - S.I. 1998 No. 2411;
  - S.I. 2001 No. 54;
  - S.I. 2014 No. 1616;
  - S.I. 2015 No. 21;
  - S.I. 2015 No. 1692;
  - S.I. 2016 No. 1026; and
  - S.I. 2018 No. 1109
- The Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999 S.I. No. 2205;
- The Fishing Vessels (Working Time: Sea-fishermen) Regulations 2004 S.I. No. 1713, as amended by:
  - S.I. 2018 No. 1109
- The Merchant Shipping and Fishing Vessels (Provision and Use of Work Equipment) Regulations 2006 S.I. No. 2183, as amended by;
  - S.I. 2008 No. 2165
- The Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations 2006 S.I. No. 2184, as amended by;
  - S.I. 2008 No. 2166

- The Merchant Shipping and Fishing Vessels (Control of Noise at Work) Regulations 2007 SI 3075, as amended by;
  - S.I. 2010 No. 1110
- The Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 S.I. No. 3077, as amended by;
  - S.I. 2010 No. 1110
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Carcinogens and Mutagens) Regulations 2007 S.I. No. 3100, as amended by;
  - S.I. 2010 No. 1110; and
  - S.I. 2015 No.21.
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Biological Agents) Regulations 2010 S.I. No. 323;
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Chemical Agents) Regulations 2010 S.I. No. 330; as amended by;
  - S.I. 2010 No. 1110;
  - S.I. 2012 No.1844; and
  - S.I. 2015 No. 21.
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Work at Height) Regulations 2010 S.I. No. 332;
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Asbestos) Regulations 2010 S.I. No. 2984, as amended by;
  - S.I. 2013 No. 1473
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Artificial Optical Radiation) Regulations 2010 S.I. No. 2987
- The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Electromagnetic Fields) Regulations 2016 S.I. No. 1026.

9.2 SUPPLEMENTARY INFORMATION

9.2.1 Supplementary guidance, instructions and information for Fishing Vessels is contained in current Merchant Shipping Notices (MSNs), Marine Guidance Notes

(MGNs) and Marine Information Notes (MINs) and Operational Advice Notices (OAN). Those currently relevant are;

- MSN 1815 (M) Countries whose medical seafarers certificates have been assessed as meeting international requirements and are acceptable for use on UK ships
- MSN 1870 (M+F) Personal protective equipment (PPE) regulations 1999
- MSN 1871 The Code of Practice for the Safety of Small Fishing Vessels of less than 15m Length Overall
- MSN 1872 The Code of Safe Working Practice for the construction and use of fishing vessels of 15m length overall to less than 24m registered length
- MSN 1873: The code of practice for the construction and safe operation of fishing vessels of 24m registered length and over
- MSN 1882 (F) ILO work in fishing convention minimum age
- MSN 1883 (F) work in fishing convention no.188 medical examination and certification of fishermen: application of the merchant shipping (work in fishing convention)(medical certification) regulations 2018
- MSN 1884 (F) ILO work in fishing convention working time, application of the fishing vessels working time seafishermen regulations 2004 as amended
- MSN 1886 (M&F) Maritime Labour Convention, 2006 Work in Fishing Convention, 2007 (ILO No. 188) Medical Examination System: Appointment of Approved Doctors and Medical and Eyesight Standards
- MSN 1888 health and safety chemical agents regulations
- MSN 1889 health and safety biological agents regulations
- MSN 1891 (F) ILO Working in fishing convention list of Crew
- MSN 1905 (M+F) Application of ships' medical stores regulations 1995
- MGN 311 (F) Working and protective gear for fishermen
- MGN 331 (M+F) Provision and use of work equipment (PUWER) regulations 2006
- MGN 332 (M+F) Lifting operations and lifting equipment (LOLER) regulations 2006
- ~~MGN 352 (M+F) The Merchant Shipping and Fishing Vessels (Control of Noise at Work) Regulations 2007;~~
- MGN 353 (M+F) control of vibration at work regulations 2007

- ~~MGN 356 (M+F) - The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Carcinogens and Mutagens) Regulations 2007;~~
- ~~MGN 378 (M+F) - Merchant Shipping and Fishing Vessels (Provision and Use of Work Equipment) (Amendment) Regulations 2008 and Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) (Amendment) Regulations 2008;~~
- ~~MGN 408 (M+F) - The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Biological Agents) Regulations 2010;~~
- ~~MGN 409 (M+F) - The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Chemical Agents) Regulations 2010;~~
- MGN 410 (M+F) Health and safety at work (work at height) regulations 2010
- MGN 425 (M+F) Assessment of risks for those sleeping on dead ships
- MGN 428 (M+F) Merchant shipping and fishing vessels (health and safety at work) (artificial optical radiation) regulations 2010
- ~~MGN 429 (M+F) - The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Asbestos) Regulations 2010; and~~
- MGN 436 (M+F) Whole body vibration - guidance on mitigating against the effects of shocks and impacts on small vessels
- MGN 446 (M&F) The Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007 – Procedure for Seeking Exemptions
- MGN 447 (M&F) Control of noise at work regulations 2007, procedure for seeking exemptions
- MGN 451 (M&F) Risk of Exposure to Radiation
- MGN 492 (M&F) Health and Safety at Work: Protecting those not Employed by the Ship Owner
- ~~MGN 493 (M&F) The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Asbestos) Regulations 2010 as amended by the Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Asbestos) (Amendment) Regulations 2013;~~
- MGN 497 (M+F) Dangerous Goods – Including Chemicals and Other Materials – Storage and Use on Board Ship

- MGN 505 (M) Human Element Guidance – Part 1. Fatigue and Fitness for Duty: Statutory Duties, Causes of Fatigue and Guidance on Good Practice
- MGN 524 (M+F) Life-Saving Appliances - Category C Medical Kits - Wholesale Distribution Authorisation - Wholesale Dealers Licence
- MGN 526 (F) – Stability Guidance for Fishing Vessels – Using the Wolfson Method
- MGN 570 (F) Fishing Vessels: Emergency Drills
- MGN 571 (F) Fishing Vessels: Prevention of Man Overboard
- MGN 583 (F) ILO work in fishing convention, fishermen's work agreements
- MGN 584 (F) ILO work in fishing convention repatriation
- MGN 585 (F) ILO work in fishing convention payment of fishermen
- MGN 586 (F) ILO work in fishing convention medical care
- MGN 587 (F) ILO work in fishing convention, health and safety responsibilities of fishing vessel owners, manager, skippers and fishermen
- MGN 588 (F) Compulsory provision and wearing of personal floatation devices on fishing vessels
- MGN 589 (F) ILO work in fishing convention (no. 188) complaints
- MGN 591 (M+F) Provision of safe mean of access to fishing vessels and small vessels in ports
- MGN 595 (F) ILO work in fishing convention provision of food and water
- MGN619 (F) Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations 2006 (LOLER) and the Merchant Shipping and Fishing Vessels (Provision and Use of Work Equipment) Regulations 2006 (PUWER)
- MGN 624 (M+F) Health and safety at work (carcinogens and mutagens)
- MGN 658 (M+F) Control of noise at work regulations 2007
- MGN 669 (M+F) Health and safety asbestos regulations
- MIN 575 (F) ILO work in fishing convention medical certification grandfather rights

9.3 GENERAL

9.3.1 Inspection of health and safety on fishing vessels falls under ILO 188 and inspections of these items should be conducted as part of the periodic/renewal inspection under the Merchant Shipping (Work in Fishing Convention) (Survey and Certification) 2018. See MSN 1885(F) and MGN 587.

9.3.2 Owners should ensure that their vessels are operated without endangering the safety and health of the crew and any other persons onboard. The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997, The Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations and The Merchant Shipping and Fishing Vessels (Provision and Use Of Work Equipment) Regulations 2006 now apply to all crew, regardless of employment status. Health and safety duties under most other health and safety legislation have been extended so that they apply to fishing vessel owners as they do to employers, and to all fishermen as they do to workers. The crew should be given training and instructions on health and safety matters as well as operating the gear on board fishing vessels, and in particular, on accident prevention.

9.3.3 A competent person is defined in MGN619 as a person possessing the knowledge or experience necessary for the performance of the duties under these Regulations (The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997, The Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations and The Merchant Shipping and Fishing Vessels (Provision and Use Of Work Equipment) Regulations 2006. However, surveyors may, if not satisfied that the equipment is being used to the manufacturers recommendations, or the person claiming to act as a competent person is unable to demonstrate basic knowledge to fulfil the role (i.e standard 10% wear rate of chain link diameters request an alternative opinion.

9.3.3 RISK CONTROL MEASURES

9.3.3.1 HEALTH AND SAFETY POLICY

9.3.3.1.1 Where the total crew exceeds 5 (regardless of the vessel's length), a written statement shall be prepared and, regularly revised, of the employer's general policy with respect to health and safety and the vessel and arrangements for the time being in force for carrying out that policy. Practically this should be updated whenever there is a material change and at periods not greater than 2 years.

9.3.3.2 RISK ASSESSMENT

9.3.3.2.1 The object of risk assessment is to consider the risks to health and safety, and to take action to prevent or reduce the risk. Proper completion of a Risk Assessment shows that health and safety has been considered and every reasonable effort has been made to make sure the vessel is safe for those aboard. Risk Assessments should be easily understood and promulgated for all to see by the

persons concerned. They need to be regularly revised; whenever there is any material change which affects the risks (for example; fishing method, modifications, new equipment, different crew manning, etc). It is good practice to encourage owners to review their Risk Assessment at least annually even if there has been no material change.

9.3.3.2.2 Risk Assessments should preferably be written; this means that there is tangible evidence that the crew have considered all the risks and how to address them. Verbal Risk Assessments are rarely remembered and cannot be produced by owners/ skippers as evidence that they had assessed risks should an accident occur. The Risk Assessment of the risks of going overboard, and the measures to mitigate or eliminate the risk, and the decision to wear PFDs or safety lines as appropriate if the risk cannot be eliminated, must be written down.

9.3.3.2.3 Risk Assessments should be read and agreed by the crew (crew participation in compiling Risk Assessment is particularly effective and should be encouraged). The following statement may be used by owners/ skippers when assessing a change to their Risk Assessment, signed by each crew member it gives an auditable record.

FV …….. CREW SAFETY STATEMENT;

I hold current MCA recognised certificates for basic safety for fishermen. I have been given a safety induction for this vessel. The safety equipment and procedures have been explained to me, and I have been informed of the risk assessments for this vessel.

Crew Name	Signature	Date

9.3.3.2.4 In compiling a Risk Assessment, reference should be made to Regulation 7 of the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations SI 1997, No. 2962). More practical advice can be found through Seafish who produce the 'FV Safety Folder' This was created by Seafish in response to concerns in the industry about risk assessments. The folder has example risk assessment forms for different types of fishing operations, giving useful guidance to help fishermen carry out full risk assessments. Guidance is also given in the folder for other safety documents, including the vessel safety policy, crew list and statement, and safety equipment checklist.

9.3.3.2.5 However, this folder is only available in a paper version. An online Safety Folder, which incorporates all the aspects of the paper version is also available. It is available from http://www.safetyfolder.co.uk/

9.3.3.2.6 The Safety Folder is a service for the Fishing Industry to support safer fishing practices. It is provided for free for all and is managed by a committee of users and fishing organisations who develop the service to best suit the industry.

9.3.3.2.7 This website has been designed to help Fishing vessels comply with UK and European Maritime laws. To achieve this the site referenced the relevant MCA M

Notices and European Directives, this makes it much easier for fishermen to comply with the Fishing safety laws.

9.3.3.2.8 Each month users will receive an email to remind them of the routine tasks which should be completed onboard. This is especially useful for the smaller vessels where the paper folder may otherwise be ashore. If a piece of equipment they have added is due a service or is about to expire users will get a warning in their monthly email.

9.3.3.2.9 What should be avoided in compiling a Risk Assessment is completion by an external (third) party. Risk Assessment completed this way may not be effective and in that process there is often little or no buy in from the crew.

9.3.3.2.10 It is important for surveyors though to realise that Risk Assessment is for the owner to produce, and there are many ways of doing this effectively.

9.3.3.2.11 Risk Assessment needs to cover all concerns and hazards that may exist on the vessel, as a minimum these should include;

- Boarding and Leaving the Vessel;
- General Working on the Deck of the Vessel;
- Stability;
- Manual handling of fishing gear and the catch;
- Noise;
- Shooting and Hauling Operations;
- Handling the Catch, Stowing the Catch;
- Lone working;
- Fishing Method and specific Risks, including the risk of going overboard;
- Fittings and Rigging;
- Wheelhouse Operations;
- Galley, Accommodation;
- Engine Room;
- Landing Operations; and
- Maintenance Work.

9.3.3.2.12 MGN 571 – Prevention of Man Overboard has been developed and provides guidance on how to prevent Man Overboard situations from occurring. The Note discusses why Cold Water Shock and Hypothermia make it vital that man overboard is avoided at all costns. The note also provides guidance on how to

assess the risks of going overboard and preventing it from happening. Attached to the Note is a Risk Review Document which will allow you to assess the risks around your vessel and record how you control these. The aim should always be to remove the risk of going overboard. However, where this is not possible, the Note provides guidance on the wearing of Personal Flotation Devices and safety lines. Attention should be drawn to the Guidance on risk assessment at Annex 4.

9.3.4 PERSONAL PROTECTIVE EQUIPMENT (PPE)

9.3.4.1 Reference should be made to The Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999, SI No 2205 and MGN 311 (F) - Working and Protective Gear for Fishermen

9.3.4.2 Where risks to the safety and health of the crew cannot be prevented or sufficiently limited by collective or technical means of protection, they should be provided with personal protective equipment. Personal protective equipment in the form of clothing or over clothing, should be in bright colours, contrasting with the marine environment and clearly visible.

9.3.4.3 In essence there are 3 different types of PPE; Working Gear; Protective Gear and Specialist Protective Gear

9.3.4.4 Working Gear; this includes those items of personal clothing that, by reason of practicality, share fishermen usually supply for their own use, inclusive of oilskins, overalls and working boots. They can have important features giving protection from slips and falls, wet and cold, additional buoyancy, compatibility with other protective equipment (such as constant wear lifejackets) and aids to being seen and colour contrast with the marine environment.

9.3.4.5 Protective Gear; this includes additional items that the employer or owner supplies (such as eye protection and buoyancy equipment), after having identified the need through risk assessment.

9.3.4.6 Specialist Protective Gear; this is specialist equipment requiring formal training and greater familiarity before it can be used safely. This includes such items as oxygen meters and breathing apparatus used for entry into enclosed spaces. Without such equipment and proper training such risks are to be avoided. Delay tasks requiring specialist equipment until they can be carried out safely by specialist contractors when in port.

9.3.4.7 All outer clothing or clothing worn over clothing should be in bright colours, contrasting with the marine environment and clearly visible; Information on what working gear and protective gear is needed should be available to all on board.

9.3.4.8 Protective Gear should comply with relevant standards of design and manufacture (e.g. new equipment should carry the British Standard or European Norm (CE) marking appropriate for the intended use. See MSN 1870(M+F) for detailed technical standards);

9.3.4.9 Gear should be appropriate to the risks identified, the working environment and should fit, or be adjustable to fit, the individual wearing it.

9.3.4.10 Gear should be stored, inspected, maintained and repaired so that it remains effective, and should be accessible;

9.3.4.11 Instructions for use should always be available, and workers instructed or trained in the proper use of the equipment;

9.3.4.12 Annex One and Two to this chapter contain a guide of PPE for fishermen.

- Annex 1; Under 24m FVs a guide to PPE
- Annex 2; Over 24m FVs a guide to PPE

9.3.5 SAFETY INDUCTION

9.3.5.1 All vessels should provide a safety induction for new crew member. This can be provided by the skipper or others and should cover as a minimum;

- All Safety Equipment including personal PPE
- All Safety procedures
- Abandon ship and Muster stations

9.3.6 PRECAUTIONS AGAINST FALLS INCLUDING BULWARKS, GUARD RAILS AND HAND RAILS

9.3.6.1 Reference should be made to MSN 1871 Section 6.9, MSN 1872 Section 6.1.3 and MSN 1873 Section 6.1.3

9.3.6.2 To ensure the safety of persons against falls, including falling overboard, and when the proper working of the vessel is not impeded, the perimeters of an exposed deck and the tops of any deckhouse should be provided with a combination of bulwarks, guardrails or taut wires of sufficient strength and at a height of at least 1000 millimetres (where the vessel is not a New Vessel 2021 as defined by MSN 1871. and the bulwarks, guardrails or wires are already fitted, these may be 915 mm). These bulwarks, rails or wires should be supported efficiently by stays or stanchions. The openings between the courses of any rails or wires should not exceed 230 millimetres for the lowest course and 380 millimetres for any other course (on fishing vessels of less than 15m, these may be evenly spaced on other courses). When application of such measures would impede the proper working of the vessel, equivalent safety measures may be considered.

9.3.6.3 The distance between stanchions should not exceed 1.5 metres in over 24m FVs. In 15 – 24m FVs and under 15m FVs the Codes do not specify the distance between stanchions; they need to be supported efficiently by stays or stanchions.

9.3.6.4 On 15 – 24m vessels constructed before 23 November 1995 the height of the bulwarks, rails or wires referred to in the above sections 9.3.6.2 and 9.3.6.6 should be at least 915 millimetres, although where at all possible owners should be encouraged to raise these to 1000 millimetres.

9.3.6.5 If there is a risk that any member of the crew may fall through openings in the deck, or from one deck to another, then so far as is reasonably practicable adequate protection should be provided.

9.3.6.6 Accesses to installations above the deck for operations or maintenance purposes should be provided with guard rails or similar protective devices to prevent falls and to ensure the crew's safety. Where guard rails provide such protection, they should be of appropriate height (generally assumed to be 1000 millimetres unless there are specific reasons why this is not achievable).

9.3.6.7 The minimum height above deck of any fixed bulwarks should be 600 millimetres. All bulwark heights should be increased as necessary to not less than 1000 millimetres (but see section 9.3.6.3) by adequate stanchions or guard wires.

9.3.6.8 Access stairways, ladderways and passageways should be provided with hand rails as necessary and storm rails should be fitted on the outside of all deck houses and casings.

9.3.6.9 Adequate guard rails, lifelines, gangways or passages should be provided for the protection of persons on board the vessel when passing between their quarters, machinery spaces and working spaces.

9.3.6.10 On vessels of 15m LOA and over, stern trawlers with ramps, the upper part of the ramp should be fitted with a gate or similar protective guard, of the same height as the bulwarks or adjacent structure, to protect the crew from the risks of falling into the ramp. This gate or other device should be capable of being readily opened and closed, *preferably by remote means** and should be open only for shooting or hauling the nets.

*And must be on vessels constructed after 23 November 2002.

9.3.6.11 On vessels with working/operational areas where the transom has open areas in the bulwarks for fishing operations, there should be fitted a gate or taut wires complying with 9.3.6.2 above or similar protective guard with the same restriction on opening size, of the same height as the bulwarks or adjacent structure, to protect the crew from the risks of falling overboard. This gate or other device should be capable of being readily opened and closed, *preferably by remote means** and should be open only for shooting or hauling the nets. Lifelines should be available for use when the area has been opened for fishing operations.

*And must be on vessels constructed after 23 November 2002.

9.3.6.12 Should a fishing vessel be found with unguarded openings guidance should be sought from the Principal Consultant Fishing Vessel Surveyors as to action to take

to rectify/minimise the risk to the crew. In addition the vessel's Risk Assessment, as at 9.3.3.2, should include an assessment and mitigation strategy to ensure the risk is acceptable. If this cannot be achieved measures will need to be put in place such as gates, wires, chains or means of restricting the access to the area such as between net drums and full height bulwarks.

9.3.6.13 Stairways and ladders should be provided of size and strength adequate for the safe working of the vessel at sea and in port. Stairways and ladders should be provided with a non-slip surface and hand rails.

9.3.6.14 Working areas should be kept clear and, so far as is reasonably practicable, be protected from the sea and provide adequate protection for the crew against falling on the vessel or falling overboard.

9.3.6.15 Handling areas should be sufficiently spacious, in terms of both height and surface area.

9.3.7 SAFE MEANS OF BOARDING AND LEAVING

9.3.7.1 Reference should be made to MSN 1871 Section 6.5, MSN 1872 Section 6.1.3 and MSN 1873 Section 10.1.3 and MGN 591 Provision of Safe Means of Access to Fishing Vessels and Small Vessels in Ports

9.3.7.2 Poor access, including poor lighting, are a cause every year of serious, and sometimes fatal, incidents involving crew members and other persons boarding or leaving fishing and other small vessels whether alongside a quay, jetty, afloat at a mooring; on a slipway, or in a dry-dock. A gangway or other suitable means, providing an appropriate and safe means of boarding the vessel should be available.

9.3.7.3 Primary responsibility for ensuring safe access to any vessel, large or small, rests with the person providing the means of access. This would be the owner and/or skipper of the vessel, when the means of access, e.g. a gangway, forms part of the vessel's equipment. Alternatively primary responsibility could rest with the operator of a dock (including a drydock), jetty, harbour, pontoon or mooring when the means of access is provided by that shore facility, e.g. a gangway or ladder provided by a harbour or dock (including a dry dock) operator. There can be situations in which there is dual responsibility e.g. when alongside a high dock wall and the vessel has to provide a means to get to a ladder on the dock wall. This should not be seen as a hard and fast demarcation of responsibility; ensuring safe access is provided is a concern for everyone who requires access to a vessel. Seafarers, and others requiring access to vessels, also have their part to play in minimising the risks to themselves. This includes avoiding alcohol, taking a torch and, especially, not taking a leap in the dark.

9.3.7.4 Legislative provision pertaining to owners for the safe access to or from a FV is dependent on the size of the vessel;

9.3.7.5 UNDER 15 METRE FVS

9.3.7.5.1 Section 6.5 of MSN 1871 requires that owners and skippers comply with MGN 591 Provision of Safe Means of Access to Fishing Vessels and Small Vessels in Ports. The requirement for a means of safe access to a vessel should be included in the vessel's Risk Assessment

9.3.7.6 15 – 24 METRE FVS

9.3.7.6.1 MSN 1872 The Code of Safe Working Practice for the construction and use of 15 metre length overall to less than 24 metre registered length fishing vessels requires at chapter 6, paragraph 6.1.3.12 that 'A gangway or other suitable means providing an appropriate and safe means of boarding the vessel should be available'. This is an owner's responsibility.

9.3.7.7 OVER 24 METRE FVS

9.3.7.7.1 Legislation relating to the safe operation of FVs over 24 metres is provided by a plethora of legislation all of which require 'An accommodation ladder, gangway or other suitable equipment providing an appropriate and safe means of boarding the vessel'. This is an owner's responsibility. See Section 10.1.3 of MSN 1873

9.3.7.8 Notwithstanding where the responsibility lies for providing safe access, or if there is a lack of regulation, such as in the under 15 metre Fishing Vessel Code, the requirement for a means of safe access to a vessel should be included in all vessel's Risk Assessments.

9.3.8 SAFETY HARNESSES

9.3.8.1 Reference should be made to MSN 1871 Section 6.4.1, MSN 1872 Section 6.1.4 and MSN 1873 Section 6.1.4

9.3.8.2 Vessels of 15m LOA and over should be provided with at least 2 safety harnesses and additional safety harnesses as necessary for all persons who may be required to work on deck.

9.3.8.3 On vessels of 15m LOA and over and on vessels of less than 15m where Harnesses are used, efficient and permanent means for securing the lifelines of safety harnesses should be provided on exposed decks. In over 24m FVs this means that a lifeline system needs to be in place with the necessary wires, ropes, shackles, eyebolts and cleats.

9.3.8.4 On vessels of 15m LOA and over and on vessels of less than 15m where Harnesses are used, safety harnesses should comply with BS EN 365 or equivalent; they should inspected at least 12 monthly and a record of the inspection maintained in the vessel's Provision and Use of Work Equipment (PUWER) register.

9.3.9 SURFACE OF WORKING DECKS

9.3.9.2 Reference should be made to MSN 1871 Section 6.10, MSN 1872 Section 6.1.5 and MSN 1873 Section 6.1.5.

9.3.9.1 The surface of working decks and spaces accessible to the crew should be non-slip or anti-slip or be provided with devices to prevent falls and kept free of obstacles as far as possible.

9.3.9.2 Acceptable surfaces are: chequered plate; unpainted wood; a non-skid pattern moulded into fibre reinforced plastic (FRP); non-slip deck paint; or an efficient non-slip covering.

9.3.10 WINCHES, TACKLES AND HOISTING GEAR

9.3.10.1 Reference should be made to MSN 1871 Section 6.11, MSN 1872 Section 6.1.6 and MSN 1873 Section 6.1.6, MGNs 331, 332 and 619 and Safety Bulletin 20.

9.3.10.2 Every vessel that is provided with winches, tackles and hoisting gear should have such gear properly installed having regard to the intended service of the vessel.

9.3.10.3 All hoisting gear, hauling gear and related equipment should satisfy the requirements of EU Council Directives 1989/391/EEC, 1995/63/EC and 1989/655/EEC as applicable as implemented by The Merchant Shipping and Fishing Vessels (Provisions and Use of Work Equipment) Regulations 2006 No. 2183 and the Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations 2006 No. 2184 as applicable. This means that any equipment that is used in the course of the work aboard the vessel, including equipment provided by crew members, is covered by PUWER regulations. Equally, any lifting equipment used aboard must satisfy the requirements of LOLER regulations.

9.3.10.4 In accordance with PUWER, owners must ensure that work equipment is suitable for use and for the purpose and conditions in which it will be used. All equipment should be maintained in a safe condition for use so that crew's health and safety is not at risk. Work equipment should be regularly inspected to ensure that it is and continues to be safe for use. Inspections should be carried out by a competent person and a record kept onboard.

9.3.10.5 Example of some of the equipment covered by PUWER Regulations;

- Hand tools, both manual and power operated, ladders both fixed and portable, conveyors, elevators, gutting machines, ice plants and fish room equipment, galley and wheel house equipment, winches, net drums, power blocks and haulers.

9.3.10.6 Owners and skippers should be reminded that this is risk based legislation; there is no prescribed method or way of meeting the requirements. It is up to owners/

skippers to demonstrate compliance. As with Risk Assessments, this is difficult to do unless written records of tests and inspections are maintained.

9.3.10.7 Under LOLER owners must ensure that lifting equipment is sufficiently strong, stable and suitable for the proposed use. The owner must ensure the lifting equipment is used in accordance with the manufacturers instructions and inspection regime and the manufacturer consulted where there is doubt regarding continued acceptance for use. Similarly, the load and anything attached to it (fish boxes, crates, lifting hooks etc) must be suitable for the proposed lifting operation. The equipment should be positioned or installed to prevent the risk of injury, from the equipment or the load falling or striking people. Equipment should be suitably marked with any appropriate information to be taken into account for its safe use, e.g. safe working loads, Accessories, e.g. strops, slings, clamps etc should be similarly marked. The owner should determine the frequency of inspection and where there is an increased risk of premature failure, the frequency of inspections must be increased. Lifting equipment should be regularly inspected to ensure that it is and continues to be safe for use. Inspections should be carried out by a competent person and a record kept onboard of all inspections and changes to lifting equipment.

9.3.10.8 The MCA takes the view that all lifting equipment on fishing vessels is subject to conditions causing deterioration. Therefore, lifting equipment used for the lifting persons or an accessory for lifting should be thoroughly examined every 6 months and in the case of other lifting equipment, every 12 months, in accordance with an examination scheme. If appropriate lifting equipment shall also be inspected by a competent person at suitable intervals. The examination scheme shall be drawn up by a competent person. For work equipment; it is recommended that it is inspected by a competent person after installation and before being brought into use and at regular intervals thereafter. It is strongly recommended that the maximum interval between inspections should be 5 years for work equipment, or such shorter period as is recommended by the manufacturer. Further guidance on inspections should be aligned with equipment manufacturers' Alternatively, a scheme of examination may set longer or shorter intervals between inspections/thorough examination/testing where these are based on risk assessment taken together with the manufacturer's recommendations or professional expertise of a competent person. Specifically, the frequency may need to be increased in areas of high load, high wear rates and high impact.

9.3.10.9 The Owner should be able to demonstrate that the examination scheme has been drawn up by a competent person which ensure appropriate examination and inspection of lifting equipment is completed at required intervals. The Owner should ensure that the vessel under their control has provided the competent person sufficient opportunity under appropriate conditions to be able to make an assessment for continued operation, which may require inspection techniques other than visual.

9.3.10.10 Where a fixed pin arrangement is found, it should trigger additional scrutiny—specifically checking for wear, link twisting, deformation, and bending stress fatigue. If a vessel continues to use this arrangement, surveyors should verify that a specific, documented risk assessment has been conducted, mitigated, and communicated to the crew (referencing MAIB *Honeybourne III* / Safety Bulletin 20). If surveyors are not satisfied with the condition or the risk controls, additional/more frequent non-destructive testing (NDT) or visual inspections should be required as a deficiency condition.

9.3.10.11 ANNEX 3 sets out recommended intervals for typical LOLER and PUWER equipment found on board fishing vessels and provides a checklist, completion of which can normally be considered to demonstrate compliance with the statutory requirements.

9.3.11 VENTILATION OF ENCLOSED WORKPLACES

9.3.11.1 Reference should be made to MSN 1871 Sections 2.14, 4.2.12, 4.2.13 and 4.7.4, MSN 1872 Section 6.1.7 and MSN 1873 Section 6.1.7

9.3.11.2 Steps should be taken to ensure there is sufficient fresh air in enclosed workplaces, having regard to the work methods used and the physical demands that are placed on the crew. The adequacy of which depending upon the size of ship, the type of voyage, and the climate and weather likely to be encountered. If a mechanical ventilation system is used, it should be maintained in good condition.

9.3.11.3 Effective means of ventilation should be provided to all enclosed spaces that may be entered by persons on board. effective means of ventilation is to be provided to The number of changes of conditioned air in each compartment or space should be calculated by the builder or company supplying the plant having regard to the heat transfer into the space via the boundaries. Any assumptions about this aspect should be carefully recorded. Typically, the minimum number of changes should be a minimum of 6 per hour in work spaces.

9.3.12 TEMPERATURE OF WORKING AREAS

9.3.12.1 Reference should be made to MSN 1872 Section 6.1.8 and MSN 1873 Section 6.1.8. On vessels of less than 15m built to a Construction Standard these instructions are to be applied. Where vessels of less than 15m were not built to a construction standards, these instructions should be used as a guide to assess whether the vessel working areas are acceptable.

9.3.12.2 The temperature in working areas should be adequate for the human body during the hours of working, having regard to the work methods used, the physical demands placed on the crew and the actual or potential weather conditions in the area in which the vessel operates.

9.3.12.3 The temperature in living quarters, sanitary facilities and mess rooms should, where these areas exist, be appropriate to the particular purpose of such areas.

When the ambient temperature is minus 1 degree C or lower, the temperature in rooms must be capable of being maintained at 21 degree c.

9.3.13 NATURAL AND ARTIFICIAL LIGHTING OF WORKPLACES

9.3.13.1 Reference should be made to MSN 1872 Section 6.1.9 and MSN 1873 Section 6.1.9. There are no requirements for lighting of workplaces in MSN 1871. However vessels of less than 15m LOA built to a construction standard must have electric lighting system is to be provided and installed to the requirements of the Electrical Installations chapter of MGN 628 (or previous Construction Standards if built to an older standard) The lighting system must be capable of supplying adequate light to all enclosed accommodation spaces and, where possible, to working spaces. The requirements set out in this section should therefore be applied when inspecting these vessels. Where vessels of less than 15m were not built to a construction standards, these instructions should be used as a guide to assess whether the vessel working areas are acceptable

9.3.13.2 Workplaces should as far as possible receive sufficient natural light and be equipped with artificial lighting suitable for the operations in hand, without placing the crews safety and health in danger or jeopardising the navigation of own or other vessels.

9.3.13.3 Lighting installations in working areas, stairs, ladders and passageways should be placed in such a way that the type of lighting envisaged poses no risk of accident to the crew and no hindrance to the navigation of the vessel.

9.3.13.4 Workplaces in which the crew are especially exposed to risks in the event of failure of artificial lighting should be provided with emergency lighting of adequate intensity.

9.3.13.5 Emergency lighting should be maintained in an efficient operating condition and be tested at regular intervals.

9.3.13.6 When considering the number of lighting points, surveyors should seek to establish the placing and the type of shade fitted so that the luminance provided is well diffused and that glare and deep shadow are avoided so far as is practicable. In the case of incandescent lighting unshaded bulbs and/or clear glass shades should not be used, except in the case of pearl lamps of 60 watts or lower power or in the case of other lamps having a finish giving equal diffusion.

9.3.13.7 Individual lights should not in general exceed 100 watts having regard to any limitation indicated on the shade, although a higher figure may be accepted.

9.3.13.8 For lighting the ability to show that where possible natural light has been achieved should be demonstrated to the surveyor during daylight hours. However it is preferable that electric lighting tests be carried out during the hours of darkness but they may be carried out during daylight provided suitable screens are used over sidescuttles, windows and skylights to prevent the ingress of daylight. The

ability to comply should be demonstrated to the surveyor on completion by means of a direct reading light meter, the accuracy of which has been certified by a reliable authority.

9.3.13.9 Tests should be carried out using the ship's power and not shore supply. Results when taken should be prepared in tabular form by the builder or contractor and should contain the designation of the sample spaces tests, the wattage and number of lamps fitted, and the illuminance recorded during test.

9.3.14 WORKPLACE SOUNDPROOFING, INSULATION AND CLEANLINESS

9.3.14.1 Reference should be made to MSN 1871 Section 5.5 for cleanliness and MSN 1872 Section 6.1.10 and MSN 1873 Section 6.1.10. There are no requirements for soundproofing and insulation of workplaces in MSN 1871.

9.3.14.2 The owner should take appropriate measures to ensure that the vessel and all its fittings and equipment are cleaned regularly in order to maintain an appropriate standard of hygiene.

9.3.14.3 Workstations should be, as far as practicable, adequately soundproofed and insulated, bearing in mind the type of tasks involved and the physical activity of the crew.

9.3.14.4 The surfaces of decks, bulkheads and deckheads in working areas should be such that they can be cleaned and maintained.

9.3.15 DOORS

9.3.15.1 Reference should be made to MSN 1871, sections 2.7, 2.8 and 2.19, and Chapters 3 and 11 of MGN 628, MSN 1872 Section 6.1.11 and MSN 1873 Section 6.1.11. Where vessels of less than 15m were not built to a construction standards, these instructions should be used as a guide to assess whether the vessel doors are acceptable

9.3.15.2 Means should be provided so that doors can at all times be operated from the inside without special equipment.

9.3.15.3 Doors should be operable from either side when workplaces are in use.

9.3.15.4 Doors, and in particular, sliding doors, where such have to be used, should function as safely as possible for the crew, especially in adverse weather and sea conditions.

9.3.15.5 Watertight doors can inflict serious injury if their operation is not carried out correctly, therefore, all members of the crew who would have occasion to use any watertight doors should be instructed in their safe operation. Crew members who have not been instructed in their use should not under any circumstance operate them until such training has been given.

9.3.16 SECURING OF HEAVY EQUIPMENT

9.3.16.1 Reference should be made to MSN 1871 Section 6.12, MSN 1872 Section 6.2 and MSN 1873 Section 6.2.

9.3.16.2 Heavy items of equipment such as spare fishing gear, batteries, cooking appliances etc, should be securely fastened in place to prevent movement due to severe motions of the vessel. Surveyors should take into account 'securing for sea' by the vessel and crew when conducting underway drills.

9.3.16.3 Stowage lockers containing heavy items should have lids or doors with secure fastening.

9.3.17 MEDICAL CARE AND MEDICAL STORES

9.3.17.1 Reference should be made to MSN 1871 Section 6.13, MSN 1872 Section 6.3 and MSN 1873 Section 6.3 and MSN 1905 SHIPS' MEDICAL STORES: Application of the Merchant Shipping and Fishing Vessels (Medical Stores) Regulations 1995 (SI 1995/1802) and the Merchant Shipping and Fishing Vessels (Medical Stores) (Amendment) Regulations 1996 (SI 1996/2821).

9.3.17.2 The owner is therefore responsible for the cost of any medicine and medical equipment, including the periodic replacements in order to keep stocks of any required medicines in date and useable and for medical care of fishermen and under health and safety legislation, seafarers must be trained to carry out their onboard duties. The owner must also therefore ensure that the Master and any person in charge of medical treatment have the appropriate level of training to use the medical stores and equipment carried under Annex 1 of MSN 1905. This includes any additional training required to use additional items marked "RA" (for risk assessment) in Column 4C in Annex 1 of MSN 1905. The owner must also, as well as being responsible for providing care on board, where possible, allowing the seafarer to go ashore for treatment in needed and meeting any costs arising from medical care. If no evidence of appropriate training is provided: the absence of appropriate training may require restricted operating area: i.e. within A1 / 60 miles until the training has been received and an Improvement Notice should be issued.

9.3.17.3 A vessel should carry first aid equipment and medical stores (reference should be made to Merchant Shipping Notice MSN 1905 (M+F)).

9.3.17.4 The UK has implemented the requirements of Council Directive 92/29/EEC, this directive sets out the minimum standards for ships' medical stores, which has been enacted in the UK through the Merchant Shipping and Fishing Vessel (Medical Stores) Regulations 1995, as amended by the Merchant Shipping and Fishing Vessel (Medical Stores) (Amendment) Regulations 1996 S.I. 1996 No. 2821

9.3.17.5 The Regulations require that vessels carry medical stores appropriate to their area of operation;

- Category A - FVs with no limitation on length of trips. In practice this is or over 24m FVs working outside Europe;
- Category B - FVs making trips of less than 150 nautical miles from the nearest port with adequate medical equipment. This category is extended to FVs which make trips of less than 175 nautical miles from the nearest port that has adequate medical equipment and which remain continuously within range of helicopter rescue services. In practice this is for both over 24 and 15 – 24m FVs working outside 60 nautical miles from shore. This should include the entire Anglo Spanish Fleet working in European waters and any other FV working 'offshore';
- Category C - FVs staying very close to shore or with no cabin accommodation other than a wheelhouse. Lifeboats and life-rafts are also required to carry Category C stores. The UK interprets the phrase "very close to shore" as meaning that a vessel operating more than 60 nautical miles out to sea would not be operating very close to shore. Notwithstanding this interpretation, it is for owners and skippers, for the purpose of complying with the Regulations, to assess whether, in respect of voyages in which the vessel goes less than 60 nautical miles out to sea, the vessel is "very close to shore". In practice this is for under 15m FVs, and some 15 – 24m FVs where they work close to shore AND are the crew not onboard for extended periods. It should only apply to over 24m FVs where they are working in Categorised waters; e.g. Mussel Dredgers.

9.3.17.6 The owner of the vessel is responsible for the cost of any medicine and medical equipment, including the periodic replacements in order to keep stocks of any required medicines in date and immediately useable. In practice surveyors should either spot check supplies to see if regular replacements are obtained to keep stocks in date, or they can accept a certificate from a local chemist/ supplier.

9.3.17.7 FVs in all Categories should carry the following Medical reference books;

- Category A; Controlled Drugs Register, Ship Captain's Medical Guide;
- Category B; Ship Captain's Medical Guide; and
- Category C; First Aid Manual (St John's, Red Cross or St Andrew's or other acceptable book) Or First Aid Instructions, in vessel's working language.

9.3.18 WORKING TIME/ REST

9.3.18.1 Merchant Shipping Notice 1884 (F) contains the detailed mandatory requirements specified by the Fishing Vessels (Working Time: Sea-fishermen) Regulations 2004 as amended ("the Regulations").

9.3.18.2 Key points from the regulations are:

- apply to United Kingdom fishing vessels wherever they may be;
- entitle any fisherman to adequate rest, and the total hours of rest are to be not less than 10 hours in any 24 hour period and 77 hours for each seven days;
- a worker must take their daily rest in no more than 2 periods, one of which must be at least 6 hours;
- specify that a worker's working time shall not exceed 48 hours per seven day period averaged over 52 weeks;
- entitle a worker to a free, confidential health assessment before becoming a night worker and require an employer to move a night worker to other duties, where possible, if night working is causing problems with the worker's health;
- require a worker to be given reasonable rest breaks if the pattern of work puts a worker's health at risk, particularly if the work is monotonous;
- entitle a worker to paid annual leave of at least 5.6 weeks;
- permit exceptions to the limits on hours of rest for objective and technical reasons or reasons concerning the organisation of work; and
- permit a skipper to require a worker to work any hours of work in an emergency.

9.3.18.3 The Fishing Industry Code of Practice on Working Time Standards ("the Code of Practice") at Annex 1 to MSN 1884(F) constitutes an approved exception. Provided the conditions in the Code are met, an individual application for an exception need not be made. Individual exceptions in circumstances falling outside those in the Code may also be permitted, subject to authorisation by MCA.

9.3.18.4 Sufficient records must be kept to so that owners and skippers are able to show how they are meeting the Regulations (or the provisions of the Code of Practice), including through equivalent compensatory rest.

9.3.18.5 If there is a safety management system on board which shows how fishermen comply with Regulations or the Code of Practice, or a safe manning document supported by information on how compliance is achieved, or a schedule

demonstrating compliance, separate records are not required (MSN 1884(F) para 3.3.)

9.3.19 FATIGUE

9.3.19.1 Fatigue can affect all fishermen and vessels need to be aware of fatigue and the damaging effect it can place on a vessel. Surveyors should plan to talk to owners and skippers about fatigue when possible and be prepared to offer advice on how fatigue can be avoided. The discussion points below about avoiding fatigue may be of interest;

- Ensure that the vessel is suitably manned;
- Have a clear alcohol and drug policy which is observed;
- Skipper to plan in regular breaks and rotation of crew where practicable;
- Fit a watch alarm;
- Avoid computer gaming onboard;
- Ensure provision of good and healthy food; and
- Ensure sleeping accommodation is quiet and warm/ well ventilated.

9.3.20 DEAD SHIPS – CREW SLEEPING ONBOARD

9.3.20.1 Fishermen sleeping onboard FVs alongside can face unnecessary risks, particularly where safety systems, intended for use at sea, are inadequate for use when the vessel's own power generation systems were shut down ("dead ship").

9.3.20.2 ASSESSMENT OF RISKS

9.3.20.2.1 A properly structured assessment of risks to crew sleeping onboard a vessel that has been shut down overnight should be carried out and should consider, as a minimum:

- Security of moorings;
- Vessel emergencies such as fire and flooding;
- The possibility of a noxious atmosphere (i.e. carbon monoxide) developing;
- Medical casualties;
- Loss of stability;
- Response to actions of other vessels;
- Means of contacting rescue or other authorities in an emergency;
- Means of dealing with pollution; and

- Effects of extreme weather.

9.3.20.2.2 Many of these functions are, in larger ships, traditionally provided by personnel being on duty overnight. In smaller vessels this is not always practical and other means of achieving the same effect, which can attract the attention of sleeping crew, are needed. This should include a method of communication between the vessel and port authorities (such as a mobile telephone).

9.3.20.2.3 The Skipper/Owner should issue guidance and conduct a properly structured assessment of risks to crew sleeping onboard all vessels that are moored alongside and have been shut down overnight. Where such risks are identified appropriate procedures should be put in place to mitigate them.

9.3.20.2.4 The Skipper/Owner should ensure that all crew members know how to attract the attention of the emergency services (e.g. dial 999 or contact the harbour authority).

9.3.20.3 ALARMS

9.3.20.3.1 Reference should be made to MSN 1871 Sections 2.1.5, 4.5, 4.11, 5.8 and 6.8, MSN 1872 Sections 4.1.2, 4.3.3, 5.1.1, 5.2.1, 5.4.5, 5.6, 5.9.4 and 5.9.6 and MSN 1873 Sections 4.1.2, 4.1.5, 4.3.2, 4.3.3, 5.1.1, 5.1.4, 5.1.6, 5.4.5 and 5.5.7.

9.3.20.3.2 It is recommended that all vessels should have fire (smoke) and bilge alarms, and if appropriate, Carbon Monoxide alarms, fitted with at least two independent power sources. The alarm should be so fitted that it can be heard within the accommodation in areas where crew may be sleeping.

9.3.20.3.3 If the vessel is operating on shore power it should be ensured that any alarm systems will operate on that power or a backup system provided to ensure that the alarms will work.

9.3.20.3.4 It is strongly recommended that the alarm systems be capable of detecting, not only smoke and high bilge levels but noxious and flammable gases.

9.3.20.3.5 A means of setting off the alarm from outside the accommodation should be considered.

9.3.20.3.6 There should be a means for those onboard to contact the emergency services to raise the alarm, such as a mobile phone.

9.3.20.4 MEANS OF ESCAPE

9.3.20.4.1 Reference should be made to MSN 1871 Sections 2.9, 2.11 and 10.3, MSN 1872 Sections 5.7 and 10.1.4 and MSN 1873 Sections 5.3, 5.2 and 10.2.

9.3.20.4.2 MGN 628 and previous Seafish Construction Standards require on all vessels of 10m LOA and above, where practicable, emergency escape routes are to be provided from the wheelhouse and sleeping accommodation. In vessels 10m LOA

and over with an enclosed machinery space, at least two means of escape from the engine room should be provided, separated as far apart as practicable, except that, where the size of the machinery space renders this impracticable, one escape may be fitted, subject to approval.

9.3.20.4.3 In the case of vessels of less than 15m LOA built to a Construction Standard and fitted with an enclosed shelter, an additional access from within to the shelter top is to be fitted to facilitate escape in an emergency. The position of the escape is to be agreed with the Surveyor and dimensions are to be not less than 600mm x 600mm

9.3.20.4.4 All escape routes are required to be properly marked, kept free of obstructions and usable. Regular inspections by the Master, Skipper or designated crewmember and recorded in the logbook should ensure that this is carried out. Also the crew should be fully aware of and familiar with the escape routes.

9.3.20.4.5 When inspecting the means of escape the following should be considered:

- Are the escape routes clearly marked and well lit?
- Do all sleeping cabins have at least two separate means of escape to open deck?
- Is there a safe means of escape to shore?
- If a fire in one location could block the escape, is an alternative available?
- Are all doors and hatches in good working order and can they be easily opened, at least from the inside? and
- Are fire doors self-closing or kept closed (Note: unapproved holdbacks should be removed only electromagnetic holdbacks linked to the fire detection system are acceptable)?

9.3.20.5 SHORE POWER

9.3.20.5.1 Reference should be made to MSN 1872 Section 4.2.11 and MSN 1873 Section 4.2.13. Although there are no requirements for shore power in MSN1871, these instructions should be used as guidance if such vessels are using shore power.

9.3.20.5.2 When the vessel is operating on shore power the following should be considered:

- Are any safety systems (e.g. fire/gas detection) not working and are there alternatives?
- If the vessel is relying on shore power for basic safety systems, is it safely installed with appropriate circuit breakers and sufficient for the necessary services all working together for safety, such as fire pumps and fire and gas

detection systems as well as any additional loads for domestic services, such as heating, lighting and ventilation?

- Is it reliable?
- If the shore power fails when the crew are asleep will they know?
- Can the live aboard crew change over onto ship's power?
- If the crew are having problems contacting the relevant harbour authority about any of the above points or have concerns over their ability to evacuate or reach their vessel this should be discussed with that authority.

9.3.20.6 FIRE PRECAUTIONS

9.3.20.6.1 The following points should be considered when assessing the risk of fire:

- If heaters are provided are they safe?
- Wherever possible LPG and diesel open flame or catalytic heaters should be avoided. If these are permitted and installed is the installation in compliance with MGN 312 (storage of gas and mechanical ventilation)?
- Have heaters been regularly serviced?
- Are gas and carbon monoxide detectors provided?
- Are other heaters clearly away from combustible materials?
- Is the ventilation working (a check should be made to ensure that the crew have not tried to block them up)?
- Are fire dampers including external ventilation flaps in working order?
- Are unapproved cooking or heating appliances being used (e.g. some crew have been found cooking with portable gas cookers in their cabins)?
- Free standing heaters should not be used.
- Are all electric appliances safe, with correct wiring, fuses (e.g. radios, TV's, toasters, kettles, phone chargers etc.)?
- Have the crew been familiarised with these basic safety precautions, including their escape routes and safety systems?
- Are fire extinguishers available, serviced and ready for immediate use?
- Have the crew been instructed in how to start a fire pump

9.3.21 PFDs/ LIFELINES

9.3.21.1 Reference should be made to MSN 1871 Section 6.4, MSN 1872 Section 6.1.1 and MSN 1873 Section 6.1.1 and MGN 588 power.

9.3.21.2 PFDs or Safety Harnesses/Lifelines must be worn when working on open decks if the risk of going overboard cannot be eliminated. The measures to eliminate or mitigate the risk must be documented in a written risk assessment. This can be enforced under the General Duty in the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 as amended. (See MGN 588(F))

9.3.21.3 PERFORMANCE LEVELS OF PFDS

9.3.21.3.1 Lifejackets for seagoing ships in accordance with ISO 12402-1 are intended primarily for use on seagoing ships under IMO rules.

9.3.21.3.2 PFD, performance level 275, in accordance with ISO 12402-2 are intended primarily for offshore use and by people of significant weight or who are using items of significant weight and thus require additional buoyancy. They are also of value to those who are using clothing which traps air and which will adversely affect the self-righting capacity of the lifejacket. They are designed to ensure that the user is floating with their mouth and nose clear of the surface at an angle and with sufficient freeboard to limit mouth immersions in waves.

Note: when fitted with emergency light and whistle can be counted as abandon ship lifejacket required by MSN 1871 The Code of Practice for the Safety of Small Fishing Vessels of less than 15m Length Overall, or any superseding document.

9.3.21.3.3 PFD, performance level 150, in accordance with ISO 12402-3 are intended for general offshore and rough weather use where a high standard of performance is required. As tested, they will turn an unconscious person in swimming attire into a safe position. Additionally, they should maintain a fully clothed person in a safe position with no subsequent action by the user.

9.3.21.4 MINIMUM ACCEPTED PERFORMANCE LEVEL FOR INFLATABLE PFDS ON FISHING VESSELS

9.3.21.4.1 The performance level for an automatically operating PFD or automatically inflated PFD on a fishing vessel is 150N.

9.3.21.4.2 PFDs which require a secondary donning action and/or additional positioning are not acceptable given that the critical cold shock period occurs immediately on entering the water.

9.3.21.4.3 PFDs must always be worn in accordance with Manufacturer instructions. For example, where the PFD requires it to be fitted with a crotch strap to meet the requirements of safe wear, ensure that:

a) The crotch strap is in place and is in good condition;

b) The crotch strap is not tied up with tape, tie wraps or any other means which would indicate it is not being used;

c) The crotch strap is used whilst wearing the PFD;

d) correct adjustment/fitting to suit the wearer is essential, every time the PFD is donned (especially if the PFD is used by other crew members).

9.3.21.5 OTHER TYPES OF PPE

9.3.21.5.1 MSNs 1871, 1872 and 1873 also states that a wearable buoyancy device of at least 50N that provides buoyancy in the water can be accepted on the basis of a risk assessment. The fishing vessel owner should familiarise themselves with the capabilities of PPE, and its limitations and select equipment appropriate to the risk. The risk review and reasons as to why a wearable buoyancy device of at least 50N provides equivalent levels of safety to the wearing of an inflatable PFD must be documented in the Risk Assessment. For single handed operations a minimum of 150 Newtons would be strongly recommended. It will be stressed that wearers of PFDs of less than 150 Newtons will need to be aware that these devices may not turn an unconscious user the right way up.

9.3.21.5.2 As an alternative to PFDs vessels may use lifelines providing these allow free access throughout the working decks.

9.3.22 REFRIGERATING GASES

9.3.22.1 Reference should be made to MSN 1871 Section 4.7, MSN 1872 Section 4.2.15 and MSN 1873 Section 4.1.20.

9.3.22.2 The earliest compounds to be used as a refrigerant. Its use was curtailed with the development and widespread adoption of CFCs and HCFCs, however today CFC's have been phased out and HCFC's are being phased out. The use of ammonia is once again expanding. Ammonia (R717, NH3) is lighter than air and is flammable in very high mixing ratios with air. Ammonia is highly soluble in water. Ammonia is a toxic gas, which forms a flammable mixture with air in the range from 16 to 25 %. A very high ignition energy is then required to start a fire.

9.3.22.3 Refrigerating plants shall be of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to reduce to a minimum any danger to persons on board. Refrigerant detection sensors, compatible with the refrigerant being used, shall be fitted.

9.3.22.4 Ammonia refrigerating plants, shall comply with all other provisions contained in the following:

- Monitoring and operation of ammonia plant is crucial for the safety of the plant and crew onboard. Engineers in charge of such plant shall be suitably qualified and trained in the safe use of ammonia;
- The refrigerating machinery compartment and the compartments where ammonia bottles are stored are to be separated by gastight bulkheads from the accommodation spaces, the engine room (including the shaft tunnel) and other machinery spaces intended for essential services;
- Normal ventilation shall be in a minimum of 8 air changes per hour. The lower edge of the intake ventilation opening shall be as low as possible. Exhaust ventilation openings shall be located a sufficient distance from intake openings to prevent recirculation of the space. see 5.4.5.4 of MSN 1873.
- The space is to be arranged with an emergency ventilation system, activated by a detector(s) as specified in section 4.1.17.4 (xv) of MSN 1873, distinct from that of other spaces, having a capacity of at least 30 changes per hour. Provision is to be made for starting and stopping the emergency ventilation fans from outside the refrigerated space It shall be possible to start the emergency ventilation system from two places outside the refrigeration machinery room, one of which shall be in the vicinity of the door to the refrigeration machinery room and the other shall be located at a safe distance from this room;
- The ventilation exits from these spaces shall be placed as far as possible from the air intakes of the vessel;
- A fire extinguishing water spray system, as set out in 4.1.17.4 v(a) is to be:

  a) [see 4.1.17.5(ii) of MSN 1873 re “a water spray system”] a drencher water spray system, which may be fitted near where gas leaks may occur and shall be operable from the vicinity of the entrances to the refrigeration machinery room.

  b) a fine water spray curtain effective in reducing the spread of ammonia gas which is to be provided in way of the access doors. The actuating device is to be fitted close to the entrances outside the protected space;

Care should be taken so that water does not come into contact with a pool of liquid ammonia because this would cause a large increase in the evolution of gaseous ammonia resulting in increased risk of injury to persons in the vicinity.

- At least two access doors are to be provided. One of these doors is to be used for emergency and is to lead directly to an open space. The doors are to open outwards and are to be self-closing;
- Where the access to a refrigerating machinery space is through an accommodation or machinery space, the ventilation of the former is to be such as to keep it under negative pressure with respect to the adjacent space, or, alternatively, the access is to be provided with an air lock;
- An independent bilge system is to be provided for the refrigerating machinery space, for new vessels and if practicable on existing vessels;
- All electrical equipment and apparatus in the space is to be arranged such that it may be shut off by a central switch located outside the space. This switch is not to control the ventilation system;
- The electrical equipment and apparatus in the space is to comply with the requirements for electrical installations in dangerous areas;
- Ammonia piping is not to pass through accommodation space;

9.3.22.5 When installation of ammonia Refrigerating Plant is allowed in the machinery space in the area where ammonia machinery is installed is to be served by a hood with a negative pressure ventilation system, having a capacity of not less than 30 changes per hour, independent from any other ship ventilation system, so as to prevent any leakage of ammonia from dissipating into other areas;

- The periphery of the hood is to be fitted with a drenching water system operable locally and from the outside of the machinery space; and
- Where the refrigerating machinery spaces are not permanently attended, a gas detection system with an audible and visual alarm is to be arranged in the bridge. This system is also to stop the compressor when a flammable gas concentration is reached.

9.3.22.6 Detection systems and alarms shall meet the following requirements:

- BS EN 378:2016 Part 3, Section 9.3.3 states that for control purposes where the charge size is more than 50 kg, an R717 detector(s) is required which shall function at a concentration not exceeding:
- 350mg/m3 (500ppm (V/V) or equivalent to 0.33% LEL) in machinery rooms (pre-alarm) that shall activate an alarm and automatically start the emergency ventilation;

- 21,200mg/m3 (30,000ppm (V/V) or equivalent to 20.00% LEL) (main alarm) that shall isolate all electrical equipment that is not specified for use in a Zone 2 hazardous area.

However, it is practical and considered best practice to activate the pre-alarm at the lowest level that does not result in too many false alarms and the main alarm at a level no greater than 7,067mg/m3 (10,000ppm (V/V) or equivalent to 6.67% LEL).

Recommended minimum settings are:

- shall sound a visual and acoustic alarm inside and outside the room in case of an ammonia concentration of 200 ppm; and
- shall sound a visual and acoustic alarm inside and outside the room and stop the system in case of an ammonia concentration of or above 800 ppm.

Acoustic and visual alarms shall be marked “gas alarm” and be different from other alarms in the ship. The gas alarm system shall be supplied from both the ship’s main and emergency source of energy.

9.3.22.7 Emergency showers and eye rinsing bottles shall be located at the entrance to the ammonia refrigeration machinery room. Adequate eye wash bottles and/or warm water showers should be available in all locations where ammonia is handled, because liquid ammonia splashes on the skin can cause chemical or frost burns and even slight splashes in the eyes may cause permanent damage. BS EN 378-3:2016 recommends that at least 1 litre per second of water between 25°C and 30°C be provided for a minimum duration of 15 minutes. Cold mains water should not be used as this may result in circulatory shock (low blood perfusion). Such facilities should be regularly inspected, and eye wash solutions changed in accordance with the manufacturer’s instructions.

9.3.22.8 In accordance with 4.1.17.8 of MSN 1873, Information concerning hazards, precautions and first aid should be clearly displayed at the access to the ammonia machinery space and doors leading to the refrigeration machinery room shall be fitted with warning signs indicating the type and filling quantity of the refrigerant. On the doors or in the immediate vicinity of doors to the refrigeration machinery room, warning signs shall furthermore be fitted indicating the health risk of the refrigerant and the symptoms of having inhaled it. In addition, the refrigeration machinery room shall contain a diagram of the entire refrigeration system.

9.3.22.9 See also 4.1.17.7 of MSN 1873, at least two sets of protective clothing fully resistant to the chemical effects of ammonia shall be provided in addition to the fire-fighter’s outfits required on board the ship. The protective clothing shall cover all skin so that no part of the body is unprotected when it is worn. Gas-tight chemical protective clothing is to conform to BS EN 943 part 2; thermal-resistant

gloves should be worn such as those conforming to BS EN 511:2006 or BS EN 407:2004.

9.3.22.10 Further detail on the use of Ammonia is in MSIS 27, Chapter 4, Section 4.14.5.

References:

1. Major Hazard Control: A Practical Manual; By International Labour Organisation, International Labour Office
2. PM81 – Safe management of ammonia refrigeration systems
3. Technical regulation no. 2 of 13 March 2008 issued by the Danish Maritime Authority; Technical regulation on ammonia refrigeration plants in ships
4. BS EN 378:2016 Parts 1 to 4.
5. PHE publications gateway number: 2014790 Ammonia Incident Management.
6. Code of Safety for Fishermen and Fishing Vessels 2005 Part A Annex Appendix 11 and part B Annex 4.

9.3.23 CARBON MONOXIDE

9.3.23.1 Reference should be made to MSN 1871 Section 6.8, MSN 1872 Section 5.9.4 and MSN 1873 Section 5.4.5.

9.3.23.2 Carbon Monoxide Alarms should be installed in every enclosed space that contains a fired cooking or heating appliance. Fired appliances apply to but may not be limited to appliances fired by LPG, diesel or paraffin. CO Alarms are not required when heating or cooking is undertaken using electrical cookers or heaters.

9.3.23.3 CO Alarms should be of the Lithium Battery type and installed, regularly tested, maintained and replaced in accordance with the manufacturer's guidance.

9.3.23.4 Signs of CO include:

- staining, sooty smears or discolouration of surfaces around an appliance or its flue;
- appliances that are difficult to light, keep lit or burn weakly;
- burners with yellow or orange or "floppy" flames that threaten to go out;
- an unfamiliar or burning smell when an LPG or oil appliance is on;
- smelling engine exhaust fumes regularly inside the space.[1]

9.3.23.5 Carbon Monoxide Alarms are a useful back-up precaution but must NOT be regarded as a substitute for proper installation and maintenance of gas equipment by a suitably qualified Gas and/or Marine Engineer (guidance may be found in BS EN (ISO) 10239) ~~Gas Safe registered engineer~~. If the skipper decides to buy a

[1] Source: Boat Safety Scheme and CoGDEM

carbon monoxide alarm, ensure it meets current safety standards (BS EN 50291) and carries the Kitemark.

9.3.24 COOKING AND HEATING APPLIANCES

9.3.24.1 Reference should be made to MSN 1871 Section 5.6, MSN 1872 Section 5.9 and MSN 1873 Section 5.4.

9.3.24.2 Appliances that are purchased should meet the latest standards and be suitable for use on boats and be installed and serviced regularly (at least annually) by a suitably qualified Gas and/or Marine Engineer (guidance may be found in BS EN (ISO) 10239) ~~qualified persons~~. Repairs should only be undertaken using proprietary components. Vents and flues should be checked for damage and blockages.

9.2.25 GAS APPLIANCES – FURTHER INFORMATION FOR SURVEYORS AND FISHERMEN

9.2.25.1 Further information for your own use and to which fishermen can be directed is on the HSE Website at

http://www.hse.gov.uk/pubns/indg238.pdf.

Other publications can be found on the Northern Ireland HSE Website http://www.hseni.gov.uk/co_detector_advice.pdf and on the Boat Safety Website http://www.boatsafetyscheme.org/media/180329/carbon-monoxide-safety-on-boats-june14.pdf

ANNEX 1 WORKING GEAR AND PROTECTIVE GEAR – UNDER 24M

Annex 1- For Crew of Smaller Fishing Vessels (Under 24 metres Registered Length)
A Guide to Personal Working Gear and Protective Gear for Fishermen – Basic Checklist to Protect Against Injury *

		WORKING GEAR				PROTECTIVE GEAR							SPECIALIST PROTECTION	
ACTIVITY	LOCATION	Oilskins *(and partial)*	Boiler Suit	Work Boots	Gloves	Hard Hat	Ear Protection	Safety line/ Harness	Lifejacket/ Buoyancy Equipment	Safety Goggles	Rubber gloves/ Apron	Insulated Jacket & trousers	Breathing Apparatus	Oxygen Meter
Fishing Watch	Working deck	●	●	■	●	■			■					
Any	Engine Room		■	■	●	●	■							
Any	Aloft	●	●	■	■	■		●						
Any	Outboard	●		■	■	●		●	■					
Grinding & cutting	Engine Room		■	■	■	●	●			■				
Grinding & cutting	Working deck		■	■	■	●				■				
Exposed work Including Shooting and hauling	Working deck	■		■	■	■		●	■					
Mooring	Working deck			■	■	■			■					
Stowage/ handling	Fish Room			■	■									
Stowage	Refrigerated Fish Room			■	■	●						■		
Battery maintenance	Engine Room		■	■			●			■	■			
Battery maintenance	Wheelhouse		■	■		●				■	■			
Loading/un-loading Fish Boxes & lifting Gear	Working deck			■	■	■								
Any	Enclosed space			■									■	■
Vessel maintenance	Inside Outside			■ ■	■ ■	■			● ●	● ●				

Example

* You may find this checklist helpful in considering what you need to do to protect against injury in hazardous situations. It may also help you to comply with regulations. MSN 1731 (M+ F) identifies a fuller range of work activities, the PPE required and sets out the standards required for those items of protective clothing.

■ means a high priority item/essential
● means a priority dependant upon the local circumstances and the location

ANNEX 2 WORKING AND PROTECTIVE GEAR – 24M AND OVER

Annex 2 – For Crew of Larger Fishing Vessels (24 metres Registered Length and Over)
A Guide to Personal Working Gear and Protective Gear for Fishermen – Basic Checklist to Protect Against Injury *

		WORKING GEAR				PROTECTIVE GEAR							SPECIALIST PROTECTION	
ACTIVITY	LOCATION	Oilskins *(and partial)*	Boiler Suit	Work Boots	Gloves	Hard Hat	Ear Protection	Safety line/ Harness	Lifejacket/ Buoyancy Equipment	Safety Goggles	Rubber gloves/ Apron	Insulated Jacket & trousers	Breathing Apparatus	Oxygen Meter
Fishing Watch	Working deck	●	●	■	●	■			●					
Any	Engine Room		■	■	■	†	■							
Any	Aloft	●		■	■	■		●						
Any	Outboard	●		■	■	■		●	●					
Grinding & cutting	Engine Room		■	■	■	†	■			■				
Grinding & cutting	Working deck			■	■	■	●			■				
Exposed work Including Shooting and hauling	Working deck	●		■	■	■			●					
Mooring	Working deck		●	■	■	■								
Stowage/ handling	Fish Room			■	■									
Stowage	Refrigerated Fish Room	●		■	■							■		
Battery maintenance	Engine Room		■	■		†	■			■	■			
Battery maintenance	Wheelhouse		●	■		●				■	■			
Loading/un-loading Fish Boxes & lifting Gear	Working deck	●	●	■	■	■								
Any	Enclosed space		●	■	●	●				●			■	■
Vessel maintenance	Inside Outside			■ ■	■ ■	■				● ●				

Example

* You may find this checklist helpful in considering what you need to do to protect against injury in hazardous situations. It may also help you to comply with regulations. MSN 1731 (M+ F) identifies a fuller range of work activities, the PPE required and sets out the standards required for those items of protective clothing.

■ means a high priority item/essential
● means a priority dependant upon the local circumstances and the location
† means, "or a bump cap" as a high priority /essential

ANNEX 3(A) PUWER

Use the comments box to record any repairs or other rectification measures taken.

Work Equipment	LOLER (Time between checks in months)	PUWER (Time between checks in months)	Date Inspected	Pass or Fail (Indicate with a tick or cross)	Comments
Trawl Winch PORT					
Trawl Winch STBD					
Gilson Winch PORT					
Gilson Winch STBD					
Landing Winch PORT					
Landing Winch STBD					
Net Drum/s					
Pot/Line Hauler					
Emergency Stop Facilities Identify Locations Port/Stbd					
Hydraulic Isolation Valves					
Electrics					
Protective Guards on Machinery					
Lifting Equipment in Engine Room Gantry Crane Chain Blocks etc					
Fish Room Ladders					

Factory deck Equipment Gutting Machines etc					

ANNEX 3(B) LOLER

Delete items which are not applicable. Additions can be made as applicable

Work Equipment	LOLER (Time between checks in months)	Date Inspected	Pass or Fail ('Indicate with a tick or cross)	Comments
Gantry				
Goal Posts				
Lifting Boom PORT				
Lifting Boom STBD				
Landing Derrick PORT				
Landing Derrick STBD				
Topping Lift				
Cod End Lifting Gantry				
Hanging Blocks PORT				
Hanging Blocks STBD				
Loose Lifting Equipment Wire Strops Nylon Strops Chains Hooks				

ANNEX 4 – GUIDANCE ON RISK ASSESSMENT FOR POTTING

Hazard / Activity	Risk	Risk outcomes	Suggested controls to put in place	Revised Risk outcome
Picking up the buoy rope buff / wash ball / dhan	i. Falling overboard	**High**	Use a gaff or boat hook Use a small grapple Wear a PFD with PLB Install a means on getting back aboard	**Medium**
Hauling	i. Trapping of fingers / hands/clothing in the winch; ii. Getting hit by a pot	**High**	Keep winch controls at hand Identify and mark-out out a 'safe zone' (a safe place to stand) when hauling Control the speed of hauling operation	**Medium**
Coming fast	Falling into the water leading to hypothermia or drowning; Sudden freeing iii. Capsize / loss of stability	**High**	Keep hands and feet clear of backrope Keep a knife nearby Consider buffing off and retrieving another day with help or another local vessel Wear a PFD with PLB Install a means on getting back aboard	**Medium**
Shooting	Becoming entangled with gear and pulled Shift in gear causing accident /	**High**	Keep hands and feet clear of backrope at all times Establish a marked 'safe zone' of where to stand when shooting and do not leave it until gear is shot away or, in the event of a foul-up the vessel is stationary Do not try and shift a pot blocked in the stern door while the vessel is moving	**Medium**

			Keep a knife nearby Consider the size of pots relative to size of stern door Consider a means of segregating back ropes and buoy ropes Wear a PFD with PLB Install a means on getting back aboard Consider means of improving the safety of the shooting operation through discussion with crew or other fishers Installation of CCTV Engine cut-off device for single handed vessels	

DOCUMENT AMENDMENT HISTORY

Version Number	Status / Change	Date	Author Reviewer	Content Approver	Next Review Date/Expiry Date
11.19	• Update to reflect ILO188 requirements	11/2019	D Fenner	G Stone	01/11/21
09.21	• Update to Reflect MSN 1871 Amendment No.2 • Updates to referenced MGNs and Sis • Updates to Medical Care and Medical Stores section • Updates to PFDs/Lifelines section • Updates to Annex 3	31/08/21	D Fenner	G Stone	01/09/23
04.22	• Amendments to text to clarify suitably qualified personnel • Amendment to numbering	09/03/2022	D Fenner	G Stone	01/09/25