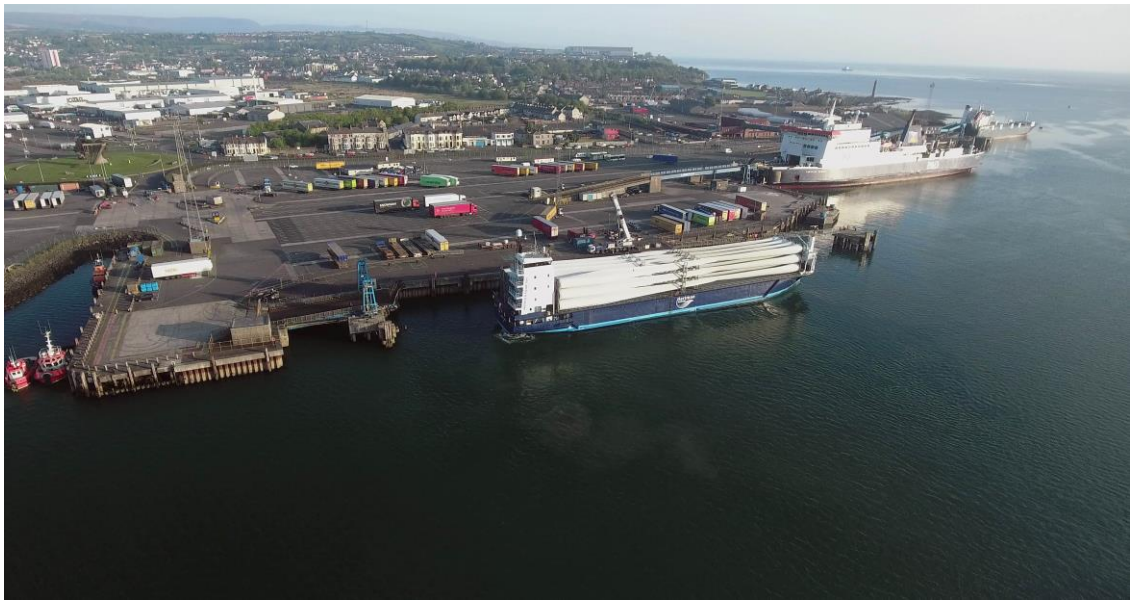
LARNE
PORT



Larne Harbour Limited

MARINE SERVICES MANUAL

ISSUE 5: November 2021

CONTROLLED DOCUMENT
WHEN IN RED

Document Control

Document Name:	**Larne Port** **Marine Services Manual**
Issue Number:	Issue 5
Issue Date:	**November 2021**
Copy Holder:	Harbour Master
Copy Number:	**Network**
Signed (Document Owner):	

This document comprises 3 Sections, plus Appendices, each of which may be updated independently. To allow updating of the document in an efficient manner, each section has been allocated its own Issue number and Issue Date. The document Status Section contains an overall summary of the current version of this document.

Major revisions to the document are identified by updating the document Issue Number (e.g., 1, 2, 3, etc.).

Modifications to individual Sections are identified by adding an Amendment Number to the Issue Number of the Section (e.g., Issue 1 Amdt 1, Issue 1 Amdt 2, Issue 1 Amdt 3, etc.).

Document Distribution

Document Owner :	**HARBOUR MASTER**

The Document Owner shall:

- Allocate & Distribute copies of this document to all relevant persons

- Maintain a distribution list of copy holders
- Distribute all future updates / amendments to copy holders

- Maintain a list to indicate receipt of Document and that all updates / amendments have been inserted and any superseded pages have been removed by each copy holder

- Encourage feedback on contents of Document - (No matter how apparently trivial, errors and inconsistencies should be reported back to the Document Owner - where practicable, these will be eliminated at the next review)

The current Distribution List is:

Copy No.	Holder	Location
1	Harbour Master	Sharepoint (HM)
2	General Manager	Sharepoint (Larne Port)
3	Larne Port Control	Sharepoint (Larne Port)
4	HSE Manager	Sharepoint (Larne Port)
4	J McLoughlin & Son Shipping	Larne
5	David Ferran and Sons	Belfast
6	SMS Towage	Belfast
6	Belfast Lough Pilotage Services Ltd	Belfast
7	MV European Highlander	P&O Irish Sea, Larne Harbour
8	MV European Causeway	P&O Irish Sea, Larne Harbour
9	Head of Safety/DPA	P&O Ferries, Dover

Document Status

Issue No.	Issue 5	Issue Date :	November 2021

The table below identifies the current issue of each Section:

Section	Title	Issue No.	Issue Date
1	Towage Guidelines	Issue 5	November 2021
2	Workboat, Pilot Vessel and Small Passenger Vessel operations Procedures	Issue 5	November 2021
3	Mooring Operations	Issue 5	November 2021

If any of the sections in your copy of the Marine Safety Management System do not match the above status please contact the Document Owner who will supply the correct pages.

Issue/Amdt No. _____ has been inserted, and the status of existing pages

Checked by: _____ **Date:** _____

A new “Document Status” sheet will accompany each Issue / Amendment

All “Document Status” sheets are to be kept together, with the latest sheet uppermost, so that a full history of the document is available

1.0 Towage

1.1 Factors considered in developing the Towage Guidelines
1.2 Towage Guidelines
1.3 Ship Towage Operations Compliance of tug vessels operating at Larne
1.4 Hazman Risk Assessments
1.5 Towage procedures for vessels requiring towage
1.6 Tug Information on Bollard Pull and SWL

2.0 Workboat, pilot vessel and small passenger vessel operational procedures

2.1 Introduction
2.2 Compliance procedure
2.3 Inspection criteria for workboats to meet the requirements as being 'Fit for Purpose
2.4 Inspection criteria for small passenger vessels within categorised water of Larne Lough, to meet the requirements as being 'Fit for Purpose'.
2.5 Inspection checklists and working documents
2.6 Geographical limits to which 'Fit for Purpose' approval is valid.
2.7 Sample of 'Certificate of Fit for Purpose'.
2.8 Protection of the marine environment
2.9 Reporting on Marine Services; Workboats and other craft operating in Larne Port

3.0 Mooring operations

3.1 Introduction
3.2 General Safety rules for Linesmen
3.3 Mooring operation
3.4 Unmooring operation
3.5 Signals and warnings
3.6 Implementing and maintaining a safety culture
3.7 Appendices

Appendix 1: Larne Port Risks Assessments
Appendix 2: Man in the water procedures
Appendix 3: Winch operations procedures
Appendix 4: Continental quay storm mooring Disused – July 2020
Appendix 5: Larne Port Safety induction Checklist
Appendix 6: Larne Port Mooring Assessment Form
Appendix 7: Dangerous Weighted Heaving Lines reporting
Appendix 8: Wind procedure for vessels entering or departing Larne Port

1.0 Towage

Larne Port has consulted with representatives from Belfast Lough Pilots Ltd, PEC holders at the port, and tug operators who all collaborated and agreed in the development of these towage guidelines. The Towage Guidelines are to be used by all operators when manoeuvring within Larne Port Limits.

1.1 Factors considered in developing the Towage Guidelines

A Navigational Risk Assessment (NRA) of marine operations was first carried out by Marico Marine between in March 2001, the most recent NRA being undertaken in July 21 by ABPMer Consultants. The Risk Assessments comprised of data gathering including a structured Hazard Identification consultation from which hazards in relation to Navigation within the port were considered in terms of -

- The geography of the port and its approaches i.e. Larne's navigational complexity.
- Difficulties associated with particular berths at Larne and Ballylumford (now disused).
- Prevailing tidal stream and weather factors
- Size, type and manoeuvrability of ships using the port.
- Whether movement of ships in and out of the port can be expedited by use of tugs.

From the current list of hazards (18), 12 hazards were identified as using tugs and workboats in some operational format as a Risk Control measure.

The Harbour Authority has adopted the review process of the risk assessments within the Hazman System, carrying out formal reviews at suitable intervals. All final decisions about risk control methods will take into account relevant legislation, minimum standards, human factors, tug technology and in the view of experience.

No port is the same and tug requirements differ by port. Assessing how much tug power is needed to handle ships safely is an important part of the port authority's role, particularly for high windage ships, such as the ro-ro ferries, cruise ships, non-routine towage events and deep draught ships.

A risk assessment should be carried out of any situation that has the potential to require the use of tugs taking into account the locally available marine experience of masters, pilots and the harbour master's team to produce a more realistic and economical tug use. In this context the greater the relevant experience the better the results will be.

Tugs should be suitable for the size of the ship; to this end small ships should preferably be handled by small tugs. The smooth and gentle handling of small ships is more difficult with powerful tugs and the bollards and fairleads of small ships are not strong enough for the forces that can be delivered by a powerful tug.

To assess how strong the tug should be or how much tug power is needed, two components should be considered.

- The dimensions of the vessel and it's manoeuvring characteristics and equipment
- The external forces that are likely to be encountered as a result of wind and tidal currents.

A distinction should be made between the required tug power or bollard pull for:-

- Handling ships that regularly visit the port
- Handling specific vessels that visit the port on a specific occasion

1.2 Towage Guidelines

The Harbour Master has the power under Section 13 (2) of Larne Harbour Order (Northern Ireland) 1998, “so far as required for safety of navigation, for requiring or regulating the use of tugs in relation to a vessel”.

It should be noted however that any vessel’s operation that requires to work with tugs within the harbour shall not take place if the prevailing visibility is less than 1000m. All such operations are subject to the Master and Pilot being satisfied that it is safe to undertake the proposed operation having assessed the vessel’s manoeuvring capabilities, navigation systems, crew competence and familiarity in relation to any additional risk posed by the restricted visibility.

The use of tugs will be determined by the following guidelines:

1.2.1 Number of Tugs

There is no set number of tugs required for a particular ship operation. This decision will be made by the Master and Pilot in consultation, however the following may be used as a guide for berthing: -

Under 120m in length, assuming working bow thruster - none, unless special circumstances dictate differently

Up to 20,000 dwt: 1 or 2 tugs, at the pilot’s and master’s discretion.
Over 20,000 dwt 2 or 3 tugs.

The above numbers may be varied at the pilot’s discretion, depending on weather, tidal state, known ships limitations or special propulsion and manoeuvring systems (i.e. twin screws, thrusters, high-lift rudders, etc).

The numbers of tugs required for un-berthing shall be based on the number required for berthing but may be reduced at the pilot’s discretion.

Tugs should be ordered via Larne Port Control. Wherever possible, small tugs (<10T) should be requested at least 1 hour in advance; tugs from Belfast require 24 hrs notice, as well as consideration of the impact of forecasted weather/sea conditions on the passage.

However, in all cases, tankers, with the exception of bunker tankers, and vessels carrying hazardous goods in bulk must have at least one tug in attendance if under 20,000 dwt or two tugs if over 20,000 dwt. The towage requirements of any Bunker tankers will be subject to specific assessment, as part of the trialling and approval process undertaken by the Harbour Master, prior to the introduction and operation of a bunker tanker at the port.

Bulk cargo ships, cruise ships and tug and tow operations - the Pilot will assess the requirement for tug assistance based on the length, draft and manoeuvring characteristics of the vessel, in addition the existing prevailing circumstances when manoeuvring at the port. These circumstances include but are not limited to wind strength and direction, tidal state and current flow, traffic density, and the condition of the vessel’s main engines, bow thrusters and steering.

The Harbour Authority can give an appropriate special direction to mitigate risk likely to arise in instances where the guidelines are ignored or where a vessel’s Master or pilot decline to take the recommended number of tugs. The question of whether some ships can be handled without tugs or with a minimum of tug assistance will be answered by a desk study taking account of:

- Port particulars
- Environmental conditions

- Particulars of the ship to be expected
- Availability and experience of ship's captain or pilot
- Appropriate qualified tug crew

In all cases, tugs should be strong enough to handle the ships in the port safely and efficiently, even under unfavourable conditions of wind and current. The port operates shipping movement regarding maximum wind speeds and visibility. In wave conditions, the tug effectiveness decreases as the tug master will vary the towing power in order to avoid high dynamic forces in the towline which results in a less effective tug assistance. Section 1.6 provides information on tug power and bollard pull for those tugs generally engaged at Larne.

The Larne Port policy on use of ship's towing gear is to be followed by every Master of a vessel and will form an important part of the 'Master/Pilot' Information Exchange on every occasion a ship embarks a Pilot for a navigation passage, which should include the following:

- It is to be agreed between Masters, Pilot and tug crew, the position where the ship will meet the tug/s (see also 1.5.1), their numbers and disposition, as well as the maximum swell height and ship's speed through the water, if and when making it/them fast, but not generally expected to occur when wave heights exceed 1.0m or if the ship's speed is in excess of 6 knots to avoid dangerous interaction between ship and tug(s), albeit Masters/pilots should always ensure their vessel retains sufficient speed through the water to maintain sufficient steerage and control.
- The swinging requirements/procedures, berth location, side alongside and mooring arrangements to be agreed between Masters, Pilot and tug crew.
- In agreeing towing gear arrangements, it is Larne Port's policy that ship's mooring lines should not be used for towing operations except in an emergency, or where a proper risk assessment is carried out. Where such use is authorised, extreme caution should be taken to ensure the size and condition of the line is suitable and duly certified.
- The Master, Pilot and tug crew to agree on procedure by which ship's crew deliver the heaving line, it must be suitable and not to be weighted.
- The Master, Pilot and tug crew to agree on procedure by which ship's crew will release the towing line to ensure it will not foul either the tug's or ship's propulsion system or endanger personnel.
- The Master, Pilot and tug crew to establish SWL of ship's bitts and fairleads that are to be used in the towage operation to ensure the bollard pull of the tug employed does not exceed their SWL. If this is the case then the tug master should be informed and reduced towage forces employed.

1.2.2 Regular Ro-Ro Ferries

Ferries which are appropriately equipped with good manoeuvring equipment can be handled in Larne without tug assistance, except in very adverse conditions. Whilst the ferry's Master has primary responsibility for ordering sufficient and suitable tugs according to his own evaluation and assessment, it is a requirement that the Harbour Master, particularly in the case of ferries that regularly use the port, is involved in the setting of parameters under which tugs will be more generally engaged. (See Section 2.3 in Appendix 8)

In day to day operation, the Master will assess the requirement for tug assistance based on the existing prevailing circumstances when manoeuvring at the port. These circumstances include wind strength and direction, tidal state and current flow, traffic density, and the condition of the vessel's main engines, bow thrusters and steering.

All masters of vessels berthing or unberthing with major defects of main engine, bow thrusters and steering will carry out an individual and specific risk assessment on the planned manoeuvre. The use of tugs under these circumstances is recommended by the Harbour Authority as a risk control, and should be discussed and agreed with the Harbour Master before undertaking such operations.

It is very unusual for tugs at Larne Port to be employed to tow, general practice being to engage tugs purely for a pushing role. PEC holders are not permitted to use a tug to tow, unless authorised to do so by the Harbour Master, who will consider the PEC holders level of experience and familiarity with respect to the operation of tugs and the intended towage operation, before issuing authorisation. In the absence of such HM authorisation, a Pilot(s) should be assigned for this type of towing operation.

1.2.3 Mooring Breakout

High sided ships such as Ro-Ro's, tankers in ballast and cruise ships are exposed to the potential of a mooring failure especially during severe wind conditions, storms and squalls. During periods of bad weather, Masters of these vessel types are expected to:

- monitor weather conditions closely
- put out extra mooring lines
- have their engine(s)/thrusters in an appropriate level of readiness
- if deemed necessary, have a tug(s) on stand-by in sufficient time to avoid any such incidents.
- Suitably equipped ferries using MacKean quay, should also consider using their engines to maintain forward pressure through their 'cowcatchers' on the 'positive fenders'.

1.2.4 Towage of Dead Tows, Unusual Objects

The correct use of tugs on such objects requires special consideration presented in an appropriate format including method statements regarding:

- riggers/line handlers being transferred to the tow to recover sea gear, emergency tow lines and to prepare for berthing-
- whether the tow is to be transferred from the sea tug to harbour tugs or assisted by harbour tugs and where this should take place: such decisions will depend largely on the suitability of the sea tug to perform such duties as well as berth characteristics, environmental conditions etc. and the availability of suitable harbour tugs.
- weather limitations-
- suitability of destination berth and whether adjacent berths need to be cleared-
- number of suitably experienced pilots required for the sea tug and/or tow-

In-port project non-routine tows should be risk assessed and planned by an appropriately qualified and experienced Towing Master who will be responsible for the safety of the operation and the passage plan. Whenever deemed appropriate by the Harbour Master, a pre-movement consultation between Harbour Master, towage providers, pilots, mooring crews and any other relevant parties should be held well in advance of the operation. Key decisions should be recorded and the Towing Master will be responsible for:

- conducting an appropriate risk assessment and producing a method statement and passage plan to be submitted to the harbour authority for consideration
- providing confirmation that appropriate and sufficient insurance is in place
- the safety and efficacy of the entire operation

The Harbour Master will give written approval for the tow to go ahead once the foregoing has been reviewed and agreed. In exceptional circumstances and for major projects, the use of simulated trials should be considered. Pilot's training should include towage events of non-propelled objects utilising a variety of tug types.

1.3 Ship Towage Operations, Compliance of tug vessels operating at Larne

Every Towage Contractor working at Larne, must hold a valid *'licence to Operate* issued by Larne Harbour Limited

There are three main areas that Larne Port will consider when assessing towage operations by a towing contractor (see 1.3.1-1.3.3)

Full details on how to achieve compliance will be provided by Larne Port on application.

1.3.1 Tugs and Equipment:
Under the Port Marine Safety Code, Larne Port must ensure, by inspection that all **tugs, workboats** and **passenger vessels** used in the harbour comply with the Merchant Shipping (Small Work Boats) Regulations 1998 and the associated Workboat Code – Edition 2, and that they are *'fit for purpose*' for any use to which they are put. This will be in addition to MCA inspection / certificates and includes both certified and non-certified craft.

The Harbour Master is responsible for establishing and operating the approval system and to this end (1) will ensure that the periodic inspections of tugs and workboats are carried out by the responsible organisations (MCA) at least annually, (2) that any reports that are submitted are sufficiently detailed to allow assessment and approval of the subject craft against the requirements of the Workboat Code – Edition 2, and (3) before Larne Port issue approval the craft will be inspected to verify that the report is an accurate representation of the condition of the vessel with respect to the Code.

The approval system and procedures are contained in the Marine Services Manual, Section 2: compliance procedure for all small vessels operating at the Port of Larne.

1.3.2 Crew Competence and Training:
Larne Port will also ensure that all tugs and workboats used in the harbour are crewed by appropriately trained and qualified personnel for the tasks they are likely to perform.

For the operation of the Pilot Boat and tugs, it is required that the skipper and crew are trained and certified in accordance with the requirements of 'The Merchant Shipping (Boatmasters' Qualifications, Crew and Hours of Work) Regulations 2015 – MSN1853, skippers preferably holding a Tier 2 Level 2 Boatmaster Licence.

Tugs, based in Belfast, but used occasionally for towage services at Larne will be manned with appropriately trained and qualified crew, either holding an appropriate STCW certificate or some other Certificate of Competency, but may in addition hold a Voluntary Towage Endorsement for General, Ship Assist or Sea Towage as appropriate, so long as it complies with MGN 468 (M). Alternatively, those in possession of a Boatmaster's Licence must also have the "towing and pushing" endorsement.

A list of suitably trained and qualified crew will be provided by the operator on 1st January each year or as and when requested by Larne Port.

PEC candidates must gain operational experience on the tugs prior to attending the examination. Pilots have extensive operating experience with the tugs from Belfast and with the local crew in Larne.

Any tug or workboat skipper who is to be regularly employed for relevant work at the Port of Larne must successfully sit a local Larne Port oral examination based on:
- Local knowledge – Navigation
- Local knowledge – Geographical
- Tug Operations at Larne

1.3.3 Safety Management System.
In addition to meeting the requirements of 1.3.1 and 1.3.2, Mooring service providers must be able to demonstrate the following:
- Crew knowledge of and compliance with Safety Management Systems.
- Incident and near-miss reporting, investigation, including follow up, close out and sharing of lessons learned.
- Maintenance procedures and operational defect reporting.

- Critical systems plant condition monitoring
- The carrying out of and reviewal of appropriate Risk Assessments
- Compliance with Hours of Work regulations.

1.4 Hazman Risk Assessments - *Last Date Reviewed: October 2021*
In Nov 2021, the following marine services related control measures were used in the port's Hazman risk assessment database:

Control	Type	Hazards	Global
Local Knowledge exam for commercial boat skippers employed by Marine Service Contractors	PA Formal Procedures	1	
Marine Services Manual	PA Formal Procedures	11	
Particular or contract specific towage and/or workboat operations	PA Informal Procedures	1	
Special Risk Assessment and Method Statement	Ext. Procedures / Hardware	5	
Tug and workboats available.	Ext. Procedures / Hardware	12	
Tug Master's Expertise	Training / Education	1	
Use of Tugs	PA Formal Procedures	5	

1.5 Towage procedures for vessels requiring towage

1.5.1 Rendezvous
The rendezvous position and time will be as advised by the pilot or PEC holder. However tugs should be in attendance and if to be employed to undertake towing, made fast before the vessel passes No 1 buoy, inward bound.

1.5.2 Ordering Tugs
Tugs should be ordered, and confirmed in writing, by the Master or Agent only. Such instructions may be communicated directly by the ship's agent or through a Marine Officer at Larne Port Control. Masters, pilots and/or agents should bear in mind that towage contractors require a minimum of 24 hours' notice to order additional tugs from Belfast.
When such requests are communicated via Pilots (or Larne Port Control) it must be clearly stated whether or not such request is being made after consultation with the Master. Orders received prior to such consultation should be considered as provisional advance notice only.

1.5.3 Un-berthing
Prior to singling up, the Pilot shall discuss the proposed navigational passage with the Master. These discussions shall include all applicable items in paragraph 6.5
Communications shall be tested prior to singling up.
When singled-up, Larne Port Control will be informed that the vessel is ready to depart the berth.

1.5.4 Outbound Vessels
Before disembarking outward bound vessels, Pilots shall ensure that the vessel is sufficiently to seaward and that the Master is given sufficient guidance to avoid any navigational hazards.

1.5.5 General Tug Information on Bollard Pull and Safe Work Loads
It is very unusual for tugs at Larne Port to be employed to tow, general practice being to engage tugs purely for a pushing role. The following guidance is therefore provided only for those few incidences when it is necessary to make a towline fast.

Bollard pull is the static force exerted by a tug on a fixed towline. The 'bollard pull' value is used as a standard measure of the towing capability of a tug, basically the exerted force is generated by tugs propeller thrust only.

Bollard pull tests are carried out in what can be called a static situation and is an important indication of a tugs capability. However, in all the dynamic situations of day-to-day operations the actual pull exerted by the tug varies considerably from the bollard pull test values and are often much higher than the stated bollard pull.

The negative effect of tug propeller wash impinging on the ship's hull, has largest effect when the tow has a small under keel ship clearance and a short towline is employed.
Tugs are built to produce higher forces than the bollard pull by creating an optimal underwater form of the tug's hull, which can generate pull forces as a result of the hydrodynamic forces working on the tug hull.

The tug's hull does not play an important role when, pulling at a ship with no or almost zero speed or when pulling straight ahead as forward tug or straight astern as stern tug on a ship having headway. When a ship has no speed, the exerted pull of the tug is approximately the same as the bollard pull. For the forward tug pulling straight ahead at a ship having headway, propeller thrust is less due to the positive water flow through the propeller. In addition, the tug has to propel itself through the water with the cost of engine power; consequently, the exerted pull is less than the bollard pull, decreasing with ship's increasing speed.

When a stern tug is braking the ship's speed, the propellers are working in a negative water flow and a high trust can be developed. Together with the forces caused by the tug's resistance through the water, the tug actual pull can then be high, which can result in an even higher pull than the bollard pull.

As mentioned, the tug can make use of the hydrodynamic forces working on the tug's hull. When a tug is handling a ship that has speed, these hydrodynamic forces can generate high pulling forces, sometimes even in addition to the propeller thrust forces. A few examples:

- A stern tug operating in the indirect mode can generate high pulling forces, which increase with the ship's speed (and at a speed of 10 knots can be as high, as twice the bollard pull); while the propeller thrust is used to keep the tug in an optimal position to achieve the highest possible pulling forces.

- A tug braking a ship's speed and working under a small angle with the ship's heading can exert high braking forces caused by the propeller thrust and tug resistance through the water.

- A conventional tug can also create high towline forces, generated by the hydrodynamic forces working on the tug hull when towing under an angle to a ship's heading on a ship having headway.

- These few examples show that the exerted pull can be much higher than the bollard pull and that it does not always have a direct relation to the bollard pull. Therefore these exerted forces should not be referred to as 'bollard pull'.

1.5.6 Forces in the Towline

The exerted pull is passed to the towline. The forces in the towline can vary considerably and can reach high values, mainly caused by the unsteady and continuously varying situation of the tug compared with the assisted ship and the often vertical angle of the towline. When pulling in such an unsteady dynamic situation, peak loads are generated in the towline. These may also be caused by non-smooth tug handling or by waves. In consequence, towline forces can be much higher than the maximum pull that can be exerted by the tug.

In addition, tugs handling ships in locks or dry-docks often operate with a short steep towline. Pulling at full power will cause higher forces in the towline that the maximum exerted pull, due to the vertical towline angle. Add to that the forces caused by the unsteady situation between tug and ship and it will be clear that the forces in the towline may become so high that the towline may part.

It is not without reason that the SWL of a harbour tug's towline is based on a force in the towline of at least twice the bollard pull. This should result in a safety factor of the towline of not less than a factor of about four times the bollard pull. This may vary by tug type, tug size, and/or local situations and conditions, sometimes resulting in the requirement for an even higher safety factor. It is worth noting that as harbour tugs become more powerful, the bollards and fairleads of ships, on occasion, are not strong enough for the forces exerted by them.

The safe working load of the ship's bollards depends on ship size and the mean braking loads of the ship's mooring lines. However, the forces that can be generated in the towline of present tugs are often much higher than their bollard pull and this should be a factor taken into account when determining an accurate and meaningful safe working load of ships' bollards and fairleads.

1.5.7 Conclusion

Bollard pull tests are carried out in more or less static situations. The requirements for such tests differ by classification society and so the results can be different even for the same tug. The sustained bollard pull, or continuous bollard pull, measured during bollard pull tests over a certain period of time (such as five or ten minutes) is a tug's 'bollard pull'.

The bollard pull is an important indication of a tug's capability. However, in the dynamic situation of day-to-day operations, the actual pull that can be exerted by the tug can be lower but can often also be much higher, due to the hydrodynamic forces working on the tug's hull. These forces exerted by the tug should not be called 'bollard pull'.

The forces generated by the tug are passed to the towline. Due to the unsteady circumstances the tug operates in, forces in the towline, (peak forces), can become much higher than the bollard pull and the maximum pull that can be generated by the tug during ship assistance. When the tug is working with a steep towline angle, forces in the towline further increase.

When discussing the SWL of the ship's bollards, the tug's bollard pull is not the only factor to be taken into account. Of equal importance are the forces that can be generated in the towline by such a tug during day-to-day operations, as is the case with the safety factor of a tug's towline.

1.6 Tug Details

	Eileen (& Sally) Mcloughlin	Sarah & Maria McLoughlin	Farset	LB 1
Operator	**J McLoughlin &Son, Belfast**	**J McLoughlin &Son Larne**	**Ferrans, Belfast**	**Ferrans, Belfast**
Type	Twin Screw	Single Screw	Twin Screw	
Bollard Pull	24.9/23.4 Tonnes (22.0/18.0T astern)	8 Tonnes	14.5 Tonnes	Line handler only
Speed	10.2 Knots	8 Knots	8 Knots	10.2 Knots
Main Engines	2 x Doosan 800 HP	Volvo 121 c (500 BHP)	2 x Volvo TAMD D12	1 x 125hp Perkins M300c
Length / Beam / Max Draft	16m x 6.2m x 3.2m	12.5 x 4.5 x 2.1M	12.5 x 4.5 x 2.1M	8.5 x 3.4 x 0.5m
Gross Tonnage	106 GT	33 T.	40 T.	N/A
Towing Equipment	1 x North Sea Winch 25T pull/50T brake)/15T Macduff (Fwd + 10T tugger winch (aft) 1x Mampae Disc Hk	Q.R. Hook	Q.R Hook	
Fifi (m hr)	Deck Hose	Desk Hoses	Deck Hoses	
Dispersant	Nil	Nil	Nil	Nil
Classification	Tug / Cat 2 up to 60 miles	Nil	Tug / Cat 3 up to 20 miles	Nil
Flag	UK	UK	UK	UK
In addition to towage	Seabed Mapping Pilot Boat, Plough dredging	Pilot Boat	Pilot Boat	Line Handling only

	Masterman	Merchantman
Operator	**SMS Towage**	**SMS Towage**
Type	**Belfast** ASD	**Belfast** ASD
Bollard Pull	50 tonnes	50 tonnes
Speed	13.0kts	13.0kts
Main Engines	2x Caterpillar 3512HP	2x Caterpillar 3512HP
Auxiliary Engines	2x Perkins 4TMG	2x Perkins 4TMG
Length/Beam/ Draft	24/ 9/ 4.4m	24/ 9/ 4.4m
Gross Tonnage	144.26	144.26
Towing Equipment	Aft: Rolls-Royce TW100/230H Fwd: Rolls-Royce TW100/230H	Aft: Rolls-Royce TW100/230H Fwd: Rolls-Royce TW100/230H
Fifi (m^3 hr)	500m3/h @ 12bar	650m3/h @12bar
Dispersant		
Fuel	70m3	70m3
Classification Society	Lloyds	Lloyds
Flag	UK	UK

2.0 Workboat, pilot vessel and small passenger vessel operational procedures

2.1 Introduction

Under the Port Marine Safety Code, the Harbour authority has a duty to approve the use of vessels as pilot launches. Any vessel approved as a pilot launch must satisfy the Merchant Shipping (Small Work Boats) Regulations 1998 and the “The Workboat Code – Edition 2”

Similarly, the harbour authority must ensure that the work boats used in the Harbour comply with the Merchant Shipping (Small Work Boats) Regulations 1998 and the “The Workboat Code – Edition 2”and that they are fit for purpose for any use to which they are put.

In conducting inspections of port craft consistency will be achieved in standards through an established criteria based against appropriate standards set nationally against which inspections will be made. The criteria will include minimum manning and competency standards and could also impose geographical constraint or restrict the use of a vessel commensurate with its size and capabilities. In all inspections a formal record of the outcome will be made and the owners notified of any failings. When the level of inspection is beyond the resources, professional competence of the harbour authority, alternative arrangements for inspection and certification will be organised. It should be noted that the inspection and certification is only confirming the craft is ‘Fit for Purpose’ not that the craft is ‘sea worthy’.

If a vessel has historically been surveyed under the code previous to “The Workboat Code – Edition 2”, then they may continue to be surveyed under the previous codes.

The term ‘inside the Harbour’ is in this manual defined as Area category 5 as per section 3.2 of “The Workboat Code – Edition 2”.

2.2 Compliance procedures for Pilot Boats, Tugs, small passenger vessels, workboats and support boats.

The Harbour Master is responsible for establishing and operating a system to ensure that periodic inspections of all harbour work craft are carried out.

Each craft will be inspected at least annually by the Harbour and audited against the port’s workboat criteria and standards.

The Harbourmaster or his responsible deputy will make occasional checks to verify continued compliance. The frequency of these occasional checks will be sufficient to promote compliance and will be reviewed according to the conditions found.

Subject to satisfactory inspection report and inspection, the Harbourmaster will advise the operator that the craft has been approved to operate in the Harbour and will be issued with a’ Fit for Purpose Certificate’. This approval will identify the craft, operator and the type of work for which the craft has been approved. The approval will be valid for a period of not more than 12 months and subject to: -

- The craft having a valid certificate of compliance issued by the MCA under the appropriate workboat code and
- Continuing compliance with that code.

Change of Operator will result in the approval being reduced to provisional status with a validity of 60 days from the date of the change coming into effect.

Subject to a satisfactory inspection under the new operator towards the end of this period, the original period of validity will be reinstated and the approval re-issued to show the new operator.

A craft which fails the inspection and is not issued with a ‘Fit for Purpose’ certificate is not allowed to operate in the Port of Larne.

A working craft that has been licensed to operate by the MCA and/or is certified as 'Fit for Purpose' at another port will be sufficient evidence of the appropriate operational and safety standard being fulfilled. Copies of the certificates will be provided and retained on file for future reference.

The Harbourmaster will prepare an annual status report on Pilot Boat, Tugs and Workboats and small passenger vessels operating in the Harbour and will include: -

- Any significant changes to the establishment.
- A general appraisal of the craft currently in service, identifying any significant or recurring problems in respect of their condition, maintenance or operation.

Anticipated changes to the requirements or establishment during the next year.

2.3 Inspection Criteria to Ensure Workboats are "Fit for Purpose".

2.3.1 Construction and Structural Strength.
Certified boats are subject to requirements of the "The Workboat Code - Edition 2" section 4. All Non-certified boats shall be considered compliant if having proof of a history of five years safe operation.

Any New Vessel to operate in the Harbour will require to be inspected and issued with a provisional certificate of Fit for Purpose. Proof of satisfactory construction will be required either through an out of water survey or documentary evidence of such an inspection within the previous 12 months.

2.3.2 Watertight Integrity.
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 5. All Non certified boats shall comply with the following as a minimum:

- All watertight openings are to be inspected regularly to ensure watertight integrity is maintained.
- All Watertight openings are to be Sign posted "Keep closed".
- All ventilators should have a permanently attached means of closure.
- Where a portable arrangement to prevent the back flow of water is fitted to an exhaust system this is to be inspected and proved regularly.
- Sea Inlets and Discharges to be fitted with a sea cock which is readily accessible.

2.3.3 Water Freeing Arrangements.
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 6. All Non-certified boats shall comply with the following as a minimum:

- All freeing ports to be kept clear.
- Any non-return shutter flaps should be free and have sufficient clearance to prevent jamming.

2.3.4 Machinery
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 7.

- Where boats are not required to be certified evidence of regular servicing is to be provided.
- A maintenance log book is to be kept and made available for inspection as necessary.

2.3.5 Electrical Arrangements.
Certified boats are subject to requirements of the "The Workboat Code – Edition 2" section 8. Where Battery systems are in use on non-certified boats there is to be adequate securing arrangements and ventilation.

2.3.6 Steering Gear, Rudder and Propeller Systems.

Certified boats are subject to requirements “The Workboat Code – Edition 2” Section 9. All Non-certified boats shall comply with the following as a minimum:

- Be able to demonstrate that the Steering arrangements are adequate for the safe operation of the vessel and that an emergency means of control is available.

2.3.7 Bilge pumping.

Certified boats are subject to requirements of “The Workboat Code – Edition 2” Section 10.

- All non–certificated fully decked vessels are to have at least one bilge pump.
- On Small open or partially decked vessels a Manual bilge pump should be fitted suitable for the suction lift head. In both instances it should be so fitted as to be able operated remote from any flooding.
- However an efficient means of bailing may be acceptable depending on the individual vessel.

2.3.8 Intact and Damage Stability.

Certified boats are subject to requirements “The Workboat Code – Edition 2” Section 11.

2.3.9 Freeboard and freeboard marking.

Certified boats are subject to requirements of the “The Workboat Code – Edition 2” Section 12.

2.3.10 Life-Saving Appliances.

Certified boats are subject to requirements of “The Workboat Code – Edition 2” Section 13. Where boats are non-certified the following is to be onboard when operating inside the Harbour:

- 1 Buoyant Line
- 100% Lifejackets
- 1 Means to recovery persons
- 1 Training Manual to be available for all LSA (May be held ashore)
- Lifebuoys
- 6 Red Hand Flares

2.3.11 Fire Safety.

Certified boats are subject to requirements of the “The Workboat Code – Edition 2” Section 14.

- All machinery spaces to be kept clean and tidy free from oil or other potential hazards.

2.3.12 Fire Appliances.

Certified boats are subject to requirements of the “The Workboat Code – Edition 2” Section 15.

Where boats are non-certified the following is to be on board when operating inside the Harbour.

- Fire buckets with lanyards
- Multi-purpose fire extinguishers kite marked to BS EN 3:1996
- 2 Portable Fire extinguisher with minimum fire rating 5A/34B and maintained in accordance with the requirements of MGN 276 (M+F)
- 1 Fixed or portable extinguishing system for discharge into the Machinery Space.

2.3.13 Radio Equipment

Certified boats are subject to requirements of the “The Workboat Code – Edition 2” Section 16. Where boats are non-certified the following is to be onboard when operating inside the Harbour.

- A Fixed VHF Installation (May be replaced by an approved portable VHF with protective sleeve)

2.3.14 Navigation Lights, Shapes and sound signals

Certified boats are subject to requirements of "The Workboat Code – Edition 2" Section 17. To comply with the requirements of the Merchant Shipping (Distress Signals and Prevention of collisions) Regulation 1996, SI 1996 No.75, as amended. Where boats are non-certified they must carry the lights indicated below for their length, when operating inside the Harbour.

Overall length	*Power driven vessels when underway*	*At anchor*[3]	*Not under command*[6]	*Aground*[8]	*Sound signalling appliances*
Less than 7m	*All round white + sidelights*[1, 2]	*Required*[4, 5]	*Not required*	*Not required*	*Means to make an efficient sound signal required*
7m - 12m	*All round white + sidelights*[1] *OR* *Masthead (vis 2 miles) + sidelights*[1] *+ stern light* *OR* *(if lights have to be offset from centreline) combined lantern sidelights plus either all round white or masthead and stern light*	*Required*[5]	*Not required*	*Not required*	*Means to make an efficient sound signal required*
12m - 20m	*Masthead (vis 3 miles) + sidelights + stern light*	*Required*[5]	*Required*[5,7]	*Required*[5,7]	*Whistle required*
20m - 24m	*Masthead (vis 5 miles) + sidelights + stern light*	*Required*	*Required*	*Required*	*Whistle and bell required approved by UK nominated bodies*

1 *Range of sidelight is 1 mile.*
2 *Vessels not exceeding 7 knots maximum speed should show sidelights if practicable.*
3 *By night, all round white light where best seen; by day one black ball (0.6 metres in diameter) in the fore part.*
4 *Anchor light or day shape is not required when anchored not in or near a narrow channel, fairway or anchorage or where other vessels normally navigate.*
5 *Size of the daytime shapes and distances apart may be reduced commensurate with size of vessel.*
6 *By night, two all round red lights in a vertical line two metres apart and the lowest not less than four metres above the hull (weatherdeck); by day two black balls (0.6 metres in diameters) in a vertical line, 1.5 metres apart. Vessels of less than 12 metres in length, except those engaged in diving operations, shall not be required to exhibit the lights and shapes prescribed.*
7 *The distances for the lights may be reduced to one metre apart and two metres above the hull (weather deck).*
8 *By night two all-round red lights in a vertical line 2 metres apart plus anchor light; by day three black balls (0.6 metres diameter) in a vertical line, 1.5 metres apart. A vessel of less than 12 metres in length, when aground, shall not be required to exhibit the lights or shapes prescribed.*

Notes
a *Sidelights, stern light and all round lights have range of 2 miles unless indicated otherwise.*
b *Range of all-round white or anchor or Not Under Command lights is 2 miles in all cases.*
c *Lights (and whistles and bells when they are required to be carried) must be suitable for the associated range of light, vessel size and type (together with its modes of operation), on which they are fitted.*
d *For vessels engaged in other activities i.e. towing, pilotage, attention should be paid to requirements for lights and shapes arrangements.*
e *In the case of open boats, vertical heights should be measured from gunwale, and in the case of inflatable boats, or boats fitted with a buoyant collar, from the top of the collar or tubes.*

2.3.15 Navigational Equipment.

Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 18. Where boats are non-certified they must carry the navigational equipment as indicated in the Risk assessments. However any vessel operating at night or in reduced visibility will have a magnetic compass.

2.3.16 Miscellaneous equipment.

- As all V/L's operating within the Harbour are either in Category C or Area Category 6 there is no requirement to carry nautical publication.
- All vessels should be provided with a waterproof electric torch
- All vessels should be fitted with an efficient radar reflector (If Required by Risk Assessment)
- Consideration should be given to fitting a suitable Class "A" Automatic Identification System (AIS) transceiver, tested in accordance with the guidance in MGN 465, Annex 2.
- A portable/Fixed searchlight should be available to each working boat (where 1 or more boats are operating in close proximity 1 boat will only be required to be fitted with such a light.)
- A Boat Log Book And Maintenance Record will be kept and include the following as a minimum
- A Record of all drills and training.
- A record of VHF tests.
- A Record of Engine/Machinery/Deck maintenance including Official inspections and periods out of water.

- A record of work periods and jobs undertaken, this should include the names of the boat crew.
- A valid insurance certificate for the boat and it's operation/activities.

2.3.17 Anchors and Cables.
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 20. All other vessels operating inside the Harbour as defined in section 6.

- Should carry an anchor of sufficient mass for the size of the vessel and sufficient cable to counter the strong tides in Larne Harbour

2.3.18 Accommodation.
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 21.

- All other vessel should be able to prove there is adequate lighting supplied to accommodation and working areas to carry out the tasks for which they are approved.

2.3.19 Protection of personnel.
Certified boats are subject to requirements of "The Workboat Code – Edition 2" section 22. All other vessels operating inside the Harbour, should ensure:

- All guard rails and handgrips are to be secure and clean from grease.
- Safety harnesses if fitted are to be of an approved type. Securing points are to be arranged having regard for the working area and need for movement/possible obstruction.
- All working surfaces are to non-slip. Acceptable surfaces include chequered plate; unpainted wood; a non-skid pattern moulded into fibre-reinforced plastic; or an efficient non-slip covering.
- Each boat should be provided with a means for retrieval of persons from the water. (Or were more than one boat is operating in close proximity only 1 boat shall require to carry such equipment) The retrieval system may be of an approved type or a system specifically adapted to the vessel can accomplish the same function. Record of training in this and other safety equipment are to be entered in the Boat Log Book.
- Quick release hooks where fitted are to be of an approved type, tested and in date. They are to be operationally correct at all times.
- All personnel should be provided with appropriate Personal Protective Equipment to undertake safely the tasks required.

2.3.20 Medical Stores.
Not Required

2.3.21 Requirements Specific to Use of a Vessel.
a) Pilot Boats
All pilot boats are subject to the requirements of "The Workboat code – Edition 2" Therefore they must be certified for operation in accordance with Section 3.2.3. and meet the requirements of Section 25.6 However the harbour authority in licensing such vessels, to operate within Port Limits will carry out periodic inspection to ensure the requirement of this code are being observed. Further inspections will be carried out on procedures to ensure they conform to "Boarding and Landing of Pilots by Pilot Boat Code of Practice."

b) Boats engaged in towing
All workboats engaged in towing operations within Larne Harbour Limits are required to comply with the requirements of Section 25.2 of "The Workboat Code – Edition 2"

c) Boats Carrying Cargo

All workboats or similar engaged in the carriage of cargo within Larne Harbour Limits are required to comply with the requirements of Section 25.3 of "The Workboat Code – Edition 2"

d) Vessels fitted with a Deck Crane or other Lifting Device
All such Vessels within Larne Harbour Limits are required to comply with the requirements of Section 25.4 of "The Workboat Code – Edition 2"

e) Non-Self-Propelled Vessels
All such Vessel within Larne Harbour Limits are required to comply with the requirements of Section 25.5 of "The Workboat Code – Edition 2".

f) Safety and/or support Boats
Any operator of a small boat (<12m loa), other than a Workboat, required to act as a Safety Boat or provide support for any *commercial* operation or activity within the Port, will be required to demonstrate that, it is appropriately insured, and insofar as reasonably practicable, that it's specification, construction, maintenance and manning meet the appropriate requirements of the 'CODE OF PRACTICE - THE SAFETY OF SMALL VESSELS IN COMMERCIAL USE FOR SPORT OR PLEASURE OPERATING FROM A NOMINATED DEPARTURE POINT'. Skippers should consequently hold an appropriate Boatmaster's Licence and/or RYA Powerboat certificate. Any boat, that is to be regularly employed within the port for the aforementioned purposes, should apply for a 'Fit for Purpose Certificate' in accordance with 2.2 above and 2.7 below. Such craft will be permitted to operate in the port in daylight hours only, having provided appropriate Risk Assessment and Method Statement for the operations they are planned to undertake.

2.3.22 Manning
The operational manning of Code certified vessels should be in accordance with Section 26 and Appendix 3 of "The Workboat code – Edition 2", except that pilot boat manning requirements should be as stated in 25.6.3 of "The Workboat Code – Edition 2". Here repeated below.

*26.5 Subject to Marine Guidance Note MGN 50 (M) - Manning of Pilot Boats;-
A pilot boat should be manned by a minimum of 2 adult persons, namely a coxswain, and a deck hand who can assist the pilot when boarding or landing. The competent harbour authority or owner(s)/managing agent(s) of the pilot boat should be satisfied as to the competence and fitness for duty of these persons; and all pilot boat crew members should;

.1 hold a Proficiency in Medical First Aid Certificate issued by an MCA approved training provider equivalent predecessor (i.e. Department for Transport First Aid Certificate); or

.2 hold a First Aid Certificate for appropriate first aid or emergency first aid training in accordance with Regulation 3(2) of the Health and Safety (First Aid) Regulations 1981 (SI 1981 No.917) and the Health and Safety Executive publication "First Aid at Work – Approved code of Practice" 2013 edition[149].

The operation of all other vessels operating inside the Harbour are subject to Risk assessment. On the basis of these assessments their Certificate of Fit for Purpose will be endorsed with the minimum manning and qualification requirements.

2.4.0 Inspection Criteria and Operation of Small Passenger Vessels within the Categorised waters of Larne Lough
The Merchant Shipping (Domestic Passenger ships) (Safety Management Code) Regulations came into force on 01 November 2001. At the first survey after this date the operator of Domestic Passenger Vessels must be in possession of:-

- a Domestic Ship Safety Management Certificate for each vessel and
- any vessel carrying more than 12 passengers must be certificated by the MCA.

A ferry operation within the Port of Larne has been categorised as a Category C area as defined in MSN 1827, as copied here below.

Category C: Tidal rivers and estuaries and large, deep lakes and lochs where the significant wave height could not be expected to exceed 1.2 metres at any time.

Subject to the requirements of the MCA, for the issue of a Passenger Certificate for Type V or VI passenger craft. The Harbourmaster or authorised deputy will require to be informed if notification is made to the MCA that any vessel operating as a passenger craft within the port ceases to meet these requirements.

2.4.1 Construction, Structural Strength, Watertight Integrity. Intact and damage Stability, Freeboard and freeboard marking.

The harbourmaster or authorised deputy will make periodic inspections to ensure continued suitability for service paying particular attention to those items listed below:

- Water Freeing Arrangements
    1. All freeing ports to be inspected.
    2. Any non-return shutter flaps should be free and have sufficient clearance to prevent jamming.
- Machinery.
    1. Evidence to be provided of regular servicing and operation to be proved during inspection
    2. A maintenance log book is to be kept and made available for inspection as necessary.
- Electrical Arrangements. Where Battery systems are in use on non-certified boats there is to be adequate securing arrangements and ventilation
- Steering Gear, Rudder and Propeller Systems. Be able to demonstrate that the Steering arrangements are adequate for the safe operation of the vessel and that an emergency means of control is available.
- Bilge pumping. All fitted bilge pumping arrangements are to be proven operational as required at inspections.

At Sea, Or in Category A,B,C and D			
Area of operation	**<10 mile voyage < 1 mile from land**	**< 15 mile voyage < 3 mile from land**	**To isolated communities < 6 mile voyage < 3 mile from land**
No of Passengers for which ship is certified			
	<100	<250	N/A
Type of ship	Open	Other than open	N/A
Power bilge pump my be engine driven	1	1	N/A
Independent powered pump*		1	N/A
Hand Pumps serving all compartments Each Hand pump serving not more than 2 adjacent compartments	✓	✓	N/A
2 Bailers or 1 Bucket and 1 Bailer	✓	-	N/A

2.4.3 Life-Saving Appliances.

Each Vessel must meet the requirement as laid out in SI 1999 Life Saving Appliances (Passenger Ships) For ships of Class V Or Class VI here copied below are the regulations applicable to craft operating in Category C waters Ships of Class V

Regulation 7.

Applies to ships of Class V, and

(a) only paragraphs (2) and (3) apply to ships which operate within Category A waters only and which comply with the standard of survivability specified in Table 1(5) or Table 2(7) (heel test);

(b) Only paragraphs (4) and (5) apply to ships which operate within Category A and B waters; and

(c) Only paragraphs (8) to (11) apply to ships which operate within Category A, B and C waters.

Regulation 8.
(a) Every ship shall carry the appliances specified in column (4) of the capacity specified in column 5 in relation to a ship specified in columns (1) to (3) of the following table -

- The buoyant apparatus shown in columns (4) and (5) may be substituted by lifebuoys up to a maximum of 60 per cent of the vessel's buoyant apparatus requirement with each such lifebuoy being suitable to support two persons. Lifeboats, where fitted, shall be served by their own launching appliances and be capable of launching and recovery.

(b) Where life-rafts are provided they shall, as far as practicable, be equally distributed on each side of the ship.

Regulation 9.
Suitable arrangements shall be provided on board for the recovery of persons from the water.

Regulation 10.
Every ship shall carry-
(a) at least 2 waterproofed two-way radiotelephone apparatus except where buoyant apparatus only is fitted, when these shall not be required(b) at least the number of lifebuoys determined in accordance with the following table:-

Number of passengers the ship is certified to carry	***Number of lifebuoys***
not more than 250	***4***
more than 250	*8*

At least one lifebuoy on each side of the ship shall be fitted with a buoyant lifeline and not less than 50 per cent of the total number of lifebuoys shall be provided with self-igniting lights. In the case of a ship carrying more than 250 passengers not less than two of the lifebuoys provided with such lights shall also be provided with self-activating smoke signals and be capable of quick release from the navigating bridge: except that self-igniting lights need not be provided on ships which only operate between sunrise and sunset.

(c) For each person on board one of the following-

1. A lifejacket suitable for a person weighing 32 kilogrammes or more;

2. A lifejacket suitable for a person weighing less than 32 kilogrammes for each such person on board;

3. A buoyancy aid suitable for a person weighing 32 kilogrammes or more, and a buoyancy aid suitable for a person weighing less than 32 kilogrammes;

4. A lifejacket complying with British Standard Specification EN 394 and 396:1994 provided such lifejackets do not depend wholly upon oral inflation. Lifejackets of the partially inherently buoyant type for persons weighing 32 kilogrammes or more shall have buoyancy in the uninflated state of not less than 89 Newtons; or

5. An inflatable Civil Aviation Authority lifejacket which complies with Part 5 of Schedule 9.

Regulation 11.
Every ship shall be provided with-

(a) A general emergency alarm system, or a public address system which can be used for broadcasting a general emergency alarm and which complies with the requirements of Merchant Shipping Notice No. 1676(M) as amended by Merchant Shipping Notice No. 1757(M);. (Only vessels of over 15m need this)

(b) Posters or signs in accordance with the requirements of regulation 12;

(c) A training manual; and

(d) Instructions for on-board maintenance of life-saving appliances or a shipboard planned maintenance programme which includes the maintenance of life-saving appliances.

2.4.4 Operating instructions for launching lifeboats and life-rafts
Except for ships of Class V operating in Category A waters, posters and signs shall be provided on or in the vicinity of lifeboats, life-rafts or their launching arrangements to illustrate the purpose of the controls and the procedures for launching and bowsing-in the lifeboats and life-rafts.

Ships of Class VI: This regulation applies to ships of Class VI, and I only paragraph (2) applies to ships of Class VI as defined in regulation 3 with the substitution for "15 miles" and "3 miles" of "10 miles" and "1 mile" respectively; and only paragraph (3) applies to other ships of Class VI;

Every ship shall carry the appliances specified in column (4) of the capacity specified in column 5 in relation to a ship specified in columns (1) to (3) of the following table;-

(1)	*(2)*	*(3)*	*(4)*	*(5)*
Type of ship	*Number of passengers ship is certified to carry*	*Standard of survivability ship complies with*	*Life-Saving Appliances (LSA)*	*Minimum aggregate percentage of LSA for the total number of persons the ship is certified to carry*
iii Existing passenger ship	Not more than 100	Table 2, (26) (one-compartment ship) OR Table 2, (27) (Buoyancy Test)	Buoyant apparatus	100
iv Existing passenger ship	Not more than 100	Table 2, (27) (Heel Test)	Life-rafts or open reversible life-rafts	50

Every ship to which this paragraph applies shall carry the lifesaving appliances specified in column (4) of the capacity specified in column (5) in relation to a ship specified in columns (1) to (3) of the following table-

(1)	*(2)*	*(3)*	*(4)*	*(5)*
Type of ship	*Number of passengers ship is certified to carry*	*Standard of survivability ship complies with*	*Life-Saving Appliances (LSA)*	*Minimum aggregate percentage of LSA for the total number of persons the ship is certified to carry*
ii Existing passenger ship	Not more than 250	Table 2, (29) (one-compartment standard)	Life-rafts or open reversible life-rafts	60
		OR Table 2, (29) (Buoyancy Test)	AND buoyant apparatus	40

Where life-rafts are provided this shall, as far as practicable, be equally distributed on each side of the ship.

Suitable arrangements shall be provided on board for the recovery of persons from the water.

Every ship shall carry-

- At least 2 waterproofed two-way radiotelephone apparatus except where only buoyant apparatus is fitted when these shall not be required;

- At least 4 lifebuoys, with at least one on each side of the ship fitted with a buoyant lifeline and the remainder provided with a self-activating smoke signal and capable of quick release from the navigation bridge;
- For each person on board one of the following-
    (1) a lifejacket suitable for a person weighing 32 kilogrammes or more for each such person;
    (2) a lifejacket suitable for a person weighing less than 32 kilogrammes for each such person;
    (3) a buoyancy aid suitable for a person weighing 32 kilogrammes or more and a buoyancy aid suitable for a person weighing less than 32 kilogrammes;
    (4) a lifejacket complying with British Standard Specification BS EN 394 and 396:1994: provided such lifejackets do not depend wholly upon oral inflation. Lifejackets of the partially inherently buoyant type for persons weighing 32 kilogrammes or more shall have buoyancy in the un-inflated state of not less than 89 Newtons; or
    (5) an inflatable Civil Aviation Authority lifejacket which complies with Part 5 of Schedule 9; and
- Not less than 12 rocket parachute flares.

Every ship shall be provided with-

- A general emergency alarm system, or a public address system which can be used for broadcasting a general emergency alarm and which complies with the requirements of Merchant Shipping Notice No. 1676(M) as amended by Merchant Shipping Notice No. 1757(M);. (Only vessels of over 15m need this)
- Posters or signs in accordance with the requirements of regulation 12;
- A training manual; and
- Instructions for on-board maintenance of life-saving appliances or a shipboard planned maintenance programme which includes maintenance of life-saving appliances.

2.4.5 Fire Safety.
All machinery spaces to be kept clean and tidy free from oil or other potential hazards.

2.4.6 Fire Appliances.
Details reproduced from SI 1001 1998 Fire Prevention and Fire Appliances (Passenger Ships) Part II.

<u>Passenger Ships</u>
a) Ships of Class ii (a) of less than 21.34 metres in length

- Fire pumps, fire main, water service pipes, hydrants, hoses and nozzles

Every ship of Class II (A) of less than 21.34 metres in length shall be provided in a position outside the machinery spaces with either a power or hand operated pump with a permanent sea connection and a hose with a 10 millimetres diameter nozzle capable of producing a jet of water having a throw of not less than 6 metres which can be directed on to any part of the ship.

- Portable fire extinguishers

Every ship of Class II (A) of less than 21.34 metres in length shall be provided with at least one portable fire extinguisher in each of the passenger spaces above the bulkhead deck, and with at least two such extinguishers in each of the crew spaces and in each of the passenger spaces below that deck. At least one portable fire extinguisher shall be available for use in any galley.

- Machinery spaces of Category A and spaces containing oil fuel settling tanks
  (1) In every ship of Class II (A) of less than 21.34 metres in length there shall be provided in any space containing any oil-fired boiler, oil fuel settling tank or oil fuel unit, one or more foam fire extinguishers each of at least 45 litres capacity or carbon dioxide extinguishers each of at least 16 kilogrammes capacity. The extinguisher, or extinguishers, shall be sited so as to be readily accessible in the event of a fire and they shall be sufficient in number to enable foam or carbon dioxide to be directed on to any part of the boiler room or space containing any part of the oil fuel installation. In addition there shall be provided –
    a. in each firing space and in each space which contains any part of any oil fuel installation at least two portable fire extinguishers suitable for extinguishing oil fires; and
    b. in each firing space a receptacle containing at least 0.3 cubic metre of sand or other dry material suitable for extinguishing oil fires together with a scoop for its distribution, or alternatively, an additional portable fire extinguisher for extinguishing oil fires.
  (2) In every ship of Class II(A) of 15.24 metres in length or over but of less than 21.34 metres in length there shall be provided in each space containing internal combustion type propulsion machinery at least five portable fire extinguishers suitable for extinguishing oil fires, and every ship of Class II(A) of less than 15.24 metres in length shall be provided with at least three such portable fire extinguishers in such space; provided that where internal combustion machinery is situated in a space to which paragraph (1) applies, only two such portable fire extinguishers need be provided in addition to the extinguishers required by that paragraph.

b) Ships of Class v

Fully-decked ships

(1) Regulations 6, 7 and 8 shall apply to fully decked ships of Class V of 21.34 metres in length or over as they apply to ships of Class III of 21.34 metres in length or over.
(2) Regulations 3, 4 and 5 shall apply to fully-decked ships of Class V of less than 21.34 metres in length as they apply to ships of Class II (A) of less than 21.34 metres in length.

Ships not fully-decked

(1) Every ship of Class V which is not fully-decked shall be provided with -
  a) a receptacle containing an adequate quantity of sand or other dry material suitable for extinguishing oil fires;
  b) a scoop for distributing the contents of the receptacle;
  c) the number of portable foam fire extinguishers shown in the following table -

Length of Ship	*Number of Foam Extinguishers*
Not over 9.14 metres	2
Over 9.14 metres but under 15.24 metres	3
Over 15.24 metres	5

  d) in the case of any ship of 12.20 metres in length or over, two fire buckets, and, in the case of any ship of less than 12.20 metres in length, one fire bucket, unless the equipment required by paragraph (2) is provided.

(2) Every ship of Class V which is not fully-decked but is decked in way of the machinery spaces shall be provided in a position outside such spaces with a hand pump, a hose with a 10 millimetre diameter nozzle capable of producing a jet of water having a throw of not less than 6 metres which can be directed onto any part of the ship.

c) Ships of Classes VI and VI (a)

Fully-decked ships

(1) Regulations 6, 7 and 8 shall apply to fully decked ships of Classes VI and VI (A) of 21.34 metres in length or over as they apply to ships of Class III of 21.34 metres in length or over. Not Applicable

(2) Regulations 3, 4 and 5 shall apply to fully-decked ships of Classes VI and VI (A) of less than 21.34 metres in length as they apply to ships of Class II (A) of less than 21.34 metres in length.

Ships not fully-decked

Regulation 14 shall apply to ships of Classes VI and VI (A) which are not fully-decked as it applies to ships of Class V which are not fully-decked.

2.4.7 Radio Equipment
In Addition to a Fixed VHF vessels must carry the portable equipment identified under Lifesaving appliances.

2.4.8 Navigation Lights, Shapes and sound signals
To comply with the requirements of the Merchant Shipping (Distress Signals and Prevention of collisions) Regulation 1996, SI 1996 No.75.

Length OA	Underway	Anchor	NUC	Aground	Sound appliances
< 7m	All round white and sidelight	Required	Not required	Not required	Means to make an efficient sound signal required

2.4.9 Navigational Equipment.
On United Kingdom ships having Passenger Certificates of Class IV, VI or VI (A) the magnetic compass installation shall comprise of one efficient magnetic compass at the steering position.

2.4.10 Miscellaneous equipment

- As all V/L's operating within the Harbour are either in Category C or 6 there is no requirement to carry Nautical publication.
- All vessels should be provided with a waterproof electric torch
- All vessels should be fitted with an efficient radar reflector (If Required by Risk Assessment)
- A portable/Fixed searchlight should be available
- A Boat Log Book and Maintenance Record will be kept and include the following as a minimum.

I. A Record of all drills and training.
II. A record of VHF tests.
III. A Record of Engine/Machinery/Deck maintenance including Official inspections and periods out of water.
IV. A record of work periods and jobs undertaken this should include the names of the boat crew and hours of work.

2.4.11 Anchors and Cables
All Passenger vessels operating inside the Category C area of the Harbour as defined in at the start of this section. Shall carry an anchor of sufficient mass for the size of the vessel and sufficient cable for the area of operation should be provided

2.4.12 Accommodation.
All other vessel should be able to prove there is adequate lighting supplied to accommodation and working areas to carry out the tasks for which they are approved.

2.4.13 Protection of personnel.
All Passenger vessels operating inside the Category C area of the Harbour as defined at the start of this section shall comply with:

- All guard rails and handgrips are to be secure and clean from grease.
- All working surfaces are to non-slip. Acceptable surfaces include chequered plate; unpainted wood; a non-skid pattern moulded into fibre-reinforced plastic; or an efficient non-slip covering.
- Each boat should be provided with a means for retrieval of persons from the water. The retrieval system may be of an approved type or a system specifically adapted to the vessel can accomplish the same function. Record of training in this and other safety equipment are to be entered in the Boat Log Book.
- All personnel should be provided with appropriate Personal Protective Equipment to undertake safely the tasks required.

2.4.14 Medical Stores.
Not required to be carried.

2.4.15 Manning
All Passenger vessels operating inside the Category C area of the Harbour as defined at the start of this section, are subject to Risk assessment. On the basis of these assessments (see Annex D) their Certificate of Fit for Purpose will be endorsed with the minimum manning requirements and this shall agree with the minimum Number stated on the Vessels Passenger Certificate. In the case of any passenger ship there shall be a second person to assist the skipper in the event of an emergency. As per the contents of Section 21 of MSN 1823 the Skipper of any passenger V/L operating in category C waters must hold a Boatmasters License with the appropriate passenger endorsement.

2.5 Inspection checklists and working documents.
The compliance procedure is confirmed by a process of inspecting workboats, maintaining a list of approved / certificated personnel and issuing Certificates of Fit for Purpose.
These working documents are retained in a separate ‘Workboat Operational Manual’ which is a non-controlled file. The information with this Manual includes.

- List of approved small boat operators in Larne Harbour.
- List of approved boats for operation in Larne Harbour and Certification.
- List of approved/certificated personnel and details of certificates and training.
- Inspection check lists for boats with MCA certificate.
- Inspection check lists for boats without MCA certificate.
- Inspection check lists for Class V or Class VI passenger vessels operating in the
- Categorised waters of Larne Lough.
- Copies of Risk Assessments for the operation of small boats and particular duties and manning requirements.

2.6 Geographical Limit
The Geographical Limit within which the Approval of Workboats Classed as “Fit for Purpose” Certificates are Valid is:

- Northerly limit - a line from north point of Ferris Point due west to the Larne shore.
- Southerly limit - a line from Curran Point due East to the Shore of Island Magee.

2.7

LARNE PORT

Certificate of Approval as being Fit for Purpose

Issued by the Larne Port Harbour Master or his authorised Deputy

Name of Vessel		Official Number	
Port of Registry		Date of Build	
Length Overall		Hull ID No.	
Minimum Qualification for the Skipper			
Minimum Safe Manning			
Maximum No. of Persons to be Carried (incl. Crew)			
Engine Make:		Last Service Date:	

Name and Address of Owner / Operator	

This is to certify that the above named vessel has been inspected and approved **'Fit for Purpose'** by a responsible person from Larne Port acting on the authority of the Harbourmaster.
It has been approved for operation on the basis of the criteria laid down in the Larne Port Marine Services Manual relating to small workboats and boats.

This certificate will remain Valid until:

Subject to the vessel and its equipment continuing to meet the aforesaid criteria and subject to regular annual inspections it is approved to work as:-

~~Towage services~~ ~~Pilot Boat~~ ~~Work boat~~ Safety and/or support boat

This certificate only approves the named vessel to operate within the protected waters of Larne Port as follows: within

The Statutory Harbour Limits of Larne Harbour

Issued at	Larne	Signed	
Last Inspection date			
		Name	S Wilson, Harbour Master

2.8 Protection of the Marine Environment

2.8.1 Introduction

A vessel complying with the Code should meet international, national, regional and local requirements for the prevention of marine pollution which are applicable to the area in which the vessel is operating. Responsibility for the vessel to be properly equipped and maintained to meet the requirements prevailing, rests with the owner/managing agent. It is also the responsibility of the owner/managing agent to ensure that the skipper receives up-to-date and adequate information on prevention of pollution in the area in which the vessel is to operate.

2.8.2 Requirements for preventing pollution of the sea.

a. Sewage: When the direct overboard discharge of sewage is prohibited by administrations/authorities in an area of operation, the provision of "holding tanks" of sufficient capacity to store waste for discharge to shore facilities may be needed for a vessel to comply.

b. Garbage: The disposal of garbage into the sea is governed by the MARPOL convention 73/78, as amended. Vessels operating in the port are however prohibited from discharging their garbage into the sea, and should land them in shore facilities

c. Oil: Discharge of oil in the port is prohibited under MARPOL convention 73/78, as amended.

2.9 Reporting on Marine Services; Workboats and other craft operating in Larne Port

The Harbourmaster will report within his Monthly Report regarding Marine Services, including any points of concern or note with respect to Pilot craft, tugs, workboats and any small passenger vessels operating in the Harbour.

3.0 Mooring operations

3.1 Introduction

The management of Health & Safety at Work Regulations 1999 requires that persons having control of premises shall, so far as is reasonably practicable, ensure that the premises and all means of access and egress available for use by persons who use these premises, are safe and without risks to health. Duty holders must carry out risk assessments.

The Act equally requires that employers should do all that is reasonably practicable to ensure health, safety and welfare at work of all their employees and this requirement includes the duty to provide and promote safe systems of work. This Code of Practice is, therefore, issued by Larne Port for the guidance of all persons engaged in **mooring and/or unmooring operations** whether employees of Larne Port, John McLoughlin & Son (Shipping) Ltd or other mooring providers. It is equally the duty, under the Management of Health & Safety at Work Regulations 1999, of every individual whether he be an employee or visitor, to exercise personal responsibility and to do everything he can to prevent injury to himself and others. Offences against the Management of Health & Safety at Work Regulations 1999 can result in prosecution.

Mooring gangs are likely to be contractors employed by the ship's operator or shipping agent. As with other contractors, they will be assessed on their health and safety, as well as cost and quality. As part of their risk assessment, clients must consider the risk for the mooring gang and ensure their employee has adequate information. All mooring operations and training of personnel involved in the provision of mooring services should be carried out in accordance with 'SIP005 – Guidance on Mooring – Nov 2020', which has been produced by the 'Port's Skills and Safety', which is supported by the Health and Safety Executive, and is available at SIP 005 - Guidance on Mooring Operations | Port Skills and Safety

The mooring service providers that operate at Larne Harbour should complete a risk assessment to assess the risk and take steps to ensure the safety of the mooring gang using the facilities for example, provision of proper lighting and a surface free from slipping and tripping hazards.

Risk Assessments will be completed by the employers of the mooring gang, the company employing the mooring gang and Larne Port, as the duty holder responsible for the quays.

Deviation will only be allowed from this Code of Safe Working Practices in an emergency upon the express authority of the emergency services or port management.

3.2 General Safety Rules for Linesmen

3.2.1 Driving Within the Port

1) Any person who is disqualified from driving on the public roads is also prohibited from driving within the port area.

2) Mooring contractors are not allowed to drive personal vehicles including bicycles within the port area, other than those specifically authorised to park at their place of work

3) Parking regulations, as indicated by notices or road markings must be strictly observed. Linesmen may only park their own vehicles in car parks provided and do so without redress or liability to Larne Port.

3.2.2 Reporting of Defects

1) Due attention should be paid to the lifebuoys and lines positioned around the quays and any defects or missing items must be reported by the mooring gang charge hand to Larne Port Control.

2) Similarly damages and defects in quay ladders, fenders, piling etc. must be reported to Larne Port Control for notification to the Harbour Master.

3) No obstructions must be placed adjacent to quayside bollards which may prevent safe access for mooring parties. Any such obstructions must be reported to Larne Port Control for notification to the Harbour Master.

3.2.3 Emergency Situations

1) It is important that all the mooring gang are accounted for at all times. Anyone missing, whether during the day or night, must be reported to Larne Port Control and a search commenced. Remember that a person falling into the water from the quayside may be knocked unconscious and will therefore make little sound.
Refer – Appendix 2: 'Man in Water' Procedures.

DO NOT TAKE ANYTHING FOR GRANTED
CHECK AND MAKE SURE THAT YOU AND YOUR TEAM ARE SAFE.

2) If anyone is missing or in the event of fire or accident, use the portable VHF radio on Ch. 11 to advise Larne Port Control or emergency telephone call immediately – **028 2887 2222.** Stay on the scene until given permission to leave. Some indication of the type of injury/occurrence is also helpful to allow some preparation by the members of the response team.

3) In the event of a major injury or dangerous occurrence Larne Port Control will notify the Emergency Services and others as per the Port of Larne Emergency Procedures. In the event of a minor injury ensure that Larne Port Control is advised so it is recorded in the Accident Book.

4) Persons should not approach any hazardous cargo or suspected hazardous cargo that is leaking or suspected to be in a dangerous condition. Such cargo must be referred to Larne Port Control preferably with the correct location, vehicle number, and, if available, the UN number of the substance.

5) The following immediate steps must be taken by the person in charge of the area:
    a) Evacuate persons from the area
    b) Ensure No Smoking
    c) All engines should be stopped
    d) Extinguish any naked lights
    e) All Port of Larne's lifesaving and firefighting equipment will be kept in good order by port personnel. Any defect noted should be reported by the charge hand to Larne Port Control. Similarly any fire extinguisher discharged, for any reason, should be reported to the Larne Port Control who will arrange for refill.

3.2.4 Alcohol and Drugs

The consumption of alcohol and drugs, whilst on duty, is forbidden. Any person reporting for duty having consumed alcohol, and who, in the opinion of port management or any responsible person is considered to be a possible danger to themselves or other persons whilst at work, will not be allowed to commence or continue duty.

Persons under medication which may affect their judgement are required to inform management of the circumstances before starting work.

Any person reporting for duty who, in the opinion of any management or responsible person, is considered to have his/her judgement impaired due to drugs or medication, which could cause a danger to themselves, or other persons while at work, will not be allowed to commence duty.

3.3 Mooring Operation

All mooring gang personnel will, whenever they are within quayside operational areas, wear the high visibility clothing, approved life jackets, safety footwear, safety helmets and rubber gloves, plus any other PPE gear which may from time to time be required by Larne Port management or their employer.

In the interests of safety and efficiency each mooring gang should be contactable by VHF radio on Ch. 11, when proceeding anywhere within the port.

Mooring gangs need adequate training in understanding the task in a step-by- step way so that they are able to identify the hazards and necessary precautions and all the terminology likely to be used by the vessel's crew whose communication and co-operation will be essential. Full training will be provided by the linesman's employer.

Personnel engaged in mooring/unmooring of large vessels must never carry out such work on their own. For mooring/unmooring of large ferries, a mooring crew will consist of a **minimum of 4 persons**, at least 2 personnel at each end of the vessel, one of each pair carrying a VHF radio. For smaller vessels (max of 90m loa), such as coasters and bunker barges, **a minimum of 2 persons**, is acceptable, so long as they are both in close communication and sight of each other and both carrying portable VHF radios.

All personnel must wear approved lifejackets at all times when working within 1m of the edge of quays, or on workboats and floating plant.

All personnel must be accounted for following the completion of mooring operations.

Each linesman should be beware of heaving lines thrown from a ship's deck. Occasionally heaving lines will have "Monkey's fists" attached. These are rope knots stuffed with cotton waste and occasionally with large metal nuts. A blow on an unprotected head can kill or seriously maim. Even small sand filled canvas bags sometimes used with heaving lines can be dangerous. *The use of metal nuts or other similar 'weights' is strictly prohibited*. Any vessel found to use such heaving lines should be reported to Larne Port Control who will advise the Maritime and Coastguard Agency accordingly.

A SAFETY HELMET MUST BE WORN AT ALL TIMES

When a linesman accepts a heaving line or rope, they are never to stand on the edge of the quay. Stand at least one metre back.

When heaving a mooring rope ashore, a linesman will haul sufficient rope straight onto the quay and then with one or more persons holding the weight between ship and quay, walk the slack rope along the quay to the bollard.

Linesmen should **NEVER** hold any rope by the crown of the eye. When placing the eye on a bollard or hook, always hold the rope by the side of the eye or the standing part and throw the eye over the bollard or hook. Never let a hand or fingers get between the rope and the bollard.

When the eye of the rope has been placed on the bollard, a linesman will instruct the person or persons holding the weight to "let go". The slack of the rope will not be thrown over the quay edge until the others are clear.

When a linesman is accepting a rope, either natural or synthetic, they must check the condition of the rope. If it is badly chafed or cut, ship's Deck Officer should be notified and request another rope.

A linesman must **NEVER** stand, or allow others to stand, between a mooring rope and the quay edge.

A linesman must **NEVER** stand in or allow others to stand in a loop or "bight" of any rope.

Once a rope has been placed on a bollard, the linesman will move well away from the bollard whether strain has been taken on the rope by the ship or not.
When considering what distance to move away one must think in terms of 20 or even 30 feet if possible. A nylon rope parting under tension will fly back 20 to 25 feet; a sisal rope will probably not fly back at all but a steel wire rope will fly and curl unpredictably, depending on the angle of the rope and how it parted. Every bollard, in regular use is marked with yellow lines identifying the ‘snap back zone’.

Sudden tension applied to a rope either by ship's winch or movement of the ship surging or listing can cause the rope to snake without parting. Anyone in the near vicinity, i.e. putting another rope on the same bollard, can be dealt a severe blow.

Wire ropes may snag anywhere along the rope but, in particular, bad spots occur at the eye and at the splice. These snags can inflict very painful injuries, even through leather gloves.

Mooring personnel who encounter lines or ropes that appear worn, damaged or showing signs of excess wear and tear ie breaking of strands, particularly on ferries that regularly use the port, should bring the issues to the attention of a ship’s officer and Larne Port Control.

Never let a wire rope slip through a hand and never slide a hand along the rope.

DO NOT WEAR RINGS.

Serious hand injuries have been caused by rings being caught in snags. Any badly stranded or rusted rope should be refused. Notify the ship's Deck Officer.

When accepting a mooring rope, the linesmen should be aware, particularly with large ropes, of any sudden release on board the ship. Ropes should be paid out steadily, but a sudden surge of weight could pull a person over the edge of the quay into the sea.

Linesman should ensure that when hauling ropes ashore they do not walk into danger.

BE AWARE OF WHAT IS BEHIND YOU AT ALL TIMES.

Particular care is required when working on the dolphins.

When required to "dip" ropes on bollards linesmen should always make sure that there is plenty of slack and that the weight between ship and quay is held by another person; they should also remain vigilant if the standing line on the bollard is under tension.

When mooring is in progress and additional ropes such as springs and breast ropes are being set up always listen and watch for any of the other ropes showing signs of overstrain. This can easily happen when the ship is heaving alongside or making adjustments fore and/or aft.

Different types of ropes give different alarm signals when they are approaching breaking strain.
- Natural fibre ropes, such as Sisal or manila will creak and squeak.
- Man-made fibres will crack.
- Wire rope will "sing" or creak.
- Nylon may make no noise at all, except for a very loud crack when it parts.

LINESMEN BEWARE OF SUCH NOISES AND KEEP AWAY.

Linesmen should ensure that all ropes are snug on bollards, hooks or rings. That they will not chafe or foul on sharp edges, fenders or equipment on the quayside.

On completion of mooring linesmen should ensure that heaving lines, messengers etc are returned to the ship and that all is secure.

When coiling or laying down "junks" on the quays or dolphins linesmen should ensure they are coiled and/or rigged in such a manner that they do not present a tripping hazard.

On completion of mooring, all mooring gang members to ‘stand by’ and assist the landing of ships gangway or taking of the shore gangway.

Continental Quay, North Dolphin; A small mooring winch can assist the handling of mooring ropes. Only linesmen trained on the operation of the winch are to take the control of the winch operation. Each lineman will be trained to the correct operation of the winch and competency assessed on a regular basis.
Refer - Appendix 3: Winch Operation Procedures.

Continental Quay, storm mooring; an additional breast line can be taken by ships at this berth in periods of inclement weather. The operational procedure for the deployment of this mooring is attached.
Refer - Appendix 4: Storm mooring deployment. **Disused – July 2020**

3.4 Unmooring Operation
Linesmen are to stand clear of bollards when waiting. Do not sit on the bollard or the quay edge. Be alert to ship's crew and your colleagues at all times. Every bollard, in regular use, is marked with a ‘snap back zone’. No-one should enter this area until the mooring is slackened off and the deck officer indicates to let go.

Linesmen should go to the bollard only when the rope to be released is slack; release the rope only when a ship’s officer orders you to do so by a clear signal (see 3.5), and then stand well clear.

DO NOT STAND NEAR THE BOLLARD OR RING

Repeat the procedure for every rope.

When a ship is "singled up" and making ready to haul off, extra strain may be put on the ropes when "springing off".

If tugs are used to pull the ship off, then greater strain may be placed on ropes even if the tug is only taking sufficient strain to hold itself in position.

Invariably when a ship is "springing off" the ship will be using its engine(s) and propeller(s) to obtain extra leverage; this means extra strain on ropes.

Wind off the quay will increase the loading on mooring ropes, particularly on a large ship with deck cargo or a high sided ferry. This "windage" may cause extra weight on ropes.

When releasing any rope from a bollard, the rope should be grasped by the side of the eye. Never slide a hand along the rope and never let a hand or fingers get between the rope and the bollard.

When releasing a dipped rope always pull sufficient slack through the eye or eyes of the other rope or ropes and then turn the dipped rope eye over the bollard. If it is jammed by one of the other ropes, pull the clear part right over the top of the bollard so that it can be pulled free; then signal to the crew to haul it free.

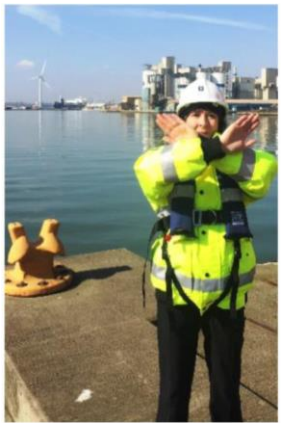
If gangways, ladders, etc from ship to quay are not hauled clear when the ship is about to leave, warn the Deck Officer.

On all quays secure the gangways before leaving the area. In high winds they can move around and cause damage to quay railings, fences etc.

3.5 Signals and Warnings

There are a number of signals which are almost universal relating to ship mooring:

An outstretched arm with the hand flat being waved downwards means **"slack off"**



Arms crossed facing upwards in front of the body means **"make fast"** or **"It is made fast"**

A circular movement of the hand above the head means **"heave away"**;

Cupped movement of the hand upwards means **"let go"** or **"cast off"**

Both hands raised above the shoulders, palms facing outward means **"Stop"** or **"Hold On".**

All personnel engaged in rope handling must be aware of the above signals. If in doubt consult your supervisor.

When breast ropes are connected to inshore anchorage points, ensure that the rope can be seen by others. Hang coloured tapes or even strips of white cloth on them if no permanent warning system is available.

3.6 Implementing and Maintaining Safety Culture

Each new employee with any contractor operating at Larne Port should have a full safety induction on their first day of employment to cover all aspects of Health & Safety and the Environment at the Port.

This safety induction is Larne Port specific and does not cover the training as a mooring gang member. This training will be completed by the employer, which should be in accordance with 'SIP005 – Mooring Guidance – Nov 20'.

A Safety Manual accompanies and a set of mooring procedures is retained at Larne Port Control. Contents include:

- Completed Induction Forms
- Course examination records.
- Safety Notices issued by Larne Port, P&O Ferries or others.
- Risk Assessments by : Employer, Ferry Company, and Larne Port
- Reports of Accidents or Incidents.
- Mooring plans for each berth.

Section 3.7 Appendices

Appendix 1

Larne Port Risk Assessments

Mooring operations - Mooring contractor or ships crew injured

HAZARD REFERENCE: 56

RANK: 4 of 14

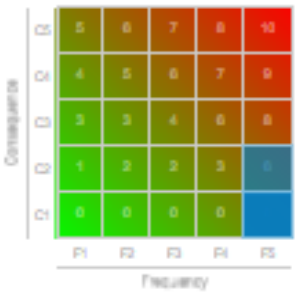
BASELINE RISK: 4.01

RESIDUAL RISK: 3.51

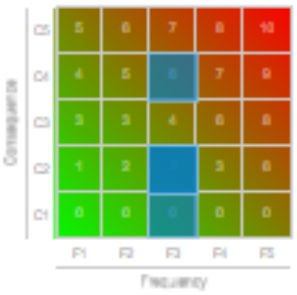
INHERENT RISK: 6.36

CATEGORY: Personal Injury

MOST LIKELY



WORST CREDIBLE



Hazard Criteria

Stakeholders Affected

Harbour Master
Mooring Gangs
Ship Masters
Vessel Operators / owners

Audit Log

Main ship involved

Primary Main ship
Main ship Type: All Vessel Types
Sub vessel Type:

Review

Every 1 year by External Body
Last review: 26 Nov 2021
Next review: 26 Nov 2022

Area

Areas Affected

No. 1 Buoy to No. 7

3 Incidents in These Areas

Hazard Description

Most Likely Outcome

A strain, slip, trip or fall during mooring operations, resulting in a single injury.

Worst Credible Outcome

The breakage of a mooring line, hitting and seriously injuring one or more personnel, either aboard or ashore.

Detail

A member of ships crew or mooring team injured whilst handling mooring ropes, as a result of rope breakage, training, slipping or falling, potentially into water.

Possible Causes

Adverse Wind
Communications Failure (Equipment)
Equipment Failure
Failure to comply with Local Regulations
Human Error Control/Operational
Human Error Judgement
Human Fatigue
Information Failure
Maintenance Failure
Manning Levels
Quality and Qualifications
Poor working practices. Inadequate lighting, particularly on extension dolphins. Ice on berth. Trips on obstruction.

	Title	Date Applied	Baseline Risk	Residual Risk
A	Linesmen Training	23 Jan 2014	Included in Baseline Risk Assessment Freq. Eff. 20% Cons. Eff. 0%	No Residual Effect
B	Bridge Procedures - Bridge Team Management	4 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 30% Cons. Eff. 10%	No Residual Effect
B	Navigation and Port Operation Guidelines	4 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 10% Cons. Eff. 10%	No Residual Effect
B	Quay Marks	4 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 5% Cons. Eff. 0%	No Residual Effect
B	Special Risk Assessment and Method Statement	4 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 20% Cons. Eff. 10%	No Residual Effect
B	Tug and workboats available.	4 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 0% Cons. Eff. 20%	No Residual Effect
B	Safety Training	10 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 30% Cons. Eff. 0%	No Residual Effect
B	Lifebelts and throwlines	30 Jul 2014	Included in Baseline Risk Assessment Freq. Eff. 0% Cons. Eff. 20%	No Residual Effect
C	De-icing / Cleanliness of Quays	24 Feb 2017	Included in Baseline Risk Assessment Freq. Eff. 20% Cons. Eff. 0%	No Residual Effect
C	Emergency Plans/Procedures	24 Feb 2017	Included in Baseline Risk Assessment Freq. Eff. 0% Cons. Eff. 20%	No Residual Effect
D	Communication	20 Apr 2017	Included in Baseline Risk Assessment Freq. Eff. 10% Cons. Eff. 10%	No Residual Effect
E	PPE	23 Jun 2018	Included in Baseline Risk Assessment Freq. Eff. 10% Cons. Eff. 20%	No Residual Effect
F	Implement Local Port Services	1 Nov 2020	Not included in Baseline Risk Assessment	Present Residual Effect Freq. Eff. 10% Cons. Eff. 20%
F	Marine Services Manual	6 Nov 2020	Included in Baseline Risk Assessment Freq. Eff. 20% Cons. Eff. 10%	Present Residual Effect Freq. Eff. 20% Cons. Eff. 10%

Appendix 2

Response to a Linesman Entering the Water

1.0 Linesman with VHF

1.1.1 Charge hand on duty or a remaining linesman to:-

1.1.2 Immediately alert Larne Port Control on Channel 11 that a man has entered the water

1.1.3 Give accurate information of where the incident has occurred.

1.1.4 Remain on the quay and send a lifebuoy (with line) or a speedline to the casualty.

1.1.5 Maintain a visual fix on the casualty insofar as possible, keeping Larne Port Control / On Scene commander advised of the casualty's position by giving constant information of the direction the casualty is travelling and at what speed. He should not leave the quay for any reason, including launching a boat, unless or until this role of visual monitoring to is being carried out by, or has been handed over to, another competent person.

2.0 Linesman without VHF

2.1 The linesman on the quay will alert any remaining linesmen in the area of the situation by whatever means are available

2.2 Larne Port Control should be advised as soon as possible by whatever means are available (mobile phone or radio)

2.3 If no other linesman is available, the remaining linesman should request the nearest member of Security staff or P&O personnel to contact Larne Port Control and to give assistance on the quay (see 1.1.5 above)

3.0 **Larne Port Control duty to**:-

3.1.1 Call for assistance of nearest available workboat or rescue workboat (McLaughlins, RNLI, boat club or ship's FRC or lifeboat).

3.1.2 If a ship is manoeuvring in the vicinity of the casualty, immediately request the ship's Master and/or pilot to stop engines and thrusters if safe to do so and request assistance if necessary.

3.1.3 Contact the Emergency Services on 999 if necessary.

3.1.4 Commence the Larne Harbour Emergency Plan, if required.

3.1.5 Advise any other shipping in the area accordingly

3.1.6 Record all communications and actions of all persons.

3.1.7 Manage the shipping movements accordingly.

3.1.8 On Scene Commander duty to:-

3.1.9 Make his way to the incident.

3.1.10 Announce his arrival and take over all charge of the incident.

4.0 **First available boat skipper should**:-

4.1.1 Confirm with Larne Port Control on arrival at boat.

4.1.2 Confirm with Larne Port Control when they have departed the quay.

4.1.3 Remain listening to the VHF. Communication channels will change.

4.1.4 Keep Larne Port Control / On Scene Commander advised of their position.

4.1.5 Advise Larne Port Control / On Scene Commander that they have located the casualty and plan for retrieval.

4.1.6 Advise Larne Port Control / On Scene Commander of the condition of casualty.

4.1.7 Return quickly to the quay nominated by Larne Port Control/ On Scene Commander to land the casualty.

Appendix 3

Operating Instructions for the use of Winch located on Outer Dolphin Continental Quay

1.0 Approach to Winch

1.1 On your approach to the outer dolphin you may be confronted by a tripping hazard this will consist of the buoy mooring rope and the 30mm messenger line attached to the buoy mooring rope.

1.2 Please ensure these ropes are properly tidied before commencing work, this will eliminate the possibility of tripping.

2.0 Winch Controls

2.1 To switch on the winch you will access the control panel via a small sliding door on the side of the blue painted box attached to the shore-side handrail directly adjacent to the winch.

2.2 The control panel will show two buttons square in shape, green one when pressed will turn the winch on, this will be confirmed by a low humming noise and a yellow flashing light attached to the top of the blue box.

2.3 The red button when pressed will turn the winch off.

2.4 At this stage it is important to note the Emergency Stop button, red in colour and attached to the outside of the blue box. Press this button immediately in the event of any emergency affecting the use of the winch. Turning gently clockwise can reset it and you will feel it release and hear a low click. The winch is again ready to turn on via the green button.

2.5 In the event of the winch not working, do try and alert the crew of this either by signal or shouting, as this may affect the crew decision to put out a lighter rope first as opposed to a heavy wire.

3.0 Test Controls

3.1 You have turned the equipment on and it seems to be functioning. You must confirm this by testing the controls and satisfy yourself all is well. (see photos of winch controls)

3.2 There are two levers on the side of the winch facing you as you look north. The longer one of the left operates the direction the barrel of the winch will turn either clockwise or anti-clockwise.

3.3 Move the lever forward or away from you and the barrel will turn anti-clockwise. Move the lever backward or toward you and the barrel will turn clockwise.

3.4 The shorter lower down lever on your right will operate the speed at which the barrel will turn. It will affect the speed of the barrel wither the barrel is operating clockwise or anti-clockwise. There are two speeds only, either quick or slow, you choose.

4.0 Using Winch

4.1 The winch need only be used to either pull in the heavy mooring wire or to retrieve the buoy rope, or in the case of strong off shore winds where speed is no longer a necessity, and the ships head is a long way off the quay then the winch may be used to haul in the mooring rope.

The Actual Mooring Operation.

5.0 Handling a Ship's Wire

5.1 You will receive a messenger (a heaving line) from the ship. The ship will take in the slack of the line and you will hold onto the weighted end. The ship will attach his end of the line to the mooring wire.

5.2 You will then lead the heaving line over the round bar presently surrounding the winch and approximately 1m of the ground, and then directly onto the winch barrel. You will ensure the line is wound neatly round the barrel approx. three or four times with no overlapping of the coils.

5.3 You will then engage the winch lever and gently haul on the line while coiling the slack behind you onto the ground, keeping the area where you will tread, clear of obstruction.

5.4 You and your partner will also watch the wire as it is hauled over the edge of the quay and toward the winch. **Stop**, do not haul the wire any closer to you than is necessary, that is when the wire is adjacent to the bollard, stop the winch, allow your partner to lever the wire over the bollard and you will slack-away on your line to allow the wire to be secured completely over bollard.

5.5 Detach the line and continue mooring operation without the need of the winch.

5.6 Turn the winch off by pressing the **RED** button located adjacent to the **GREEN** start button in the box.

5.7 Close the sliding door.

6.0 Operation to Retrieve Mooring Buoy Rope

6.1 Prepare to retrieve the mooring. The 30mm mooring is attached to the back bollard with figure eights. Release this and hold in your hand awaiting the ship to pay out slack, haul the slack in by hand, do not allow slack to lay in area of bow thrusters.

6.2 When ship has released messenger and attached buoy rope, you may put messenger onto winch over bar approx. ¾ neat coils on barrel.

6.3 Engage long lever and gently but firmly haul on rope, feed slack to the side and behind you, your partner will clear slack and coil neatly behind back bollard.

6.4 You have hove messenger and now have a tight line from winch to mooring buoy. Maintain this tight line by keeping coils on barrel and holding slack end firmly and occasionally engaging long lever to keep tension on rope.

6.5 Your partner will then attach a stopper to the tight buoy rope.

6.6 This stopper is a piece of 25mm rope approx. 2 meters long and is made fast permanently to the base of and to seaward of round bar. Your partner will attach this stopper to tight buoy rope by simply wrapping round turns onto buoy rope and holding firmly.

6.7 You will then remove coil from barrel and pull remaining slack and attach by figure eights to back bollard. Your partner will then release his stopper.

6.8 Turn off the winch as per pervious instruction.

Appendix 4

Continental Quay Storm Mooring

Disused – July 2020

Operational Procedure

1.0 Mooring

1.1 Preparation, pre-berthing

1.1.1 Lower crossing strop to walkway

1.1.2 Place hook over strop.

1.1.3 Raise strop with storm mooring winch to a suitable handling position.

1.2 Handling ships mooring line

1.2.1 Take heaving line and haul mooring ashore from the north dolphin.

1.2.2 Take eye of mooring line to storm mooring hook.

1.2.3 Stand clear of hook and give the heave up signal to the ship crew.

1.3 Releasing the storm mooring

1.3.1 Stand clear of hook that is at least beyond the 2 upright stanchions.

1.3.2 Give the ‘heave up’ signal to the ship crew.

1.3.3 The storm mooring will sway violently until the line takes the appropriate ship to shore alignment.

1.3.4 **Never** go close to the mooring line until the line is in the final position.

1.4 Lower the cross strop.

1.4.1 To avoid un-necessary strain on the cross strop and stanchions the cross strop must be lowered to the walkway.

1.4.2 Secure the strop against the handrail to avoid causing a tripping

2.0 Letting go

2.1 Raise the cross strop

2.1.1 Release the strop from the handrail

2.1.2 Using the hand winch, raise the strop to the storm mooring so that it is tight against the mooring line.

2.2 Releasing the storm mooring

2.2.1 Ship's crew will give the signal to let go the storm mooring and will ease back on their mooring line

2.2.2 The weight of the storm mooring and hook will be taken by the cross strop and the hook should swing towards the handrail.

2.2.3 When sufficient ships rope is given out **2 men** will release the ships mooring from the storm mooring hook.

2.2.4 Be aware of manual handling issues at this time and never over extend yourself beyond the handrail.

2.2.5 Adjustment to the cross strop may be required to lower the storm mooring to a reasonable working height.

3.0 Storage position

3.1 Lower the storm mooring to the walkway by using the hand winch.

3.2 Transfer storm mooring and hook to the walkway, coil clear of pedestrian walking line. Raise the cross strop to the horizontal position, this is the final storage position.

LARNE PORT

Appendix 5

SAFETY INDUCTION CHECKLIST

1.	Safety Legislation - History - Law	☐
2.	Safety Policy, Organisation, Implementation Health & Welfare; Environment.	☐
3.	Explanation of Employers' and Employees' Responsibilities under Section 7 of H.S.W.A. 1974 Duty of Care	☐
4.	Role of Supervisors / Managers in Health & Safety Information, Instruction, Training, Supervision, Risk Assessment	☐
5.	Emergency Procedures, fire precautions, safe access and exit, housekeeping, use of fire extinguishers – muster points	☐
6.	RIDDOR Regs, Sickness Procedures, First Aid and Welfare provisions - Safety Reps., etc.	☐
7.	Legislation and Regulation (Dock Regs, H&SAW) Use of Personal Protective Equipment, High Visibility Clothing, Safety Shoes, etc.	☐
8.	Safety awareness while at work - be aware, be seen, be safe. Description of past incidents and potential injuries, particularly with moving vehicles. Manual Handling	☐

Inductor's Name: **Sgd:** _____

Inductee's Name: **Sgd:** _____

LARNE
PORT

SAFETY INDUCTION

Print Name: _____

- □ LOCATION OF FIRST – AID STATIONS
- □ LIST OF QUALIFIED FIRST – AID PERSONS
- □ LOCATION OF FIRE EQUIPMENT
- □ LOCATION OF EMERGENCY EXITS
- □ EMERGENCY RENDEZYOUS POINTS
- □ LOCATION OF OIL SPILL EQUIPMENT / KITS
- □ INCIDENT BAY LOCATION / PROCEDURES / DGHA
- □ TRAFFIC PLAN
- □ WEARING OF HIGH VIZ / PPE
- □ INTRODUCTION TO LARNE PORT SSW

COMPANY: _____

DATE: _____

SIGNED: _____

Signed on behalf of Larne Port _____

Appendix 6

Copies: Harbour Master Service Provider

LARNE PORT

ON QUAY MOORING ASSESSMENT FORM

For completion by Larne Port Mooring Assessor

Mooring assessments are completed on behalf of the Harbour Master of Larne Port, in order to demonstrated compliance with the Port Safety Management System.
Mooring Assessor should complete each grey box clearly, marking "Yes" or "No" as appropriate. Mooring Assessor should indicate which Section is being assessed, by ticking box to right of title.

Section 1 Details of Boatmen		**Section 2 Details of Location**	
Boatman's #1 full name		Location	LARNE
Boatman's #2 full name		Quay	
Boatmen's Employer		Position	Forward / Aft
		Ship Name	
Do the Boatmen wear the correct PPE?	Yes No	Type of mooring line	WIRE / ROPE
Did the Boatman arrive at the quay promptly?	Yes No	Date and time of assessment	
		Weather conditions	

Section 3: Details of mooring assessment	
Acknowledged Petty Officers request to send heaving line with standard signal?	Yes No
Shared the weight of the line equally with second Boatman?	Yes No
Manually handled the mooring line to the bollard safely?	Yes No
After placing line on bollard took a safe position away from snap back zone?	Yes No
Used a standard signal to authorise the Petty Officer to tighten mooring line?	Yes No
Safely returned heaving line to the ship (where appropriate)?	Yes No
Acknowledged Petty Officers "mooring complete" advice with standard signal?	Yes No

Section 4: Details of letting go assessment	
Took a safe position behind bollards in use?	Yes No
Waited for Petty Officer to signal "let go" once lines were slackened?	Yes No
Grasped eye of the line in a safe position in front of the bollard before lifting it clear?	Yes No
Lifted eye of line high enough to be well clear of bollard?	Yes No
Used a standard signal to authorise Petty Off to heave the mooring line back to ship?	Yes No
Kept hold of rope eye or its tail rope and walked it back to quay edge?	Yes No

Section 5: Assessors recommendations (required for all negative responses above)

Mooring Assessor
(Print Name) **Signature**

Please note that actual 'On Quay Mooring Assessments' are done on My Compliance software and stored electronically.

Appendix 7: Dangerously weighted heaving lines – reporting procedure

Actions on Receipt of a Report: non-UK Flagged Ships
1. Operator/Port Harbour Authority to report the incident to the nearest Marine Office (MO) and MCA Navigational Safety via: navigationsafety@mcga.gov.uk
2. Resulting in injuries to personnel - the ship should be considered for inspection in the normal manner.
3. No injuries reported – a stepped approach is considered by the Marine Office
4. A letter to be sent to the ship owner/operator via the agent (preferably by email) highlighting the incident.
5. Marine Office to send copies of email/correspondence to the MCA Enforcement Branch and Port Liaison Policy Manager (PLPM) as soon as practicable, for their records and to consider any additional enforcement action that may be appropriate.
6. Marine Office to maintain a simple recording system of the reports and the response from the MO; to recognise repeat offenders.
7. Second Offence by the same ship – MO to consult the issue with Inspection Operations Branch and enter an unexpected factor message in THETIS [THETIS is the information system that supports the new Port State Control inspection regime (NIR)]. Ship considered for inspection.
8. MO to notify PLPM and Enforcement Branch
9. Third and subsequent incident reports of the same ship – MO to refer the matter to Enforcement Branch to consider appropriate enforcement action. PLPM and Inspection Operations Branch to be kept in the copy.

Actions on Receipt of a Report: UK Flagged Ships
1. Operator/Port Harbour Authority to report the incident to the nearest Marine Office (MO) and MCA Navigational Safety via: navigationsafety@mcga.gov.uk
2. Resulting in injuries to personnel - the ship should be considered for inspection in the normal manner.
3. No injuries reported – a stepped approach is considered by the Marine Office
4. A letter to be sent to the ship owner/operator via the agent (preferably by email) highlighting the incident.
5. Marine Office to send copies of email/correspondence to the MCA Enforcement Branch and Port Liaison Policy Manager (PLPM) as soon as practicable, for their records and to consider any additional enforcement action that may be appropriate.
6. Marine Office to maintain a simple recording system of the reports and the response from the MO; to recognise repeat offenders.
7. MO to follow this up or by referral to the MCA Customer Service Manager (CSM) on case by case basis
8. Second Offence by the same ship - Marine Office to consult Inspection Operations Branch and consider inspection and notify PLPM and Enforcement Branch.
9. Second Offence for UK Flagged Company - MO or CSM to notify the company (DP). Discuss the issue and establish a corrective action plan.
10. Third or subsequent Offence by the same ship – MO to refer the matter to the Enforcement Branch to consider appropriate enforcement action and to notify PLPM.

MSF 5029 Rev 10/14

Maritime & Coastguard Agency

SAFETY BULLETIN No. 2

DANGEROUSLY WEIGHTED SHIPS HEAVING LINES

There have been several instances where dangerously weighted heaving lines, including the use of monkey's fists with additional weights inserted into them, have been used resulting in serious injury.
Further guidance is contained in Ch 26 section 26.3.5 in the 2015 edition of the Code of Safe Working Practices for Merchant Seafarers.

Vessels using dangerously weighted heaving lines in the UK may be subject to prosecution

MSF 5029 Rev 10/1

To arrange a subscription to future Safety Bulletins go to https://www.gov.uk/government/publications/maritime-and-coastguard-agency-mca-safety-bulletins For further information please contact Ship Safety Branch, Maritime & Coastguard Agency Tel: +44 (0) 2380 329 100
Issued: 28 September 2015

Appendix 8 - Wind procedure for vessels entering or departing the Port of Larne.

1.0 General

For the purpose of this procedure, wind speeds are defined as average wind speeds over the preceding 10 minute period, as shown on the Larne Port Control equipment. However, Larne Port Control should also provide ship's Masters with wind direction, as well as the maximum gust speeds, over the preceding 10 minutes.

1.1 No vessel shall enter or move within the port with the wind in excess of **35 kts** unless it has been confirmed that the destination berth is clear.

1.2 Vessels shall not enter, leave or move within the port with a wind in excess of **40 kts**; however exceptions may be made for regular scheduled ferry movements, at the discretion of the Master and the Harbour Master and subject to Section 2 below.

2.0 Regular P&O RoRo Ferries

2.1 Consequent to specific assessment and consultation with Masters of the regular ferries listed in the below matrix, it has been determined that the below maximum limits shall *generally* apply:

Wind direction	**Any**	**NE (020') to SW (220')**	**Assumption**
European Highlander and European Causeway	35-45 kts	45-50 kts	4 engines & thrusters all operational

2.2 Irrespective of the limits in Clause 2.1, nothing should be deemed to override the principles that:

a. Movement of regular ferries shall, at all times, be at the discretion and under the authority of the Ship's Master

b. The Harbour Master has the authority to prohibit the movement of any and/or all vessels in the event that he/she deems that, due to prevailing circumstances and/or conditions, they are unsafe.

As a consequence, there exists an obligation and expectation that a ferry's master and Harbour Master – or his/her designated representative - will consult with each other in the event that a movement or prohibition is anticipated outside the limits above.

2.3 In addition to the foregoing wind parameters, it is a requirement that, in day to day operation, the Master will also assess the requirement for tug assistance based on the existing prevailing circumstances when manoeuvring at the port. These circumstances include wind strength and

direction, tidal state and current flow, traffic density, and the condition of the vessel's main engines, bow thrusters and steering.

All masters of vessels berthing with major defects of main engine, bow thrusters and steering will carry out an individual and specific risk assessment on the planned manoeuvre. The use of tugs under these circumstances is recommended by the Harbour Authority as a risk control and should be discussed and agreed with the Harbour Master before undertaking such operations.

In accordance with the Marine Services Manual (Section 1.2.2), whilst the ferry's Master has primary responsibility for ordering sufficient and suitable tugs according to his own evaluation and assessment, parameters under which tugs will be *generally* employed have been discussed and agreed as follows, always assuming that the vessel has no defects on her propulsion or manoeuvring equipment:

a. A small tug/workboat (bollard pull < 10T) will be engaged to assist by pushing if winds are forecasted to exceed 45-50 knots
b. An intermediate tug (bollard pull 20-25T) will be engaged from Belfast if winds are expected to exceed 50 knots for a sustained period or an accumulation of periods greater than 6 hours over a 24 hour period, particularly if the winds are expected to be from a North West to South West direction.

It is very unusual for tugs at Larne Port to be employed to tow, general practice being to engage tugs purely for a pushing role. PEC holders are not permitted to use a tug to tow, unless authorised to do so by the Harbour Master, who will consider the PEC holders level of experience and familiarity with respect to the operation of tugs and the intended towage operation, before issuing authorisation. In the absence of such HM authorisation, a Pilot(s) should be assigned for this type of towing operation.