



PORT OF BARROW TOWAGE GUIDELINES



Amendment Log

| Version | Comments | Author | Date |
|---------|--------------|--------------------|------------|
| 1.0 | New Document | Charlie Simcox DHM | 01/07/2017 |
| | | | |
| | | | |
| | | | |

Contents

| Chapter | Content | Page |
|------------------|----------------------------------------------------|-----------|
| | Introduction | 5 |
| | This Page is Intentionally Left Blank | 6 |
| Chapter 1 | Towage Recommendations – Port of Barrow | 7 |
| 1.1 | Towing Matrix | 7 |
| 1.2 | Deviation from the Towing Matrix | 8 |
| 1.3 | Qualifications | 8 |
| 1.4 | Working Hours | 8 |
| 1.5 | PEC Requirements | 9 |
| | This Page is Intentionally Left Blank | 10 |
| Chapter 2 | Preparing for Towage Operations | 11 |
| 2.1 | Planning & Coordination | 11 |
| 2.2 | Pilot/Master Exchange | 11-12 |
| 2.3 | Pilot/ Tug Master Exchange | 12 |
| 2.4 | Preparations onboard the Tug | 12 |
| 2.5 | Watertight integrity | 13 |
| 2.6 | Testing and inspection of towing equipment | 13 |
| 2.7 | Non-Routine Dead Tows | 13 |
| | This Page is Intentionally Left Blank | 14 |
| Chapter 3 | Communications | 15 |
| 3.1 | VHF Communications between Parties | 15 |
| 3.2 | Port VHF Channels | 15 |
| 3.3 | Pilot Instructions to the Tug | 15-16 |
| | This Page is Intentionally Left Blank | 17 |
| Chapter 4 | Towage Operations | 18 |
| 4.1 | Connecting and Disconnecting Towing Gear | 18 |
| 4.2 | Common Hand Signals | 18 |
| 4.3 | Tow Quick Release | 18-19 |
| 4.4 | Girting | 19 |
| 4.5 | Use of a Gob/Gog Rope | 19 |
| 4.6 | Seafarer safety during towing operations | 19 |
| 4.7 | Safe Speed | 20 |
| 4.8 | Interaction | 20 |
| 4.9 | Bollard Pull | 20 |
| 4.10 | Towline Length | 21 |
| | This Page is Intentionally Left Blank | 22 |
| Chapter 5 | Towage in Restricted Visibility | 23 |
| 5.1 | Restricted Visibility Develops during an Operation | 23 |

| Chapter | Content | Page |
|------------------|-------------------------------------------------------------|--------------|
| 5.2 | Procedures When Restricted Visibility Exists or is Expected | 23 |
| | This Page is Intentionally Left Blank | 24 |
| Chapter 6 | Further Guidance & Advice | 25 |
| 6.1 | Girting | 25 |
| 6.2 | Guidelines & Reference Documents | 25 |
| | This Page is Intentionally Left Blank | 26 |
| Annex 1 | Non-Routine Towage Assessment Form | 27-28 |
| Annex 2 | Annex 2 Port Operated Towage Asset | 29 |
| Annex 2 | Other Port Towage Assets | 30-31 |

Introduction

These guidelines have been produced by ABP Barrow Harbour Authority in conjunction with pilots, Tug Masters and port users. The guidelines reflect the content of ‘the Guide’¹.

The purpose of developing these guidelines is to enhance the safety of marine towage operations within the Port of Barrow and provide a framework to prevent accidents, enhance communications and teamwork between towage operators, tug masters, pilots, and the Harbour Authority.

ABP Barrow Harbour Authority continually risk assesses activities and operations within its area of responsibility and applies appropriate safety control measures to ship movements. This may include the use of a tug.

ABP Barrow Harbour Authority reserves the right to amend these Towage Guidelines in line with MAIB, MCA, ABP Marine Advisory Notices or similar recommendations that reflect the Operations at the Port of Barrow.

¹ Guide to Good Practice on Port Marine Operations, February 2017, Section 10

Intentionally blank

Chapter 1 - Towage Recommendations

1.1 Towing Matrix

It is important to recognize that the advice given within these guidelines is based on the following:-

- A “standard vessel” for the port of 3000-6000t, General Cargo Vessel, single screw, CPP, bow thrust, with a service speed of 10-12kts.
- A minimum bollard pull of 7.6 tonnes for each tug. Please refer to Annex 2 and Annex 3 for towage assets within the Port.

As a result the Towing Matrix detailed below can be described under normal conditions* as the lowest common denominator with respect to the Port of Barrow’s towage recommended requirements and is a baseline guide:

| VESSEL LENGTH | BASIN (INC LOCK) | ANCHORLINE BASIN | Condensate Berth | INS TERMINAL | ADEB | TOWN QUAY | DEVONSHIRE DOCK |
|---------------|------------------|------------------|------------------|--------------|------|-----------|-----------------|
| <95m | - | - | - | - | - | - | 1 |
| 95m – 120m | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| 120m – 160m | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 160 - 230 | 2 | | | | | | |

* Normal Conditions refers to wind conditions within the Port Limits.

| WIND SPEED | ADDITIONAL TUG ALLOCATION ABOVE MATRIX RECOMMENDATION |
|------------|-------------------------------------------------------|
| 0 - 20kts | AS PER MATRIX |
| 20-35Kts | + 1 |
| 35-45Kts | +2 (All berths) |

It is however recognized that due to the considerable variations in vessel size, shape, condition and degree of manoeuvring capability the recommended number of tugs from the matrix given may be in excess of what is the safe minimum number of tugs for a particular vessel. As a consequence the master of any visiting ship may order the recommended number of tugs as per the towage matrix contained within this document or opt to consult with an authorised Barrow Pilot where both marine professionals may agree to deviate from the Towing Matrix contained within this document by use of their own professional judgment to set a safe and appropriate level of tug provision for a particular vessel. Likewise that tug provision may exceed the guidelines in exceptional circumstances, or when directed by the Harbour Master under his statutory powers.

1.2 Deviation from the Towing Matrix

Such consultation can be arranged by the master of any vessel through his Agent who will then contact the towing provider or appropriated pilot to give due consideration to the masters request. In assessing any variation from the Towage Matrix the following points will be taken into consideration namely:-

- The Length of the vessel
- The draught of the vessel.
- The windage area of the vessel.
- Lock restrictions in terms of UKC
- The minimum under keel clearance during the planned passage channel transit and enclosed dock system.
- Range of the tide on the date in question – springs or neaps.
- Expected wind conditions.
- Disposition of other vessels and port infrastructure.
- The forecast weather conditions, including visibility.
- Manoeuvring aids – thrusters, size and number.
- Type of propulsion system – controllable pitch, fixed pitch, or azimuth.
- Type of steering system – single or twin rudders, high-lift or standard.
- The Gross Registered Tonnage in relation to the vessels principal dimensions.
- Unusual design of vessel.
- Any reported defects to the vessel.
- Type of main engine – air start, diesel electric, gearbox.
- Availability of boatmen.

1.3 Qualifications

National certification of tug crew is set by the Maritime and Coastguard Agency in accordance with the PMSC² and ‘the Guide’³. All crew must meet these requirements and tugs must be safely and adequately manned. In addition, all Masters of tugs operated by ABP Barrow are required to hold a Certificate of Competency (CoC) to STCW standards. An MCA Towage Endorsement is preferred but not mandatory if the Master can provide proof of adequate training and/or experience.

Operators of registered tugs shall ensure that their crews are trained with a sound understanding of the tugs they operate, relevant towage techniques and the area in which they operate.

1.4 Working Hours

All ABP tug crew members must be properly rested in line with the recommendations of national and international legislation.⁴

² Port Marine Safety Code, November 2016, Chapter 2 Key Measures to Secure Marine Safety, Para 2.18 Competence Standards

³ Guide to Good Practice on Port Marine Operations, February 2017, Section 10, Sub-Sections 10.4-10.5

⁴ Initial guide is the Employee Handbook, Section 5 Working Hours. Working Time Regulations forms the basis.

1.5 PEC Requirements

Pilot Exemption Certificate (PEC) holders, applying for a PEC are only permitted to operate with tugs if examined during towage operations as part of the PEC process. PEC holders are not permitted to move their vessel when in a non-propelled status using tugs.

Intentionally blank

Chapter 2 - Preparing for Towage Operations

2.1 Planning and Coordination

Before towing operations commence, a comprehensive plan should be agreed by the Master and Pilot. This should take account of all relevant factors, including tide, wind, visibility, ship size, type and characteristics, and specific berth requirements.⁵ The Pilot is to ensure he has a sound knowledge of the tug's capabilities and limitations. The Pilot and Master are to ensure the tugs are suitable for the task ahead and positioned on the vessel so as to facilitate a safe operation. The Pilot and Master must be in total agreement before the towage operation begins.

Responsibility for co-ordinating a towage operation lies with whoever has the conduct of the vessel being towed, be that the Master or the Pilot. Communication with the tugs will be through the pilot. It is the duty of the Master / Pilot to ensure that the vessel is handled in a safe and controlled manner, having due regard to the safety of all those involved.

Tug manning requirements may vary depending on the operation. This should be highlighted in the towing master's plan and in all cases, adequate manpower should be provided to ensure that individuals are not exposed to undue risk, and that the operation can be conducted safely and efficiently. It is the duty of all those involved to follow safe working practices and ensure that associated equipment is fit for purpose. They should also ensure that they are properly briefed in their duties and issued with, and use, suitable and effective personal protective equipment (PPE).

2.2 Pilot/Master Exchange

In addition to the standard information passed to the Pilot, it is **recommended** that the Master provide the Pilot with a general deck arrangement showing the layout and safe working load (SWL) of the mooring fittings, where known, and inform him about:

- Fairleads, chocks, bollards and strong points that can be used for the towing operation.
- Areas of hull strengthened or suitable for pushing by tugs and relevant identification marks employed (This information is needed due to variations in ship construction).
- Any special features (i.e. controllable pitch propellers, thrusters, Azimuths etc).

It is recognised that providing a deck arrangement plan formally is not always practicable, especially when boarding at night in the vicinity of Lightning Knoll. Pilots and Masters shall verbally exchange that information at the earliest opportunity and pass that information to the tug master where relevant.

Note: Using ships' mooring lines as towlines is standard practice for tugs in the Port of Barrow; however the Pilot and Master should confirm that the strength of the mooring line is in accordance with the tug's towing forces. If this is not the case, then the tug's performance must be limited to ensure the line does not part.

⁵ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.1.2

The Pilot should advise the Master about:

- The tug rendezvous time and position.
- The number of tugs and the mode of towage.
- The planned (optimum) ship speed when connecting.
- The type of tug(s) to be used and their bollard pull(s).
- Maximum planned speed for the operation.
- The prohibition on the use of weighted heaving lines.
- High risk areas during vessel transit (with respect to the possible use of the tug).
- Use and positioning of the tug(s) for berthing and manoeuvring.
- **Primary (tug working) VHF Channel 10 and secondary (Barrow Port Radio) VHF channel 12 for use in the operation.**

2.3 Pilot/ Tug Master

The Pilot and Tug Master should, as a minimum, discuss the following issues:

- That the SWL of the vessel's chocks, bollards and strong points to be used in the operation are fit for purpose.
- The tug hook up point, taking into account the prevailing weather conditions.
- The planned (optimum) ship speed, when connecting to the tug.
- The maximum speed of the tug.
- Berthing details in their entirety, including tug positioning around the vessel's hull and the vessels required position on the berth.
- Intended and emergency use of ships anchors.
- Any further information deemed pertinent that has arisen from the Pilot/Master Exchange.
- If appropriate, any shallow water or tide effect areas where significant surges may be experienced, that might add to the tug's load.
- The Tug Master should advise the Pilot (as far in advance as possible of the scheduled manoeuvre) if the tug has experienced a failure or reduction in its ability to manoeuvre or deliver full bollard pull. **Please see the section below covering Communications.**

2.4 Preparations on board the Tug

Mooring and towing operations inflict immense loads upon ropes or wires, gear and equipment. As a result, sudden failure in any part of the system may cause death or serious injury to personnel. Tug Masters should avoid men being stationed at or near towing gear.

2.5 Watertight Integrity

The watertight integrity of a tug should be maintained at all times. When the tug is engaged on any towage operation, all watertight openings should be securely fastened. The tug crew should avoid working below the waterline at this time.

All watertight openings should be marked with a sign stating that they are to remain closed during towage operations. Any such openings used whilst moving about the tug during a towage operation should be re-secured immediately after use.⁶

2.6 Testing and inspection of towing equipment

Towing hooks and alarm bells, where fitted, should be inspected regularly, preferably daily. The emergency-release mechanisms on towing hooks and winches should be tested, both locally and where fitted remotely, at frequent intervals to ensure correct operation.

All towing equipment in use should be inspected for damage before undertaking and after completing a tow.⁷ This is especially important with gob/gog ropes. Tug masters shall ensure they are in good working order to ensure reliability. **It is safety critical and will save your life.**

2.7 Non-Routine Dead Tows

'The Guide' now requires Harbour Authorities to give special consideration to tows involving dead-ships or unusual objects and towage events of a non-routine nature.⁸

Ship-owners, towage contractors, tug masters, project managers and agents are further ADVISED that the person responsible for the safety and planning of the manoeuvre (and thereby acting as the Towing Master) must be clearly identified and be responsible for the production of risk assessments, method statements and passage plans which must be discussed and agreed in advance with the Harbour Authority.

A Non-Routine Towage Assessment form, **ANNEX 1**, must be submitted to the Harbour Authority in advance. This will not unreasonably be withheld but will involve marine staff in the decision. To that end, sufficient time must be given for the tow plan to be reviewed.

In the case of complex tows, a Harbourmasters Working Group may be convened consisting of appropriately skilled personnel to ensure that all risks have been considered. When the details of the venture have been fully discussed and agreed the written approval of the Harbour Authority will be given on this form.

⁶ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.2.1 – 2.2

⁷ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.3.1 – 3.3

⁸ Guide to Good Practice on Port Marine Operations, February 2017, Section 10, Sub-Sections 10.3.8 - 10.3.13

Intentionally blank

Chapter 3 - Communications

3.1 VHF Communications Between Parties

VHF communications are a vital component of safe towage operations. It is essential that those on board the vessel, the tug(s), where appropriate the line handlers and mooring boats, and those on the berth, are able to communicate promptly and effectively throughout the towage operation. Prior to towing operations, the Pilot, Master, Tug Master(s), Line handlers and Boatmen should establish communications, exchange relevant information and agree a plan for the towage operation. Pilots, Line handlers and Boatmen should carry fully charged VHF hand-helds.

Once VHF communications have been established, tested and information has been exchanged, personnel should keep transmissions to a minimum and should normally only call when in doubt, or in an emergency. Mooring personnel should consider monitoring the tug/ship VHF working channel in order to gain appreciation of progress during the operation.

It is important that effective communications are maintained between; the towing vessel, the Pilot, the bridge team, and the mooring decks of the vessel undertow.

In all communications, clear identification of the parties communicating should be used to prevent misunderstandings. The Tug Master should be kept informed of engine movements, helm orders, proposed use of thrusters and anchors on the towed vessel.

3.2 Port VHF Channels

Primary (tug working) VHF Channel 10 and secondary (Barrow Port Radio) VHF channel 12 for use in the operation.

The Port of Barrow runs a Local Port Service (LPS). The Pilot is to ensure he communicates with Barrow Port Radio (**VHF CH12**) on commencement of any towing operation, whether it is an inbound or outbound transit or dock shift.

The Tug Master shall always maintain, so far as possible, a listening watch on VHF channel 12 for Barrow Port radio as well as the Pilot / Tug working channel.

3.3 Pilot Instructions to the Tug

It is vital in any regular towage operation, but especially important in a port with sporadic towing operations, that instructions to tugs are specific, consistent and easy to understand. To avoid confusion and errors, Pilots will ask for tug power and directional requirements as shown below.

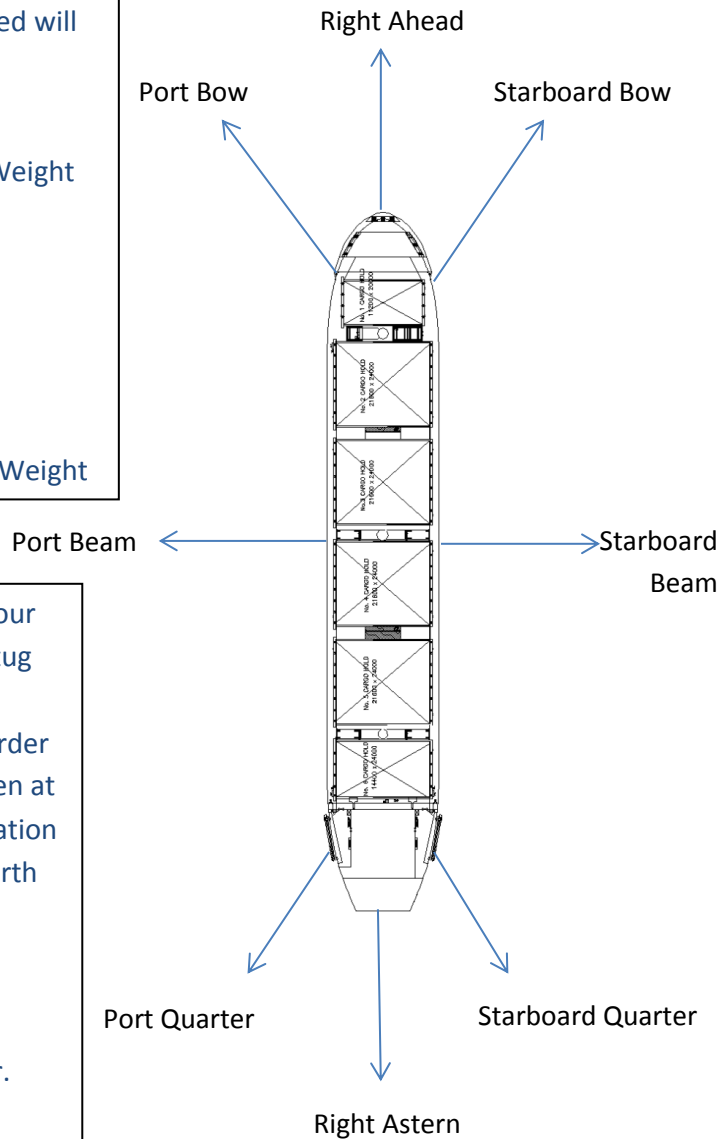
The direction of pull will be indicated as shown below:

The power required will be indicated as percentages:

- 10% - Minimum Weight
- 25% -
- 50% -
- 75% -
- 100%- Maximum Weight

The term "stretch your wire" will have the tug at minimum weight ready to pull. This order will normally be given at the start of an operation prior to leaving a berth or lock.

"All easy" means no weight on wire, tug ready for next order.



Intentionally blank

Chapter 4 - Towage Operations

4.1 Connecting and Disconnecting Towing Gear

Before commencing a tow, the master should (where applicable to that vessel) determine which towing gear is suitable for the operation and instruct the crew accordingly.

When receiving heavy lines, the tug crew should be aware of the risk of injury through being struck by a 'monkey's fist' or other weighted object attached to a line. They should stand clear of and where possible indicate the area that the heaving line is to be thrown down to. **The use of dangerously weighted heaving lines should be reported.**

When connecting to the assisted vessel, (where applicable to that vessel) the tug crew should ensure that the towing gear is clear of any obstructions, able to run freely and is run out from the tug in a controlled manner.

During disconnection, seafarers on deck should be aware of the risk of injury if the towing gear is released by the assisted ship in an uncontrolled manner, and avoid standing directly below.

They should also be aware that any towing gear that has been released and is still outboard may 'foul' on the tug's propeller(s), steelworks or fendering, causing it to come tight unexpectedly.⁹

4.2 Common Hand Signals

Communication between the tug and the assisted vessel's mooring decks is also very important and it is advised that standard hand gestures are used. Especially when determining towline length and having a standardised approach will reduce confusion.

The following hand signals are in common use:

1. An outstretched arm with hand open and flat being waved downwards means "slack off"
2. A sharp upward movement of the arm with the hand cupped towards the signaller means "let go" or "cast off"
3. Crossed arms in front of the body means "make fast" or "is made fast"
4. A circular movement of the hand above the head means "heave away"
5. Both hands raised above the shoulders, with open hands facing forward means "stop;
6. A raised hand with the fist being clenched and unclenched means "heave or hoist slowly" (inching).

4.3 Tow Quick Release

The emergency release mechanisms on winches and towing hooks should be tested both locally and where fitted remotely. Towing winch and towing hook release mechanisms are to be frequently tested for correct operation. All methods of "tripping" or "run out" are to be tested (Pneumatic, manual pull, lever or knock out etc).

Release mechanisms are also to be tested at other times, if a fault is suspected or an exceptional shock loading has been experienced.

⁹ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.4.1 – 4.4

Records of testing the emergency release mechanisms should be kept and made available to the Harbour Authority on request. Under no circumstances is towing equipment be connected to any winch or hook that has a suspect release mechanism. Correct maintenance and operation are essential.

4.4 Girting

Vessel's Masters, Pilots and Tug Masters must have a clear understanding of girting and its consequences. Girting happens when the towline comes at right-angles to the tug. The tug is pulled bodily through the water by its tow, which can lead to deck-edge immersion, flooding and capsize; unless the towline is released in good time.

Please see 'Further Guidance and Advice Section' towards the end of this document. It provides information on additional reading.

4.5 Use of a Gob/Gog Rope

The use of a gob/gog rope for towage of vessels within the Barrow Harbour Authority is compulsory. This includes both forward and aft tugs.

As discussed in other sections; the rope should be inspected thoroughly before and after use for signs of degradation and replaced at regular intervals ensuring good practice. This practice is also important for shackles and bollards or any other equipment associated with the rope or wire.

4.6 Seafarer safety during towing operations

Once the towing gear is connected, the deck crew should indicate this to the master and then clear the area and, if it is absolutely necessary to remain on deck, seafarers should stand in a safe position. Seafarers should identify the snap-back zone and keep clear. If seafarers are required to attend the towing gears during the towing operation, the length of time exposed should be kept to the absolute minimum. **The Pilot is to be notified beforehand where possible.**

During towage operations, the towing gear, equipment and personnel should be continuously monitored and any change in circumstances immediately relayed to the master. This is particularly important on tugs where the master has a restricted view of those areas/personnel.

During all towing operations, where a tug is made fast to the assisted ship, the crew should be aware that the towing gear may have to be released in an emergency situation, and that this may occur without any warning.

Tug crews should wear appropriate personal protective equipment in line with Company procedure.¹⁰

¹⁰ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.6.1 – 6.4

4.7 Safe Speed

When making fast and letting go a conventional tug, speed is a critical factor. The Pilot is to ensure that speed is through the water **NOT** speed over the ground. It is generally accepted that 2 to 3 knots is appropriate for tugs within the Port of Barrow. The pilot needs to ensure the vessel's speed is steady and caution must be exercised when using the engines whilst the tugs are working. The stern tug will be affected by the wash and every tug will be affected by the change of speed either up or down, and a rapid change in speed is all the worse. If the situation dictates the use of the engines, the minimum that the situation allows should be used and the tugs should be informed of what the ship is about to do as it will affect their own actions. In strong tidal conditions a high percentage of the tug's power may be utilised in maintaining position on the vessel before applying thrust to the vessel. If the tugs are made fast alongside they are at their most effective with a minimal ship speed through the water.

4.8 Interaction

Interaction and its effects on the tug and its handling are well known, and appreciated in port/harbour towage. Pilots, Masters and Tug Masters are reminded that these effects are multiplied as the vessel's speed increases. Areas of high and low pressure exist in and around the ship's hull and these areas can cause adverse movements of smaller vessels in close proximity. The speed of water flowing between the tug and the vessel increases at the last moment as the tug comes alongside. As this happens the tug therefore has to increase speed to maintain the same speed as the vessel. The Tug Master has to compensate for the tug either being drawn in or pushed off the vessel.¹¹

In areas where interaction exists, and when manoeuvring alongside a vessel, the Tug Master should be aware of the possibility of underwater obstructions such as bulbous bows, stabiliser fins and areas of the ship's side, such as pilot doors, which are to be avoided.

The Pilot/Master and the crew should be aware of interaction and the effect it may have on the tug. [Marine Guidance Notice 199\(M\) – Dangers of Interaction](#) – provides further guidance and information on the effects of interaction, including when manoeuvring at close quarters.¹²

4.9 Bollard Pull

The bollard pull of a tug is the amount of static force (pull) that can be exerted on a stationary object. The towing force that the tug can apply to an assisted vessel depends upon the type of propulsion unit, and the method of assistance. There are other contributing factors that lead to the loss of bollard pull over time.

¹¹ Code of Safe Working Practices for Merchant Seafarers, 2015 edition – Incorporating Amendment 1, October 2016, Para 30.8.1 – 8.3

¹² MGN 199(M) Dangers of Interaction, 2002,

4.10 Tow Line Length

When towing on a line a tug master determines the length on the basis of his insight and experience. The towline length when towing on a line depends on factors such as type and length of tug, size and deck height of the ship to be assisted, environmental conditions and available manoeuvring space for the tug. Ship's speed is also important.

There are advantages and disadvantages to both short and long towline lengths and pilots should familiarise themselves with how the manoeuvrability of both the tug and the vessel being assisted is affected.

Again safety is paramount and tug masters should consider carefully the towline length for a forward tug assisting a ship under speed (for example on Port entry through No. 1 Gate). When using a short towline the distance between the forward tug and ship's bow is very small. Consequently, the time available for a tug master to react is very limited. The tug master should constantly and closely observe course and speed changes. Pilots must ensure that they are careful with engine and rudder movements and keep the tug master well informed about intended manoeuvres.¹³

¹³ Tug Use in Port, A practical Guide, Captain Henk Hensen, Second Edition, Chapter 7, Sections 7.5.4 – 5.5

Intentionally blank

Chapter 5 - Towage in Restricted Visibility

5.1 Restricted Visibility Develops During an Operation

Should visibility become restricted during a towage operation, the Pilot / Master and the Tug Master will discuss the situation immediately and agree upon a course of action to ensure the safety of all persons and vessels involved given the location, environmental and vessel traffic conditions.

The Pilot or Master will advise “Barrow Port Radio” of the circumstances and any decisions made immediately, keeping them informed of any operational developments, or any improvement or deterioration of the visibility.

The Tug Master should immediately inform the Pilot / Master and Port Control of any concerns that he may have as to the safety of his tug and crew. The Pilot / Master and Tug Master should take immediate action to ensure the safety of both the tug and the assisted vessel. If necessary the operation should be aborted as soon as it is safe to do so. This could include one or more of the following:

- Let go the forward tug (or any other assisting tugs) and take the vessel to anchor.
- Use the tugs to turn the vessel, let go the tugs and the vessel proceeds outside the Port Limits.
- Let go the forward tug (or any other assisting tugs) and have the tug assist in a pushing mode.
- Allow the tug to manoeuvre the vessel under the Pilot/Master’s instructions. This may include using the tug to maintain the vessels position at a safe location in the Port.

If the above options are not safe or practicable then, as a last resort and with the agreement of all parties that it is the safest course of action, the operation can continue to completion.

5.2 Procedures When Restricted Visibility Exists or is Expected

- Towage operations should not normally take place in visibility of less than those described in Port Operations Procedures Manual for visibility;
- The pick up speed in reduced visibility is to be the minimum speed through the water that a vessel can maintain.
- Tug Masters may request the Pilot / Master to take all way off the vessel and the tugs manoeuvre the vessel.
- Tug Master to confirm watertight integrity of tug, Pilot / Master to inform tug if they observe any exterior openings on the tug that are not closed, and which affect tugs’ watertight integrity.
- Pilot / Master and Tug Master to agree the plan, which should be recorded
- During operations in restricted visibility the Pilot / Master of the assisted vessel shall provide well in advance all engine movements, thrusters movements and alterations of course
- Pilot / Master and Tug Master shall inform the other of any changes in their circumstances that will impact on the agreed plan.

Intentionally blank

Chapter 6 - Further Guidance and Advice

6.1 Girting

<http://www.westpandi.com/globalassets/loss-prevention/loss-prevention-bulletins/west-of-england-pandi---the-risk-of-tugs-capsizing-due-to-girting.pdf>

<https://www.gov.uk/maib-reports/girting-and-capsize-of-tug-flying-phantom-while-towing-bulk-carrier-red-jasmine-on-river-clyde-scotland-resulting-in-1-person-injured-and-loss-of-3-lives>

6.2 Guidelines & Reference Documents

<http://www.eurotugowners.com/wp-content/uploads/2014/11/STP-Guidelines-First-Edition-February-2015.pdf>

[file:///H:/Downloads/NWA Towage Good Practice Guide v7 Final Draft 12.06.16.pdf](file:///H:/Downloads/NWA_Towage_Good_Practice_Guide_v7_Final_Draft_12.06.16.pdf)

<https://britishtug.com/documents/>

Intentionally blank

Annex 1 Non-Routine Towage Assessment Form**Non Routine Towage Assessment****PART 1 TO BE COMPLETED BY REQUESTING AGENT - RETURN TO barrowmc@abports.co.uk**

Date of Intended Passage

Towage From To

Type of Towage Operation (tick) Dead Ship Barge Unusual Object

Agent Making Request (POC)

Agency Contact Number(s)

Details of the tow

Name LOAm Breadthm Draftm

Brief Description of Tow (inc. total length of all tugs and tow).....

Is the tow manned? Yes No Safe boarding arrangements for a pilot if necessary? Yes No

Propeller(s) Thruster(s)

Rudder(s) None

Tug details

Name..... LOAm Breadthm Draft.....m

Power/Bollard Pull KW/t

Towing Arrangement

Name..... LOAm Breadthm Draft.....m

Power/Bollard Pull KW/t

Towing Arrangement

Nominated person with overall responsibility for the safety of the manoeuvre

Name Position

Organisation/Vessel

Contact Telephone No(s)

PART 2 TO BE COMPLETED BY HARBOUR AUTHORITY**Pilotage**

Number of Pilots Required (manned tows require a pilot)

Boarding at Disembarking at

Have safe pilot boarding arrangements been verified Yes No

If 'No' give details

Is additional harbour towage required? Yes No If yes give details

If necessary where will harbour towage be required? From To

HES review

Passage limitations

Time..... Weather

CurrentTraffic

Passage Plan Agreed Risk Assessment/Method Statement Agreed/Sighted

Reviewed by Position

Signature

OutcomeApproved Additional action required Actions required

Reviewed By Position: Harbour Master

Signature

Annex 2 Port Operated Towage Asset



ADDRESS: PORT OFFICE, RAMSDEN DOCK ROAD, BARROW-IN-FURNESS, CUMBRIA LA14 2TW
TELEPHONE: +44 (0)1229 822911
FACSIMILE: +44 (0)1229 835822
EMAIL: **TUG BOOKINGS:** barrowmc@abports.co.uk **GENERAL ENQUIRIES:** barrow@abports.co.uk
WEBSITE: http://www.abports.co.uk/Marine/Short_Sea_Ports/Barrow/Home/

FURNESS ABBEY



GENERAL

PORT OF REGISTRY: BARROW
CALL SIGN: MWC19
DATE OF BUILD: 1997
BUILDERS: B.V. SCHEEPSWERFT, DAMEN (Damen Stan Tug 1906)
AREA OF OPERATION: CATEGORY 2 (Work Boat Code – 60NM offshore)

DIMENSIONS

GROSS TONNAGE: 57.57t
LENGTH OVERALL: 19.65m
LOADLINE LENGTH: 17.66m
MAXIMUM BEAM: 6.34m
MAXIMUM DRAFT: 2.48m

EQUIPMENT

CRANE: EFFER 14500-1S
CRANE CAPACITY: 5.0t
WINCH CAPACITY: 6.5t Hoisting, 11t Holding
'A' FRAME: 6.5t
PLOUGH: 4.0m (width)

PROPULSION

ENGINES: TWIN CUMMINS NT-855-M DIESELS
OUTPUT: 758BHP (268 KW each at 2100rpm)
PROPULSION TYPE: TWO FIXED PITCH PROPELLERS
SERVICE SPEED: 10KTS

SURVEY

SURVEY SYSTEM:
 HR MULTIBEAM
 RESON SEABAT 7125
 CODA OCTOPUS F185+

BOLLARD PULL 10.3t

Annex 2 Other Port Towage Assets



Bay Towage

Tugs & Workboats

Bay Towage & Salvage Co Ltd.

Anchorline Basin

Ramsden Dock

TIOGA B



GENERAL

| |
|--------------------------------------------|
| Deltatug 1575 |
| Constructed 1980/1997 |
| Builder Damen Shipyards |
| 11 ton Bollard Pull |
| Workboat Code Cat 2 – 60 miles offshore |
| Perkins Generators – 1 x 20kva , 1 x 12kva |
| 8 ton Hydraulic Fwd Winch |
| 11 ton Hydraulic Aft Winch |
| Plough 5.1m x 2m x 1m – weight 2.5 ton |
| Moonpool |

DIMENSIONS

| |
|---------------|
| Length 15.93m |
| Beam 5.03m |
| Draft 2.2m |

PROPULSION

| |
|---------------------------------|
| 2 x GM 12V71N with Kort Nozzles |
| 2 Fixed Pitch Propellers |

POWER

| |
|------------------------|
| Output 730hp |
| Service Speed 10 knots |
| Bollard Pull 11 Tons |

TANK CAPACITIES

| |
|--------------------------|
| Fuel Capacity 9000 ltrs |
| Water Capacity 1000 ltrs |

DECK SPACE

| |
|--------------------|
| 2 Overnight cabins |
|--------------------|

NAVIGATION & COMMUNICATION

| |
|----------------------------|
| Furuno 1832 Radar |
| Raymarine Radar |
| 2 x Sailor RT 2048 VHF |
| Furuno GP35 DGPS |
| Raymarine C120W Plotter |
| Furuno FA150 Class A AIS |
| Navtex |
| Furuno LS 6000 Echosounder |
| Navitron NT921 Autopilot |
| Cellphone |
| Euronav Laptop Navigation |
| Furuno 1650 GPS Plotter |
| Icom ICM421 GMD85 VHF |
| Fluxgate Compass |



Bay Towage

Tugs & Workboats

Bay Towage & Salvage Co Ltd.

Anchorline Basin

Ramsden Dock

KAMSAR



GENERAL

| |
|-----------------------------------------|
| Damen Stantug 1 |
| Built 1982, rebuilt 2008 |
| Builder Damen Shipyard |
| Workboat Code Cat 2 - 60 miles offshore |
| Irish P2 Passenger Certificate |
| 'A' Frame & Plough 5.1m x 2m x 1m |
| Generators; Beta 13 Kva, Perkins 20kva |
| Moonpool 550mm x 550mm |
| 2 x 9 ton Hydraulic Winch |

DIMENSIONS

| |
|--------------|
| Length 15.7m |
| Beam 4.8m |
| Draft 2.2m |

PROPULSION

| |
|---------------|
| 2 x GM 12V71N |
|---------------|

POWER

| |
|------------------------|
| Output 730hp |
| Service Speed 10 knots |
| Bollard Pull 7.6 ton |

TANK CAPACITIES

| |
|--------------------------|
| Fuel Capacity 9000 ltrs |
| Water Capacity 2000 ltrs |

DECK SPACE

| |
|--------------------|
| 2 overnight cabins |
|--------------------|

NAVIGATION & COMMUNICATION

| |
|-----------------------------|
| Raymarine Radar |
| Raymarine E120 Chartplotter |
| Furuno GPS Compass |
| 2 x Sailor RT144 VHF |
| Furuno GP37 DGPS |
| Furuno FCV620L Echosounder |
| Navitron NT921 Autopilot |
| Furuno FA150 Class A AIS |
| Kannad Epirb |
| Kannad SART |

www.baytowage.co.uk