



Heysham Port Limited

TOWAGE GUIDELINES



HEYSHAM HARBOUR

TOWAGE GUIDELINES

1. INTRODUCTION

These guidelines have been produced jointly by Heysham Port Limited (the Statutory Harbour Authority for Heysham Harbour) and Fernleaf Marine Services LLP (the pilotage service company). The Port Marine Safety Code requires towage guidelines to be developed based on an objective assessment of safety and to take account of the conditions normally prevailing in the port and the basic manoeuvring characteristics of various vessels using it.

It is important to recognise that the advice given within these Guidelines is based on the following:

- A “standard vessel” with an air start engine having a maximum number of eight consecutive starts, with a normal spade rudder, no thrusters and a normal dead slow speed of 6.5 knots;
- A minimum bollard pull of 16 tonnes for each tug;
- Tugs should be capable of being made fast outside the Harbour (generally before No.6 buoy) whilst vessels are making way through the water;
- Vessels of the relevant length are operating up to the normal maximum permitted beam within the Dock.

Standard Vessel Length (meters)	No. Tugs
< 95	1
95 – 120	2

The towage requirements above can be described as, under normal conditions, being the lowest common denominator for standard vessels with respect to towage requirements in Heysham Harbour and is a baseline guide.

2. INFORMATION REGARDING TOWAGE

2.1 General

There are presently no tugs based at Heysham Harbour. However, if tug(s) are required for towing then they would have to be hired from another port. However, it is recognized that, owing to the considerable variations in vessel size, shape, condition and degree of manoeuvring capability, the recommended number of tugs stated 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 from their agent the recommended number of tugs as contained within these Guidelines or opt to consult with an authorised Heysham Pilot, and both marine professionals may agree to deviate from the recommendations contained within these Guidelines by use of their own professional judgment to set a safe and appropriate level of tug provision for a particular vessel. Likewise, tug provision may exceed these Guidelines in exceptional circumstances, or when directed by the Harbour Master under their statutory powers. Vessels of length of 95m to 120m equipped with, for example, bow thrusters, Becker-type rudders or controllable pitch propellers, (i.e. vessels of than standard vessels) may need one tug to assist within the Dock where circumstances may adversely affect the normal manoeuvrability of the vessel.

The Master of any highly manoeuvrable Ro-Ro ferry acting under a Pilotage Exemption Certificate should consider using the services of a tug when swinging within the Dock during periods of excessive wind or weather where such wind or weather may adversely affect the normal manoeuvrability of their vessel. A consultation can be arranged by the Master of any vessel through their agent to a Heysham Pilot, who may then contact the tugs allocated to give consideration to the Master's request. In assessing any variation from these Guidelines, the following points should be taken into consideration:

- The draught of the vessel
- The minimum under keel clearance during the planned passage of the approach channel and harbour
- Range of the tide on the date in question – spring or neap tide
- Expected sea and swell conditions off the Harbour entrance
- The forecast weather conditions, including visibility
- Manoeuvring aids – thrusters, size and number
- Type of propulsion system – controllable pitch, fixed pitch, water jet or azipod
- Type of steering system – single, twin or triple rudders and whether high-lift or not
- The windage area of the vessel
- The vessel's Gross Tonnage in relation to the principal dimensions

- Unusual design of vessel.
- Any reported defects to the vessel
- Type of main engine – air start, gearbox, diesel-electric or steam/gas turbine
- Any Harbour restrictions in force.

Nothing in these Guidelines removes the responsibility from the Master to navigate in accordance with his company instructions or passage plan where those requirements exceed the requirements of these Guidelines.

2.2 Towage and Pilotage Exemption Certificate Holders/Masters in Charge

Pilotage Exemption Certificate (PEC) Holders **are not** permitted to make tugs fast with a towline or move their vessel when in a non-self-propelled state using tugs. PEC Holders **are** permitted to employ tugs in a push mode only. Should a PEC Holder require a tug to make fast with a towline or intend to move their vessel when in a non-self-propelled state using tugs, they must contact Heysham Port Limited and request the services of a Heysham Pilot.

2.3 Automatic Identification Signal and Charts

Tugs (including work boats) are required to have an Automatic Identification (AIS) unit fitted in order to aid Heysham Port Control and other vessels maintain situational awareness of applicable movements. All vessels navigating within Heysham Harbour should have on board a folio of updated charts required for the transit.

2.4 Tug Crews

2.4.1 Qualifications

National certification of tug crew is set by the Maritime and Coastguard Agency in accordance with the Port Marine Safety Code. All tug crew should meet these requirements and tugs should be safely and adequately manned. In addition, all masters of tugs are required to hold a Certificate of Competency (CoC) to STCW standards or Boatmaster Licence (or equivalent) with the appropriate towage endorsement. This applies to general towage (towing and pushing); however, Heysham Port Limited requires that all tugs engaged in ship assist towage should be operated by STCW certificated masters. Furthermore, all tug masters and crew should meet the defined local knowledge standards - the relevant towage company should manage this requirement.

2.4.2 Experience

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

2.4.3 Working Hours

All tug crew members should be properly rested in line with the recommendations of national and international legislation. Reference should be made to the Working Time Directive.

2.5 Personal Protective Equipment

Personnel on the exposed decks of tugs should always wear appropriate personal protective equipment (PPE), including hazardous duty (working) lifejackets, in line with the relevant tug operator's current risk assessment. It is the Tug Master's responsibility to enforce the wearing and use of PPE. All PPE should be approved and in date. The decision to put crew on the working deck to handle the towline and messenger rests solely with the Tug Master. The criterion for this task should consider whether the crew can safely carry out the required task.

Crew members are recommended to only proceed on deck during towage operations with the following equipment:

- Boiler suit or suitable alternative
- High visibility clothing
- Lifejacket
- Safety shoes or boots
- Safety helmet fitted with chinstrap or approved safety head wear
- Gloves

2.6 Communication

Throughout towage operations, good VHF communications between all parties are a vital component of safe towage operations. At all times tug crew, vessel crew and shore-side staff should be able to communicate efficiently and clearly. All communication should be short and precise to avoid confusion and include the name of the vessel or tug being called and calling.

VHF communications between a vessel and assisting tugs should be undertaken using the appropriate power setting on the VHF transceiver.

If hand or sound signals are to be used, they should comply with industry standards and be understood by all parties involved.

2.6.1 Master in Charge

In addition to the usual Master/Pilot information exchange, it is recommended that the Master of a vessel requiring tug assistance provides the Heysham Pilot with details of:

- The position and layout of fairleads, bollards and strong points etc. which can be used for towing;
- The safe working load (SWL) of such fairleads, bollards or strong points;
- Areas of the vessel's hull specially strengthened for tugs pushing (or those areas where tugs must not push) and their identification marks; and
- Any other aspect of the vessel's design or operation which could affect the assisting tugs.

It is the responsibility of the PEC Holder to pass this information directly to the Tug Master of an assisting tug.

2.6.2 Pilot

The Pilot should advise the vessel's Master of:

- The tug rendezvous time and position;
- The number of tugs required and their modes operation;
- The planned (optimum) vessel speed through the water when connecting a tug's towline;
- Whether the vessel's or the tug's lines are recommended for use;
- The type of tugs to be used and their respective bollard pull;
- If escorting, the maximum towline forces that the tug may generate at escort speeds;
- Maximum planned speed for the passage;
- The method by which the vessel's crew should take on board and release a tug's towline;
- That on release, a tug's towline shall be lowered back to the tug always under control;
- Areas of the transit posing particular risks with respect to the possible use of tugs;

- Intentions with regard to use and positioning of tugs for berthing manoeuvres;
- Intentions with regard to use of tugs in an emergency (escort operations);
- Primary and secondary VHF channels for use in the operation; and
- Safe abort locations (if applicable).

2.6.3 Pilot/Tug Master

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

- The SWL of the vessel's bollards, fairleads, strong points etc. to be used for towing (failure to provide this information could result in damage to the vessel or tug);
- The tug hook-up point, considering the prevailing weather and sea conditions, or escorting operation (if appropriate) and berthing;
- The planned (optimum) vessel speed through the water when connecting to the tug's towline;
- If active escorting, the start point of the escorted passage;
- The maximum speed of the tug;
- Passage details while accompanied by tugs, particularly details of any swinging manoeuvre, release position and sequence of release;
- Berthing details in their entirety, including tug positioning around the vessel's hull and the vessel's required position on the berth;
- Any significant weather forecast/anticipated;
- Intended and emergency use of vessel's anchors;
- Any unusual items regarding the vessel as gleaned from the Master/Pilot exchange;
- If appropriate, any shallow water or bank effect areas where significant surges may be experienced that may add to the tug's towline loads;
- The Tug Master should advise the Pilot immediately if there is any reduction in the tug's operational characteristics, such as ability to manoeuvre, deliver bollard pull or any other operational defect that could affect the tug's capabilities; and
- When confirming that the tug is fast and ready to assist, the Tug Master shall also confirm both the tug's name and position on the vessel.

It shall be the responsibility of the PEC Holder to pass this information directly to the Master of an assisting tug.

2.6.4 Raising of Concerns During Towing Operations

The Tug Master should immediately inform the Pilot/Master of any concerns as to the safety of the tug and its crew. The Pilot/Master and Tug Master should take immediate action to ensure the safety of both the tug and assisted vessel; if necessary, they should abort the operation as soon as it is safe to do so.

2.7 Tug Watertight and Weathertight Openings

It is essential that whilst engaged in towage operations that a watertight seal is maintained on main deck and towing deck openings to avoid water entering the tug's hull and superstructure. This applies to all watertight doors, hatch openings and emergency escapes. Openings that are required to be closed should be marked accordingly with an appropriate sign. Rubber seals and locking dogs should be kept in good working condition and be fitted properly. All closing devices and dogs fitted should be used; it is not enough to lock two dogs on a watertight door fitted with six. If entry is required through a watertight hatch or door during towage operations, the Tug Master should be informed, and the hatch or door closed immediately after use. Watertight doors should not to be left open, even if access is required for a period only.

2.8 Towing Equipment

2.8.1 Inspection and Maintenance

All towing equipment should be tested on a regular basis and be replaced when unsatisfactory. All towing equipment in use should be checked before undertaking a towage operation and after completion of each towage operation. Inspection of towing equipment should include all ropes, wires, shackles, messengers, winches, hooks and any other item specifically designed or used to provide towage services. In date test certificates should be held on board for all relevant equipment in use. Damaged or suspect items of equipment should be withdrawn immediately from service. If any item of equipment that is damaged during towage operations, the Master/Pilot of the vessel should be informed.

2.8.2 Tow Quick Release

The emergency release mechanisms on winches and towing hooks should to be tested both locally and, where fitted, remotely. Towing winch and towing hook release mechanisms should be tested frequently for correct operation. All methods of "tripping" or "run out" should 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. Records of testing of the

emergency release mechanisms should be kept and made available to the Heysham Port Limited on request. Under no circumstance should towing equipment be connected to any winch or hook that has a suspect release mechanism.

Correct maintenance and operation are essential: **it could save lives.**

2.8.3 Vessel Mooring Lines as Towlines

Using a vessel's mooring lines as towlines is not recommended (unless agreed between Master/Pilot and Tug Master), as the safe working load may not be compatible with the assisting tug's performance. Use of a vessel's mooring lines as towlines may limit a tug's ability to assist.

2.9 Towing Hazards

2.9.1 Speed When Making Fast and Letting Go

The vessel's speed through the water should be reduced to that which allows a safe rendezvous and connection/disconnection of the tug. The required speed should be agreed in advance between the Master/Pilot and the Tug Master. The recommended maximum safe speed through the water for making-fast a centre-lead forward tug is six knots. At all times during the connecting/disconnecting process, the Pilot/Master should be aware of the position and intention of all relevant shipping movements in the area. The Pilot/Master always have a responsibility to keep Heysham Port Control apprised of their intentions, requesting information on shipping movements as necessary.

2.9.2 Intentions when Towing

The Pilot/Master should always advise the Tug Master of their intentions, allowing the Tug Master to anticipate the effect of the manoeuvre on the tug. Whenever possible, the Pilot/Master should advise the Tug Master before making any engine movements. Un-notified, sudden or large speed increases or course alterations should be avoided. The positioning of a tug on a vessel is a matter for discussion between the Pilot/Master and the Tug Master, having full regard for the areas of the hull which must be avoided; e.g. watertight doors or between frames. In strong tidal conditions, a high percentage of a tug's power may be absorbed in maintaining position on the vessel before applying thrust to the vessel.

2.9.3 Girting

Vessel's Masters, Pilots and Tug Masters should 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.

2.10 Towing in Restricted Visibility

When visibility is reduced, the hazards associated with towage operations are increased.

These procedures apply to all towage operations in Heysham Harbour being conducted in restricted visibility.

Restricted visibility is all circumstances where visibility is or is expected to reduce to a distance where a tug's normal ability to perform may be impaired. Such restrictions in visibility, as defined in COLREGS, could be due to fog, mist, snow, rain, sleet or any other conditions that impair visibility.

COLREGS Rule 19 states that every vessel should proceed at a safe speed adapted to prevailing circumstances and restricted visibility. A vessel detecting by radar another vessel should determine if there is risk of collision and if so, take avoiding action. A vessel hearing fog signal of another vessel should reduce speed to a minimum.

In circumstances where restricted visibility exists, or is likely to exist, the Master/Pilot and Tug Master should, as part of the passage plan and risk assessment process, agree how the operation will be conducted, what dangers are associated with towing in restricted visibility and what risk reduction measures shall be applied.

When completing this assessment, the following should be considered:

- Type of tug, propulsion method, towing from winch or hook and location of winch/hook
- Proposed method of towing
- Operational status of navigational aids and equipment
- Minimum speed to maintain steerage of vessel to be assisted
- Movement of other vessels in the area
- Navigational characteristics of the area of the Port including the use of information from Heysham Port Control
- Contingency plan should visibility deteriorate after the tow has commenced or if the tug must disengage at any stage of the operation
- Minimum visibility for all planned towage operations should be such that the Master/Pilot can see the tug, the Tug Master can see the towed vessel and the Harbour entrance can be seen from the tow's position in the approach channel

inbound and can see the entire seaward channel outbound, the total distance being 1.8 NM.

Should visibility fall below the aforementioned minimum once a towage operation has commenced, and the Pilot/Master can no longer see the bow tug, the vessel's speed should be reduced to a minimum safe speed and, if safe and appropriate to do so, all way should be taken off the vessel. Following discussion with the Tug Master, the contingency plan discussed and agreed at the planning stage should be implemented. This could include one or more of the following actions:

- Let go the forward tug (or any other assisting tugs) and anchor the vessel
- Use the tugs to turn the vessel, let go the tugs and the vessel proceeds either to an anchorage or outside the Harbour 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 vessel's position at a safe location in the Harbour
- If safe to do so, a tug secured aft may remain attached for escort. If considered unsafe by any party the aft tug should be let go and remain in attendance for passive escort

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 may continue to completion.

The agreed course of action should be fully communicated to Heysham Port Control.

All towage operations in restricted visibility should be conducted with the assisted vessel maintaining minimum speed. An approximate maximum speed of 6 knots through the water should be considered. If a vessel's minimum speed would result in a speed through the water greater than 6 knots, then this will be a major factor to consider in the planning stage of the operation.

The Tug Master should inform the Pilot/Master immediately of any concerns that they may have as to the safety of the tug and its 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.

A Tug Master proceeding to a job, and all parties involved in the operation, should report any lack of visibility, immediately it is observed, to Heysham Port Control and to the vessel with which the tug is to rendezvous.

If restricted visibility is encountered there are two viable options for the vessel and tugs to undertake:

- (a) Take all way off the vessel and allow the tugs to tow with the head tug on a shorter tow line. This can only be considered when using an omni-directional tug (e.g. Voith tractor or ASD tug towing as a tractor) as head tug and is not considered a suitable or safe option for a conventional head tug or an ASD tug towing in a conventional manner.
- (b) Disconnect the head tug from the tow and utilise the stern tug in conjunction with the vessel's engines to provide steerageway. This is the preferred option for all tugs and the only option if the head tug is a conventional tug.

2.11 Towing in Adverse Weather Conditions

When towing in adverse weather, hazards associated with towage operations are increased. In circumstances where heavy weather (e.g. high winds or heavy swell) exists, or is likely to exist, the Master/Pilot and Tug Master should as part of the passage plan and risk assessment process, agree how the operation will be conducted, what hazards are associated with the towage operation and what risk reduction measures are to be applied. When completing this assessment, the following should be considered:

- Sea and/or swell conditions at the intended operating area and the route to or from same
- Wind speed, direction and trend; e.g. rising, steady or falling
- State of tide and trend
- Information offered by latest weather forecast and other vessels in the area
- Type of tug, propulsion method, towing from winch or hook and location of winch/hook
- Proposed method of towing, including likelihood of shock-load to towing gear
- Movement of other vessels in the area
- Navigational characteristics of the area of the Harbour including the use of information from Heysham Port Control

A contingency plan should weather deteriorate before or after the tow has commenced, or if the tug must disengage at any stage of the operation, should be formulated. This

contingency plan may include after careful consideration, but not only be limited to, one or more of the following:

- Tug does not make fast and remains on station to assist the vessel to a position of safety
- Tug is let go and remains on station to assist the vessel to a position of safety
- Tug is let go to assist in a pushing mode

If there is likelihood that the weather conditions may pose a significant threat to the tug, its crew or towing equipment, the Tug Master should inform immediately the Pilot/Master of any concerns that they may have. The Pilot/Master and Tug Master should take immediate action to ensure the safety of the tug and the assisted vessel (and their respect crews) and, if necessary, the operation should be aborted as soon as it is safe to do so.

The agreed course of action should be fully communicated to Heysham Port Control.

When the tug is proceeding to a job in poor weather conditions, the Tug Master should make a pro-active report to discuss the weather conditions with Heysham Port Control and the vessel with which the tug is to rendezvous.

3. TOWING VESSELS

3.1 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.

Tugs designed for escort operations can exert (when using dynamic towing techniques) a towing force somewhat higher than the tug's bollard pull. Pilots/Masters should consider this fact when considering use of escort tugs.

3.2 Safe Working Load of Vessel Mooring Equipment

The Pilot/Master should establish the SWL of the vessel's mooring equipment intended to be used for towage operation as part of the Pilot/ Master exchange. This information should be compared with the bollard pull (or dynamic escort force) of the allocated tug. Use of equipment with lower SWL should be avoided. If this is not possible, then the Tug Master should be advised of the SWL and not to exceed this limit. Panama fairleads are preferred to other types of fairleads for towing operations.

3.3 Receiving or Letting Go of Towlines

3.3.1 Connection

Before reaching the tug connection point, communication should be established between the Pilot/Master and Tug Master via VHF. Before the tug approaches the connecting position, the vessel's bridge team should contact the vessel's mooring crew and confirm that they are ready to receive the tug. In most cases, the vessel's speed through the water should be reduced. A suitable speed through the water should be agreed between the Pilot/Master and the Tug Master; a maximum of 6 knots through the water is recommended for connecting a tug to the centre lead forward. During the connection process, the Pilot/Master should advise the Tug Master of any alteration in speed or course. The vessel's mooring crew should be experienced and prior to the operation be briefed on the procedure for making the tug fast. When the tug has been connected, the Tug Master should instruct the tug crew to vacate the deck. If this is not practical, the tug crew should be positioned in as safe a position as possible. Having made fast to the tow is an opportunity for the tug's crew to check that watertight integrity has not been breached.

3.3.2 Disconnecting

During the disconnection of the tug, both tug and vessel crews should be made aware of the danger of significant injury if the towlines are released in an uncontrolled manner. The towline should always be lowered in a controlled manner onto the tug's deck, and not just 'cast-off', unless otherwise requested by the Tug Master.

3.4 Specialist Towing Gear

Any specialist towing gear, for example bridles should to be requested at the time of booking.

3.5 Standard Risk Assessment (Ship Towage)

All towage companies operating in the Heysham Harbour should have in place current risk assessments for all standard towing operations and any unusual or specific operation will require at least a dynamic risk assessment.

4. TOWING BARGES OR DEAD SHIPS

4.1 General

A dead ship is defined as a vessel in a condition under which the main propulsion plant, boilers and auxiliaries are not in operation due to the absence of power. Towing barges and dead ships by their nature requires careful consideration. There is a standardised method statement, in the form of a Dead Tow Application that captures all relevant information for the Pilot, Tug Masters and Heysham Port Control. See Annex A.

4.2 Dead Tow Application

The Dead Tow Application must be submitted by the responsible person or organisation in charge of the dead tow to the Heysham Port Duty Manager for approval. All dead tows are subject to a consultation with a Heysham Pilot and a minimum of 48 hours' notice prior to the commencement of the tow.

The Dead Tow Application will be distributed to Heysham Pilots and Heysham Port Control prior to the operation commencing.

If the overall length of the Dead Tow combined is more than 50m, towage must be carried out in daylight unless by agreement with the consulted Heysham Pilot

No.	Effective Date	Details
1	Oct. 2015	Original as issued
2	Jan. 2019	Reviewed (no changes)
3	Mar. 2020	Formatting changes
4	Aug. 2021	Reviewed (no changes)

ANNEX A – Example Dead Tow Application

Heysham Port

North Quay
Lancaster, LA3 2XF
Tel: 01524 868 300



APPLICATION FOR DEAD TOW OPERATIONS IN THE PORT OF HEYSHAM

<p>1. Full details of Barge/vessel to be towed. Full details of tow to be provided to include but not limited to: maximum dimensions, maximum draft, air draft, any over side obstructions</p> <p>Data sheet attached Y/N</p>	
<p>2. Full details of accompanying sea tug to be provided to include but not limited to BHP, Bollard pull, towing speed, maximum draft, dimensions and propulsion system. Bollard pull required to tow at 6kts with 25% power in reserve In river conditions - With 1.0m sig wave height -</p> <p>Data sheet attached Y/N</p>	
<p>3. Intended date tow to commence and requested berth</p>	
<p>4. Risk assessments made for the operation and any method statements attached.</p> <p>Details provided Y/N</p>	
<p>5. Barge/vessel to be manned Y/N</p> <p>If Y then no. of riding crew</p>	
<p>6. Pilot boarding and landing arrangements</p>	
<p>7. Additional relevant information</p>	
<p>8. Contact Details of Person in charge of barge/vessel</p>	

All dead ship tows are subject to a consultation with a Heysham Port Pilot at a minimum of 48 hours notice prior to the commencement of the tow.

All dead tow applications to be sent to: duty.manager@heyshamport.com

Applicant details

Name: _____ Signature _____

Contact details: _____