



SABINE PILOTS TUG MATRIX

Introduction

The following guidelines have been established to assist in determining the appropriate tug assistance required for docking and undocking vessels in Jefferson and Orange Counties, Texas. These services are currently provided by Bay Towing and Moran Towing. The guidelines categorize docks based on vessel size and draft information and designate assist tugs accordingly for each specific docking or undocking situation. Tugs are rated by "bollard pull," as this measure more accurately reflects a tug's effectiveness compared to horsepower. The design type of the tug, whether tractor or conventional, also influences its effectiveness and suitability. If the pilot card or Master/Pilot Exchange indicates a weak bow thruster, the guidelines will assume the bow thruster is non-functional.

Any vessel-specific concerns should be discussed with the pilot assigned to the vessel, as the ultimate decision rests with both the vessel's master and the pilot concerning the usage of assist tugs. Ships and the waters they navigate create a dynamic, ever-changing environment, making it impossible to establish firm rules for every scenario. The individual pilot on board is best positioned to assess the specific docking or undocking operation, considering the prevailing weather, current, and traffic conditions. These guidelines are merely recommendations and are not intended to limit or override the on-scene discretion of the pilot and master. We acknowledge that situations may arise where actions conflicting with these guidelines are necessary to address specific or unique circumstances. Additionally, changes in vessel characteristics, tug design, or terminal configuration may require deviations from the current tug assistance guidelines for docking and undocking.

Definitions

1. High-Displacement Vessel (HDV) is defined as any vessel with a beam of 120' or greater.
2. Tug Class Ratings: Minimum Bollard Pull (in metric tons)

Class	Bollard Pull
L (Twin-Screws)	40 - 44
T (Small Tractor)	45 - 60
C (Midsize Tractor)	60 - 75
Z (Large Tractor)	75 - 100

- a. Large Tractors can substitute for any class
- b. Midsize Tractors can substitute for T or L
- c. Small Tractors can substitute for L

Assignment of Escort Tugs

1. Any vessel utilizing an escort tug, will be assigned an escort tug according to the following table:

Vessel size (in feet)	Draft	DWT	Assigned Tug	Notes
> 600 ATB	----	----	L	
> 750	35' - 40'	65k-80k MT	C	
751 - 850	35' - 40'	80k-100k MT	Z/C	
>851'	>35' (with cargo)	100k-130k MT	Z	

2. Sea-going tugs with a barge being towed by a hawser wire shall have at least one tugboat as an escort tug.
3. Charterers of HDVs are encouraged to ensure that chartered vessels have adequately sized fittings to facilitate safe tethered-escort operations. Transverse arrest maneuvers can generate forces greater than the tug's static bollard pull.

Bow Thruster Substitutions

1. Thrusters must meet the following minimum requirement of available horsepower to substitute for a tug. (1 KW equals 1.35 HP)

Vessel LOA	Thruster Horsepower
More than 900'	2,400
751' – 900'	2,000
551' – 750'	980
501' – 550'	730
451' – 550'	565
350' – 450'	400
Less than 350'	200

Sabine – Neches Waterway Currents

1. Most docks lining the waterway are subjected to river and tidal currents. During periods of predicted high current velocities, tug operators should be trained to increase the required tug bollard pull beyond those recommended in this document.
2. Slack Water (SW) = 0.0 – 0.3 kts of water movement. Low Current = 0.3 – 0.9 kts. High Current = 1.0 – 2.5kts. Slash (/) distinction in tug allocation from low current to high current.
3. The Currents indication will be used throughout this document.

Assignment of Assist Tugs

The Cheniere, Golden Pass, and Port Arthur LNG facilities currently have their dedicated assist tugs. During exceptional circumstances, a pilot may request assistance from the terminal to provide additional tug resources.

Port City Partners

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels (non HDV)	<30'	TC / CC	TC / CC	SW-0.9kts/1.0 - 2.5kts
All Vessels (HDV)	>30'	CZ / ZZ	CZ / ZZ	“

Motiva Port Arthur

Vessel size	Draft	Arrival	Departure	Currents: N/A
< 600'	Any	LL	LL	
>600' Non HDV	<30'	TL	TL	
≤750' Non HDV	≥30'	CC	CC	*No thruster substitute
>750' HDV	<34	ZC	ZC	*No thruster substitute
>750' HDV	>34	ZZ	ZZ	*No thruster substitute

GT Logistics / Howard Energy

Vessel size	Draft	Arrival	Departure	Currents: N/A
<600'	Any	TL	TL	
600 - 750	Any	CC	CC	
>750	Any	ZC	ZC	

Valero Basin Taylor Bayou

Vessel size	Draft	Arrival	Departure	Currents: N/A
<600'	Any	TL	TL	
600' - 749'	Any	CC	CC	
>750'	Any	ZC	ZC	

Valero Pleasure Island

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<600'	Any	CT / CC	CT / CC	SW-1.0kts
600' – 750' Non HDV	Any	CC / CCT	CC / CCT	SW-1.0kts
> 750' HDV	Any	CCC / ZCC	CCC / ZCC	SW-1.0kts
<600'	Any	CT / CC	CT / CC	SW-0.9kts/1.0 - 2.5kts
600' – 750' Non HDV	Any	CC / CCT	CC / CCT	“
> 750' HDV	Any	CCC / ZCC	CCC / ZCC	“

Port of Port Arthur Docks 1 to 6

Note: The Port of Port Arthur docks are heavily influenced by currents moving through that area. Tug allocation will vary depending on actual current flow. Currents above 2.5 knots will likely postpone sailings of vessels of drafts greater than 35 feet, and/or require at least (2) Z class and (1) C class tractors.

Vessel size	Draft	Arrival	Departure	Currents: low / high
<600'	Any	LL / CC	LL / CC	SW-0.9kts/1.0 - 2.5kts
600'- 750'	<35'	CC / ZC	CC / ZC	“
600'- 950' Non HDV	>35'	ZC / ZCC	ZC / ZCC	“
>650 HDV	<35'	CC / ZC	CC / ZC	“
>650 HDV	>35'	CC / ZZC	CC / ZZC	“

Pabtex Coke Dock

Note: This dock is also affected by current flows similar to PoPA. See the above note for current and tug allocation reference.

Vessel size	Draft	Arrival	Departure	Currents: low / high
<650'	<30'	TL / CT	TL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Total Crude Dock and Rainbow Bulk

Vessel size	Draft	Arrival	Departure	Currents: low / high
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Lower Fina Anchorage

Vessel size	Draft	Arrival	Departure	Currents: low / high
All Vessels (non-HDV)	<30'	LL / TL	LL / TL	SW-0.9kts / 1.0 – 2.5kts
All Vessels (non-HDV)	>30'	CC / CC	CC / CC	“
HDV	<30'	CT / CC	CT / CC	“
HDV	>30'	CC / ZC	CC / ZC	“

Upper Fina Anchorage

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	≤28'	LL / TL	LL / TL	SW-0.9kts/1.0 - 2.5kts

Indorama Dock

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CT	LL / CT	SW-0.9kts/1.0 - 2.5kts

Motiva Port Neches

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Phillips 66

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Energy Transfer

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Upper and Lower Sun Anchorage

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Reserve Fleet Movements

Vessel size	Draft	Arrival	Departure	Currents: N/A
All Vessels	Any	Consult Pilots	Consult Pilots	Consult Pilots for movement criteria

Enterprise Docks

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Martin Gas Sulphur Basin

Vessel size	Draft	Arrival	Departure	Currents: N/A
All Vessels	Any	LL or TL	LL or TL	

Upper Stanolind Anchorage

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CT	LL / CT	SW-0.9kts/1.0 - 2.5kts

Neches Industrial Park

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CT	LL / CT	SW-0.9kts/1.0 - 2.5kts

Exxon Mobil Coke / Diesel

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	TT / CT	CC / ZZ	SW-0.9kts/1.0 - 2.5kts

Exxon Mobil Docks

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CC	CC / ZZ	SW-0.9kts/1.0 - 2.5kts

Dreyfus Grain Elevator

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CC	LL / CC	SW-0.9kts/1.0 - 2.5kts

Carrol Street Dock

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Jefferson Oil / Orange Ct. Docks

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Port of Beaumont Docks

Vessel size	Draft	Arrival	Departure	Currents: Low / High
<650'	<30'	LL / CT	LL / CT	SW-0.9kts / 1.0 – 2.5kts
<650'	>30'	CC / ZC	CC / ZC	“
>650'	<30'	CC / ZC	CC / ZC	“
>650'	>30'	ZC / ZZ	ZC / ZZ	“

Port of Orange / Bludworth Shipyard

Vessel size	Draft	Arrival	Departure	Currents: Low / High
All Vessels	Any	LL / CT	LL / CT	SW-0.9kts/1.0 - 2.5kts

These particular locations see an array of vessel types with light drafts.

The pilot assigned to the vessel with consultation of the vessel's master will determine what is necessary for the safe completion of vessel maneuvers.

Dead Tows / Dead Shifts / Dry Dock Work / Barges

The tug companies that secure these jobs must provide tugs that will have the capability to make up fast or 'hip up'. Each tug must be able to secure their own bow and stern to the vessel or dry dock to be maneuvered.