



**PNG PORTS CORPORATION LIMITED**  
**STANDARD OPERATION PROCEDURE & GUIDE**  
**ENGAGEMENT OF TUGBOATS**

**INTRODUCTION**

The purpose of this procedure and guide is to ensure that safety of navigation within the waterways under the jurisdiction of PNG Ports Corporation Ltd (PNGPCL) is taken into account and maintained while assessing the physical conditions of the harbours and the characteristics of vessels to engage services of a tugboat.

The use of tugboats for berthing, unberthing and escorting is a matter for the Business Manager advised by the port pilot - and for agreement with the master. If a Master does not wish to follow the guidelines, against the professional judgment of the pilot, the Manager Pilot Services or Business Manager should be referred to for special directions. The Business Manager or Manager Pilot Services may direct a ship to wait for appropriate conditions in these circumstances.

All business managers, operations officers, port pilots, ship agents, tug masters, ship masters and port users must comply with this SOP & guide.

This SOP and guide are aimed at:

- standardising operation procedures for PNG Ports Corporation Limited;
- being part of the complete library of PNG Ports Corporation Limited policies and procedures;
- forming the basis for competency standards for operation training and assessment and;
- forming the basis for contractual responsibility for all parties engaged in the set of procedures

## PROCEDURES BEFORE ENGAGING THE TUGBOAT

1. Where the Business Manager thinks fit for the purpose of the positioning and safety of a vessel or vessels in any port, or for the safety of any wharf, or any work or thing, that is the property of PNGPCL –
  - (a) the Business Manager may direct the master of any vessel to engage the services of a tug or tugs of such capacity or power as the Port Manager may consider necessary and, on receipt of such direction, the master shall engage the services of a tug or tugs; or
  - (b) where a pilot is not employed and a master has engaged the services of a tug or tugs or been directed by the Business Manager to engage the services of a tug or tugs, the Business Manager may direct the master to take engage the port pilot for which the tug or tugs shall be used and, on the receipt of that direction, the master shall use or endeavour to use the tug or tugs in accordance with direction of the port pilot.
2. Any vessel employed in towing, or in any way mooring or assisting another vessel under Pilotage, shall be under orders of a pilot, duly licensed for the purpose, in all matters connected with the navigation of such vessel.
3. The number of tugs required may be increased when unfavourable conditions exist or when the handling characteristics of the vessel are in doubt.
4. It is recognized that due to the considerable variations in vessel size, shape, condition and degree of capability, certain vessel movements may not be adequately covered by these guidelines. In these circumstances, the vessel will be defined as “Special Category Case” and an individual risk assessment of the planned movement will be undertaken. This is particularly pertinent when a damaged or disabled vessel is to be moved within port limits
5. These guidelines are based on the minimum tug requirements compiled for conventional vessels of varying length, taking into account the forces likely to be exerted by wind, current and wave action.
6. In addition to this base line criteria, there are numerous other factors have also been taken into account including the overall assessment of tug support on a port by port basis and these may permit the Guideline requirements to be increased or decreased from time to time.

The list of such components is not exhaustive but includes:

- Vessel draft
- Vessel windage
- Forecast weather
- Predicted tide/current
- Sea state
- Tow line length
- Vessel defects or damage
- Assets available
- Pilot experience
- Tug Master experience
- Risk mitigation
- Destination Berth Orientation
- Manoeuvring room available

7. The Manager Pilot Services may exempt a ship or a certain port area from obligation of using tugs or may allow for fewer number of tugs, provided that his considerations of ship's manoeuvring properties ensure that such exemption will not endanger safety of navigation in the port area or within port limits and or waterways under the jurisdiction of PNG Ports Corporation. If necessary for the safety of navigation, Manager Pilot Services may order to use a tug boat or more tug boats. There is no uniform system in use in ports around the world establishing correlation between size of ship and the number and power of tugs required; decisions on the number of tugs to be used in ports and the bollard pull required are in practice 99% based on experience.

Having prepared for the vessel's reception at the berth, the officer will almost always leave the control of the actual berthing procedure to the designated berthing master.

## Port Moresby

All vessels in and out of the Main Wharf, 4A and the APC Wharf, including mooring buoys and Napa Napa oil refinery:

### Minimum Tug Requirements

Vessel Length	Minimum Tug Requirement	Remarks
< 85m	0	Tug required if vessel has defects, or if wind speed exceeds 25 knots
85m to 125m	1	Tug number may be increased / decreased subject to vessel maneuvering characteristics and hydro-meteorological conditions
126m to 190m	2	Tug number may be increased / decreased subject to vessel maneuvering characteristics and hydro-meteorological conditions
191m to 250m	3	Generally crude tanker movements only
>250m	»	Special Category Case requiring individual assessment in all weather conditions

#### Notes:

1. Vessels of length of 85 m LOA and above carrying Class 1 dangerous cargo according to IMDG Code, and any oil derivative cargo or liquefied petroleum gas in bulk, shall be obliged to use the assistance of not less than one tug boat for berthing and unberthing, irrespective of whether or not the vessel is equipped with bow thrusters.
2. All tanker movements in day light hours only.
3. Guidelines assume good visibility, and a mean wind speed not exceeding 25 knots.
4. Available tugs:

- **Brighton** (2,440bhp / 40tbp)
- **Sprightly** (2,000bhp / 33tbp)
- **Langila** (2,250bhp / 28tbp)
- **Tavurvur** (1,400bhp / 21tbp)

**Lae**

All vessels to all berths, #1 through to #6.

**Minimum Tug Requirements**

<b>Vessel Length</b>	<b>Minimum Tug Requirement</b>	<b>Remarks</b>
< 85m	0	Tug required if vessel has defects, or if wind speed exceeds 25 knots
85m to 125m	1	Tugs may be increased subject to vessel manoeuvring characteristics and hydro- meteorological conditions
126m to 190m	2	Tugs may be increased or decreased subject to vessel manoeuvring characteristics
>190m	»	Special Category Case

**Notes:**

1. Vessels of length of 85 m LOA and above carrying Class 1 dangerous cargo according to IMDG Code, and any oil derivative cargo or liquefied petroleum gas in bulk, shall be obliged to use the assistance of not less than one tug boat for berthing and unberthing, irrespective of whether or not the vessel is equipped with bow thrusters.
2. Guidelines assume good visibility, and a mean wind speed not exceeding 25 knots.
3. Tugs available:
  - **Victory** (2,440bhp / 40tbp)
  - **Masthead** (1,600bhp / 28tbp)

**Kimbe**

All vessels berthing and unberthing at the Main Wharf.

**Minimum Tug Requirements**

<b>Vessel Length</b>	<b>Minimum Tug Requirement</b>	<b>Remarks</b>
< 85m	0	Tug required if vessel has defects, or if wind speed exceeds 25 knots
85m to 155m	1	Tugs may be increased subject to vessel manoeuvring characteristics and tug availability
>156m	»	Special Category Case

## Notes:

1. Vessels of length of 85 m LOA and above carrying Class 1 dangerous cargo according to IMDG Code, and any oil derivative cargo or liquefied petroleum gas in bulk, shall be obliged to use the assistance of not less than one tug boat for berthing and unberthing, irrespective of whether or not the vessel is equipped with bow thrusters.
2. Guidelines assume good visibility, and a mean wind speed not exceeding 25 knots.
3. If second tug is required as a result of a Special Category Case assessment services ex Rabaul are available.
4. Tug available
  - **Pacific Gulf** (1,400bhp / 21tp)

**Madang**

All vessels berthing and unberthing at the Main Wharf.

**Minimum Tug Requirements**

<b>Vessel Length</b>	<b>Minimum Tug Requirement</b>	<b>Remarks</b>
< 85m	0	Tug required if vessel has defects, or if wind speed exceeds 25 knots
85m to 155m	1	Tugs may be increased subject to vessel manoeuvring characteristics and tug availability
>156m	»	Special Category Case

**Note:**

1. Vessels of length of 85 m LOA and above carrying Class 1 dangerous cargo according to IMDG Code, and any oil derivative cargo or liquefied petroleum gas in bulk, shall be obliged to use the assistance of not less than one tug boat for berthing and unberthing, irrespective of whether or not the vessel is equipped with bow thrusters.
2. Guidelines assume good visibility, and a mean wind speed not exceeding 25 knots.
3. If second a tug is required as a result of a Special Category Case assessment, services ex Lae can be made available;
4. Tug available:
  - **Yomba** (1,600bhp / 27 tbp)
  - **Kairiru** (730bhp / 12 tbp)

**Rabaul**

All vessels to all berths in good visibility, wind speed not exceeding 25 knots.

**Minimum Tug Requirements**

<b>Vessel Length</b>	<b>Minimum Tug Requirement</b>	<b>Remarks</b>
< 85m	0	Tug required if vessel has defects
85m to 160m	1	Tugs may be increased subject to vessel manoeuvring characteristics and tug availability
>161m	2	

**Notes:**

1. Vessels of length of 85 m LOA and above carrying Class 1 dangerous cargo according to IMDG Code, and any oil derivative cargo or liquefied petroleum gas in bulk, shall be obliged to use the assistance of not less than one tug boat for berthing and unberthing, irrespective of whether or not the vessel is equipped with bow thrusters.
2. Guidelines assume good visibility, and a mean wind speed not exceeding 25 knots.
3. Tugs available:
  - **McLarty** (2000bhp / 33tbp)

**APPROVED FOR IMPLEMENTATION:**

Signature: \_\_\_\_\_ Date: --/--/--

Chief Operating Officer

Signature: \_\_\_\_\_ Date: --/--/--

Human Resources Manager

Signature: \_\_\_\_\_ Date: --/--/--

Chief Executive Officer