

# Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



## 1.0 Introduction

Vessels transiting within port limits from the Gorgon Marine Terminal (GMT) to the Barrow Island Outer Pilot Boarding Ground (PBG) via the primary route, require an approved passage plan which can be shared between Pilots and vessel Masters. This work instruction has been compiled in accordance with documents *GOR-COP-0187 - Pilot Passage Plan Guideline* and approved according to *GOR-COP-0186 - Passage Plan Approval Procedure*.

### 1.1 Purpose

This work instruction details the navigation route between the GMT and the PBG, providing Pilots, Masters and Bridge Navigation Teams sufficient information to conduct a vessel along the route in a safe and controlled manner whilst minimising risk to personnel, environment and property.

### 1.2 Scope

This work instruction begins when a vessel departs the Gorgon Marine Terminal and concludes at the PBG.

#### CAUTION:



Caution must be taken when using beacons for navigation, particularly post-severe storm/cyclone activity.

### 1.3 Target Audience

This work instruction is intended for use by ABU Marine Pilots, vessel Masters and bridge navigation teams.

### 1.4 Acronyms and Abbreviations

The below table defines the acronyms and abbreviations used in this document

Acronym/Abbreviation	Meaning
AMSA	Australian Maritime Safety Authority
BITR	Barrow Island Terminal Regulations
BWI	Barrow Island
CBM	Conventional Buoy Mooring
CD	Clearing distance
ECDIS	Electronic Chart Display and Information System
ETA	Estimated Time of Arrival
GMT	Gorgon Marine Terminal
JHA	Job Hazard Analysis
kts	knots

Document ID: GOR-COP-0320  
Revision ID: 3.0 Revision Date: 28 June 2016  
Information Sensitivity: Public

Document Approvals	Signature/Date
Author	ECUO
Approver	NVWQ
Owner	LVNX

Uncontrolled when printed

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



Acronym/Abbreviation	Meaning
m	metres
MOF	Materials Offloading Facility
MPX	Master Pilot Exchange
nm	Nautical miles
Pilot	BWI Marine Pilot
OOW	Officer of the Watch
PEL	Sectored leading light
PBG	Pilot Board Ground
PI	Parallel index
PP	Passage Plan
PPU	Portable Pilotage Unit
SMS	Safety Management System
SOLAS	International Convention for Safety Of Life At Sea
RPM	Revolutions per minute
UKC	Under Keel Clearance
XTE	Cross Track Error

### 2.0 Waypoint Bank

Waypoint	Reference	Latitude	Longitude
WP001	Turning Basin	20° 49.11'S	115° 29.81'E
WP002	LNG 4	20° 50.52'S	115° 32.15'E
WP003	Outer PBG	20° 47.60'S	115° 38.00'E

### 3.0 Route Bank

Route	Waypoint Sequence
Passage Plan –Gorgon Marine Terminal to PBG – Primary Route	WP001, WP002, WP003

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



### 4.0 Passage Plan – Gorgon Marine Terminal to PBG – Primary Route

<b>Waypoint</b>	Alongside Berth	<ul style="list-style-type: none"> <li>Pilot will setup and use a PPU for the passage as an independent means of position fixing.</li> <li>The Pilot will have completed the necessary UKC calculations.</li> <li>The Pilot will detail the manoeuvring of the vessel out of the berth, including unmooring arrangements and tug configurations as part of the MPX.</li> <li>Pilot will brief the Master on contingency plans, No Go Areas and abort points as part of the MPX.</li> <li>Tugs, as required, will be connected prior to letting go mooring lines.</li> <li>The Pilot will contact Port of Barrow advising of departure and which track will be used.</li> <li>Where appropriate, Pilot to contact PLM of vessel alongside adjacent berth and ascertain agreement for manoeuvring in the Turning Basin.</li> <li>Engines to be tested prior to departure and recorded in the ship's log book.</li> <li>Environmental data, including tidal flow and wind conditions at the Jetty head will be available to the Pilots and communicated to vessel's Master</li> <li>At night, visual references ahead of the vessel are limited. As such, a greater reliance on radar fixing and PI methods may be required.</li> <li>Anchors are to be cleared away and ready for letting go prior to departing the berth.</li> <li>Flood tide sets to the South. Ebb tide sets to the North.</li> <li>The Turning Basin is approximately 850m long x 650m wide.</li> </ul>
<b>Latitude</b>		
<b>Longitude</b>		
<b>Course</b>	<b>Various</b>	
<b>Speed</b>	Various	
<b>Leg Distance</b>	N/A	
<b>Minimum Depth at CD</b>	13.4m	
<b>Berth Alignment</b>	000°T/180°T	
<b>Maximum Cross Track Error</b>	N/A	
<b>Primary Fixing</b>	Visual/PPU	
<b>Secondary Fixing</b>	GPS/RADAR	
<b>Parallel Index</b>	N/A	

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



<b>Waypoint</b>	WP001 (Turning Basin)	<ul style="list-style-type: none"> <li>Vessel speed shall be in line with the UKC requirements for the passage.</li> <li>Be aware of potential back scatter on this leg due to shore lights.</li> <li>The main leads maybe obscured on this leg due to vessels at the berth. Identify and monitor the PEL backup for passage outbound.</li> <li>Flood tide sets to the South. Ebb tide sets to the North.</li> <li>Vessel is committed to the channel and will ground if it departs the channel boundaries prior to passing LNG 6 and 7 beacons outbound.</li> <li>Tugs' lines maybe released once clear of LNG 6 and 7 beacons but at pilot's discretion. The centre lead tug will remain connected to the vessel for escort purposes.</li> </ul>
<b>Latitude</b>	20° 49.11'S	
<b>Longitude</b>	115° 29.81'E	
<b>Course</b>	<b>123°T</b>	
<b>Speed</b>	~5.0kt to 8.0kt	
<b>Leg Distance</b>	2.6nm	
<b>Minimum Depth at CD</b>	13.4m	
<b>Maximum Cross Track Error</b>	50m	
<b>Primary Fixing</b>	Visual/PPU	
<b>Secondary Fixing</b>	GPS/RADAR	
<b>Parallel Index</b>	LNG 4 - 123°/0.18nm	

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



<b>Waypoint</b>	WP002 (LNG 4)	<ul style="list-style-type: none"> <li>Escort tug releases once steady on new course. Tugs dismissed.</li> <li>Flood tide sets to the South West. Ebb tide sets to the North East.</li> <li>The passage concludes at the Outer PBG (20° 47.60'S, 115° 38.00'E).</li> <li>Extra caution to be taken in vicinity of the PBG due to converging traffic.</li> <li>Vessel and Pilot Boat are to discuss and agree on vessel speed and heading prior to pilot transfer, to ensure a good lee for boarding. The pilot boarding arrangement will be rigged as per SOLAS 2010 Chapter V Reg 23, as amended, and secured to a height above the waterline as requested by the Pilot Boat.</li> <li>Course and speed shall be adjusted once clear of port limits for pilot transfer.</li> </ul>
<b>Latitude</b>	20° 50.52'S	
<b>Longitude</b>	115° 32.15'E	
<b>Course</b>	<b>062°T</b>	
<b>Speed</b>	~8.0kt	
<b>Leg Distance</b>	6.2nm	
<b>Minimum Depth at CD</b>	13.6m	
<b>Maximum Cross Track Error</b>	200m	
<b>Primary Fixing</b>	Visual/PPU	
<b>Secondary Fixing</b>	GPS/RADAR	
<b>Parallel Index</b>	LNG 1 - 062°T/0.34nm	



## **5.0 Execution of the Passage Plan - Expectations**

### **5.1 Notes for Master and Bridge Team**

- Prior to departing the Gorgon Marine Terminal the Master is to review the passage plan and plot the plan onto the appropriate charts or ECDIS system, briefing his/her Bridge teams accordingly. Any concerns or questions are to be raised with the Pilots prior to departure.
- In accordance with AMSA regulations, all charts (paper and electronic) and navigational publications must be corrected to the latest edition of the Australian and Western Australian Notice to Mariners, including any applicable Temporary Notices to Mariners that may be in force. Additionally, the vessel is to have available and understand the BWI Marine Notices that are in force. BWI Marine Notices and other relevant port information are located on the Port of Barrow Island website.  
<https://www.chevronaustralia.com/our-businesses/barrow-island/barrow-island-port>
- Charts required for the passage are the latest editions of Australian Hydrographic charts AUS 65 and AUS 66.
- Any deficiencies that may affect the vessel's operating performance are to be reported to Pilots at the first available opportunity prior to sailing.
- All bridge navigational equipment must be switched on and functioning correctly prior to the Pilot boarding. All navigation systems, including paper charts, are to be arranged and displayed so that the Pilot can quickly determine the vessel position, course and speed at any time during the passage.
- Anchors are to be cleared away and ready for letting go prior to the Pilot boarding.
- A MPX involving the Pilot, Master and bridge team, will be conducted after the Pilot has arrived on the bridge. The Pilot will take conduct of the vessel at the conclusion of the MPX.
- To ensure an appropriate level of BRM Pilots utilise a "Closed Loop" system of communications for the relay of orders. The Master/OOW is to ensure the bridge is managed such that all orders can be clearly heard, understood and responded to. The Master/OOW is to monitor course, helm orders and engine settings to ensure compliance with the Pilot's directions.
- Pilotage is compulsory for the Port of BWI and the Pilot will have the conduct of the vessel at all times whilst manoeuvring within port limits. It is acknowledged however, that the Master always remains in overall command of his vessel. Adhering to good BRM principles, Pilots actively encourage a "Challenge and Response" environment. If at any time the Master/OOW is unsure of the actions being taken, they are to challenge the Pilot and vice versa.
- Ship's position, proximity to dangers and UKC should be continuously monitored by the Master/OOW and cross referenced with the passage plan. If the Master leaves the bridge, the OOW must always seek clarification from the Pilot when in any doubt as to the Pilot's actions or intentions.
- It is important to keep formal records of all navigational activities and any incidents in the appropriate Bridge Movement logbook. Information recorded should be of an appropriate standard so that the vessel's progress out of the Port can be reconstructed at a later date.

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



### 5.2 Notes for the Pilot

- Conduct of the vessel will be assumed by the pPlot in an unambiguous manner.
- The Pilot will assist the bridge team to ensure radar conspicuous points, parallel indexing and any clearing bearings/ranges are properly understood.
- For each leg of the passage the Pilot is to brief the Master on the required fixing interval and methods used to determine ship's position. In determining the most appropriate fixing method and interval, the following will be taken into consideration:
  - a. The state of wind, sea and weather
  - b. Proximity to navigational dangers
  - c. Traffic density
  - d. Manoeuvring characteristics of the vessel
  - e. Navigational equipment available, and
  - f. How position data is displayed, i.e. ECDIS or paper charts
- Pilot will ensure tug numbering and communication protocols are explained fully.
- Pilot is to ensure all navigation hazards (e.g. no go zones) are clearly marked on the chartlet.
- In order to adhere to Port of Barrow Island UKC requirements the Pilots will complete either:
  - a. *GOR-COP-0254 - Gorgon - UKC Calculation Sheet - LNG Carriers,*
  - b. *GOR-COP-0253 - Gorgon - UKC Calculation Sheet - Condensate Carriers*

This calculation may result in the transit being tidally restricted.

- If for any reason prior to commencing the transit, there is a need to deviate from the standard passage plan, a revised passage plan will be formulated and agreed between the Pilot and Master; any additional hazards will be identified and any mitigations/controls shall be detailed in an appropriate JHA.
- The PPU is a mandatory piece of equipment for the conduct of pilotage operations at the Gorgon Marine Terminal. If the PPU does not function as is normally expected, the Pilot is to inform the BWI Port Superintendent at the first available opportunity.

**If there is a need to deviate from the passage plan for any reason, the bridge team must be fully briefed as to the Pilot's intentions and the Pilot should make every opportunity to return to the passage plan as soon as possible.**

### 6.0 References

Ref. No.	Description	Document ID
1	Gorgon - Barrow Island Terminal Regulations (BITR)	GOR-COP-0174
2	Gorgon - Pilotage - Pilot Passage Plan Guideline	GOR-COP-0187
3	Gorgon - Pilotage - Passage Plan approval Procedure	GOR-COP-0186
4	Gorgon - UKC Calculation Sheet - Condensate Carriers	GOR-COP-0253
5	Gorgon - UKC Calculation Sheet - LNG Carriers	GOR-COP-0254

## Gorgon - Pilotage - Passage Plan - Gorgon Marine Terminal to PBG - Primary Route



### 7.0 Document Control

#### 7.1 Ownership

<b>Document Author</b>	Cameron Crampton	<b>Owner</b>	John Meade
<b>Reviewer List</b>	Mike Birchall	J Meade	

#### 7.2 Revision History

Rev	Description	Date	Prepared By	Approved By
1.0	Approved for Use	18 March 2015	Arno Tielens	Hamish Murray
2.0	Approved for Use - updated	21 April 2015	Mike Deer	Dave Acomb
3.0	Approved for Use - updated	28 June 2016	Cameron Crampton	John Meade