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Barrow Island Port Information Manual

ABU Marine Operations

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Document information

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Approvals

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Approved:	Cameron Crampton	Cameron Crampton Digitally signed by Cameron Crampton Date: 2023.12.15 07:57:57 +08'00'	

Key Contacts

Emergency Contact

In the event of an emergency, all Vessels shall notify the “Port of Barrow” immediately by VHF radio channel 10 or 16.

For all emergencies outside of the port’s hours of operation (section 4.3), contact Gorgon Security Operations on VHF radio channel 16 or Phone +61 8 9184 3581.

Terminal Address and phone number

Gorgon Marine Terminal is on the east coast of Barrow Island at latitude 20 degrees 48.9 minutes south, longitude 115 degrees 29.5 degrees east.

Phone: +61 8 9184 3666 (business hours only)

Email: GOPORTOps@chevron.com

Port of Barrow Island

Radio Contacts

Refer to section 3.5

Port Authority

Western Australia Department of Transport (DoT)

Phone: +61 8 9480 9924

WA - Department of Transport (Marine)

Agent Services

As per instructions received from lifters

Pilots

Phone: +61 8 9184 3666 (business hours only)

Email: GOPORTOps@chevron.com

Introduction

Purpose

The purpose of this document is to provide guidance to port users regarding the expectations of the WA Department of Transport and Chevron Australia (BGPA Operator), regarding the various rules, regulations, and requirements, which apply to all Vessels transiting or operating within the port limits of the Port of Barrow Island.

Scope

The scope of this document is to provide information and advice on the various elements governing and controlling the safety of personnel, protection of the environment and the safeguarding of port infrastructure within the Port of Barrow Island, including general port information, operations requirements, security arrangements, facilities, and services.

The Barrow Island Port Information Manual (BIPIM) provides details of the facilities, anchorages, pilotage arrangements and communications protocols withing the Port of Barrow Island Port limits.

For vessel proceeding to the Conventional Mooring Buoy (CBM) export facility this document should be read in conjunction with The WA Oil Barrow Island Marine Terminal Manual (refer to the Barrow Island Port website)

Objectives

The objective of this document is to provide appropriate information and guidance to Vessel Masters and all port users that will ensure that operations are undertaken safely and in compliance with all regulations, legislation, and conventions applicable to the port.

Additionally, this information manual provides information concerning the physical layout and description of the Port of Barrow Island facilities to the users of the infrastructure as constructed.

Target audience

This document is intended for use by any person engaged in marine operations within the Port of Barrow Island, including:

- Lifters and the Lifting Coordinator (LC)
- Barrow Island Gas Plant Ownership and Operating Agreement (BGPA) Operator
- Vessel owners / operators
- Vessel Masters
- Marine pilots
- Other parties as appropriate e.g., shipping agents, government authorities.

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1 Emergency Procedures

1.1 General

An emergency notice – Instruction to Export Tanker Masters is provided by Pilot Loading Master (PLM) during pre-loading meeting. In the event of an emergency, PLM is the vessel's first point of contact, who will co-ordinate with the vessel and shore-based emergency services as to what resources are required to assist in the emergency response.

Table 1-1 Emergency Actions on Vessel

On-Board the Vessel	
1.	Initiate Vessel response
2.	Inform Terminal Central Control Room (CCR)
3.	Stop all operations immediately (ESD if required)
4.	Inform PLM and standby Tug
5.	PLM will initiate shore response in accordance with the Terminal Emergency Response Procedures

NOTE:
It is recognised that during an emergency, these actions may take place consecutively and not necessarily in the order above. It is further recognised that the response actions will be aligned with the type and degree of severity, or potential severity of the emergency.

Table 1-2 Emergency Actions at Other Location

At Other Locations (within the Port or Terminal)	
1.	The Vessel will be advised of an emergency within the Terminal or Port that may affect the vessel by the Terminal CCR or PLM
2.	Stop all operations immediately (ESD if required) and prepare for disconnection
3.	Engines readied for use as soon as possible and standby Tug to be mobilised
4.	Crew to standby for operations
5.	The Terminal CCR or PLM will advise the Vessel of further requirements

NOTE:
It is recognised that the response actions will be aligned with the degree of severity or potential severity of the emergency.

IMPORTANT NOTICE:
The Terminal Emergency Response Procedures are immediately effective on any alarm being given. Gorgon Security Operations monitor VHF Channel 16 continuously 24/7 for marine distress and emergencies.

1.1.1 Emergency Information

An emergency document box clearly displaying the words “Ship’s Emergency Documents” is located near the shore manifold.

This box will contain the following information provided by the LNG Ship or Condensate Vessel Master:

- LNG and Condensate (cargo) handling plan
- Safety Data Sheet (provided by the terminal)
- Crew list
- Fire control plan
- The LNG Ship’s or Condensate vessels’ Emergency Management Plan
- Inventory of Chemicals

1.1.2 Fire Fighting equipment

1.1.2.1 Gorgon Marine Terminal

The Gorgon Marine Terminal (GMT) will ensure that all fixed firefighting installations and portable equipment are always in good condition and ready for immediate use.

1.1.2.2 LNG Carrier

- All firefighting equipment shall be in good condition and ready for immediate use.
- Fire main system is to be pressurised by the LNG Ship whilst berthed.
- Water spray deluge system shall be readily available for operation.
- The ship/shore international connection shall be displayed with connecting flange and bolts ready for immediate use.
- Dry powder system shall be ready for immediate use and manifold monitors correctly positioned for remote operation.
- The manifold located water curtain is fully operational during LNG transfer.

1.1.2.3 Condensate Carrier

- All firefighting equipment shall be in good condition and ready for immediate use.
- Fire main system is to be pressurised by the Condensate vessel whilst berthed.
- The ship/shore international connection shall be displayed with connecting flange and bolts ready for immediate use.

- Fixed foam firefighting system should be ready for immediate use.

1.1.3 Oil Spill response equipment

Barrow Island maintains an on-site oil spill response capability (Tier 1). Equipment consists of:

- Containment boom
- Sorbent booms, pillows and granules
- Skimmers and pumps
- Spill response vessel
- Decontamination kit (PVC gloves and spill storage containers)

1.1.4 Gorgon Treatment Plant General Alarm

When the Gorgon Treatment Plant General Alarm is sounded, Vessel Masters are to ensure that all personnel “shelter in place”, await further instruction and remain onboard the Vessel until the all clear is given.

Sounding of the “General Alarm” Alternating Siren: The external sirens around the Gorgon Treatment Plant will sound for at least 2 minutes (on for 5 seconds, off for 5 seconds).

Sounding of the “All Clear”- Constant Siren: The external sirens around the Gorgon Treatment Plant will sound continuously for 2 minutes.

1.2 Oil spill and Vapour Release

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.2.1 Oil spill

All Vessels shall comply with the relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) defined as the ‘Convention’ in the Pollution of Waters by Oil and Noxious Substances Act 1987 of the State of Western Australia and the Protection of the Sea (Prevention of Pollution from Ships) Act 1986 of the Commonwealth and comply with other legislation of the State or Commonwealth pertaining to pollution.

All Vessels are required to notify the Harbour Master via the BWI MS immediately of any oil spill that they observe or oil spill incident (including loss of primary containment) in which they are involved. In the first instance, verbal notification may be given; however, this should be followed up by submitting a Marine Pollution Report POLREP to the Harbour Master as soon as practicable.

The PLM must also be informed.

For the purposes of International Convention for the Prevention of Pollution from Ships (MARPOL), the baseline in relation to the term “nearest land” extends seaward from the western side of Barrow Island. The area extending to the

Australian mainland is considered internal waters. Mariners are advised to consult the relevant publications to define specific boundaries.

1.2.2 Hydrocarbon and Noxious Hazardous substance release

An uncontrolled release or spill is an unplanned discharge to the environment and must be reported to the Port of Barrow Island immediately to enable the coordination of response activities as appropriate. Uncontrolled releases and/or spills are to be formally reported to the appropriate authorities via a Marine Pollution Report POLREP.

1.3 Fire and Explosions

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.4 Evacuation

Vessel to initiate response as per instructions provided in Section 1.1 above.

The primary means of evacuation from the vessel is via the shore gangway. Where a fire or explosion in the shore manifold area could block the escape route of persons from the LNGC or Condensate Vessel, one of the following means of escape should be available whilst Vessel is moored at a berth

- An outboard accommodation ladder, turned out and rigged ready for immediate lowering
- An outboard lifeboat lowered to the embarkation deck (unless it can be lowered fully laden from the stowed position), ready for immediate launching
- A free-fall lifeboat (if fitted in lieu of a conventional lifeboat), having considered factors such as moorings, depth and fetch of water and obstructions.
- A davit launched life raft able to be boarded and deployed from outboard the embarkation deck outboard of the berth.

1.5 Collision / damage to berth

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.6 Medical emergency

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.7 Security Breach

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.8 Person Overboard

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.9 Vessel breakout or drift along berth

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.10 Emergency Shutdown (ESD)

Vessel to initiate response as per instructions provided in Section 1.1 above.

1.11 Incident notification policy

Vessel Masters, operators, and port users are required to report all incidents in accordance with the Harbour Master's 'Port Operating Requirements' in Section 3.1.1.1.

Vessel Master is obligated to inform and report to the Harbour Master, through the BWI Marine Superintendent (MS), within four hours of any incident, near miss or relevant events. This does not relieve the Vessel Master from their obligation to report the same incident, near miss or relevant event as required by any other Australian / International legislation.

The AMSA website provides further guidance on incident reporting requirements.

Incident reporting -AMSA

2 Health, safety, and security policies

2.1 Personal Protective Equipment (PPE) requirements

All personnel entering GMT must be wearing appropriate personal protective equipment. As a minimum will consist of:

- Safety helmet / hard hat
- Safety eyewear
- Protective gloves
- Long sleeved clothing, high visibility (HI-Vis) and long pants or coveralls. Visitors without Hi-Vis clothing must wear some form of high-visibility identification (e.g. a vest) when entering applicable areas.
- Protective toe-capped, ankle-high boots
- Hearing protection (in designated areas)
- Depending on nature of work and hazards present, additional protective gear may be required.

For condensate tankers, refer to section 2.10 for more details.

2.2 Terminal access control (including shore leave, visitors)

For safety and security reasons, access to the GMT is strictly controlled. The berths are deemed secure marine terminals under Australian maritime security legislation. Authorised personnel shall transport all visitors within the GMT and only approved vehicles are allowed to operate within jetty area.

Shore-based welfare facilities do not exist on Barrow Island and shore leave from LNG Ships and Condensate Vessels is not permitted at the GMT

2.3 Vessel / Terminal security interface

The Commonwealth Maritime Transport and Offshore Facilities Security Act 2003 (MTOSFA) regulates the security arrangement at each Australian port. Chevron Australia has a Port Security Plan (PSP) for all marine infrastructure and facilities within the Port of Barrow Island, which has been developed in accordance with the Maritime Transport and Offshore Facilities Security Act (MTOFSA) 2003 and accompanying regulation. This Plan has been approved by the Australian Government Security regulating body and meets the security requirements as detailed in the International Ship and Port Facility Security (ISPS) Code.

The security level in force can be found on the Ports website, where necessary, additional security measures agreed in a Declaration of Security (DOS).

2.3.1 Port Facility Security Officer

The BWI MS is the designated Port Facility Security Officer (PFSO) for the Port of Barrow Island. All matters concerning landside/shore restricted zones within

Port of Barrow Island limits should be referred directly to the BWI Marine Superintendent.

2.3.2 Security Regulated Areas

The Port of Barrow Island has a single Maritime Security Regulated Boundary within the Port of Barrow Island port limits. The establishment of both Waterside and Landside Restricted Zones within this boundary are seen below:

The WA Oil CBM terminal operates a Waterside Restricted Zone only. Unauthorised Vessels must seek approval from the Port of Barrow Island to enter within 500 m of a moored Vessel for the duration of the operation

The MOF and GMT (including the jetty) operate both a Landside Restricted Zone and a Waterside Restricted Zone the WRZ extends 200m either side of the jetty and inside the MOF).

2.3.3 Port Service Providers

When required by MTOFSA, support service providers such as a tug / towage operator within the Port of Barrow Island will also be required to have a Memorandum of Understanding and an approved Maritime Security Plan and appoint a Port Service Provider Security Officer.

2.3.4 Security Levels

In compliance with MTOFSA, the Port of Barrow Island employs the following Maritime Security levels:

Table 2-1: Port of Barrow Island Maritime Security Levels

Security Level (ISPS Code)	ISPC Code – Security Level	Details	Commonwealth of Australia Alert Levels
1.	Normal level of security	Standard security measures are maintained	Low
			Medium
2.	Heightened level of security	Additional security measures shall be implemented	High
3.	Security alert	Further additional security measures shall be implemented	Extreme

2.3.5 Declaration of Security

As required by MTOFSA, the Ship Security Officers requesting a Declaration of Security shall submit a request to the PFSO using the following email address:GOPORTOps@chevron.com

2.3.6 Reporting of Security Breaches or Suspicious Behaviour

Any personnel operating within the Port of Barrow Island shall report any breach of security, criminal activity, or suspicious behaviour to the PFSO via the Port of Barrow Island.

2.4 Drug and alcohol policy

GMT prohibitions include:

a. Using, possessing, selling, manufacturing, distributing, concealing, or transporting any of the following items unless specifically permitted under (b) below
   i. any prohibited substance (illicit drugs including prescription drugs obtained without a prescription and controlled substances or mood- or mind-altering substances, prescribed drugs used in a manner inconsistent with the prescription and alcoholic beverages
   ii. firearms, ammunition, explosives, or weapons and
   iii. drug equipment or paraphernalia typically associated with the use of illicit drugs (including prescription drugs obtained without a prescription) and controlled substances or mood- or mind-altering substances
b. Using or possessing prescription drugs or over the counter drugs that may cause impairment except when all the following conditions have been met
   i. prescription drugs have been prescribed by a licensed physician for the person in possession of the drugs
   ii. the prescription was filled by a licensed pharmacist for the person possessing the drugs and
   iii. the individual notifies their supervisor that they will be in possession of or using, impairment-causing prescription drugs or over-the-counter medication and appropriate steps are taken to accommodate the possibility of impairment
c. Using, possessing, selling, manufacturing, distributing, transporting, or consuming alcoholic beverages
d. Being under influence of prohibited substances or impairment-causing prescription drugs or over-the-counter medication whilst performing any work without compliance with (b) (iii) above
e. Switching or adulterating any urine, blood or other sample used for alcohol and/or drug testing.

Persons under the influence are not permitted access through the Gorgon Marine Terminal - “under the influence” means (i) the presence of a prohibited substance, or metabolites of a prohibited substance in body fluids; and/or the presence of a prohibited substance that affects an individual in any detectable manner. Symptoms of being under the influence include slurred speech or difficulty in maintaining balance.

Random breath testing is in force at the GMT, and anyone producing a sample above zero (0.00) blood alcohol content will not be allowed onto the site. Personnel transiting the GMT may be subjected to random search and testing by security personnel.

2.5 Smoking policy

A vessel shall have a maximum of two designated smoking rooms in the accommodation. Smoking shall be restricted to designated rooms clearly identified for their intended purpose.

Designated rooms should be ventilated using either a positive pressure or total recirculation design. Direct communication is not permitted with any hydrocarbon dangerous zone.

2.6 Portable electronic equipment and naked lights (matches and lighters)

Any portable electrical equipment (e.g., hand-held torches, radios, gas analysers), operated in gas dangerous zones, shall be certified for use in such atmospheres, in accordance with the “notified body” issued certification. Equipment should be maintained and operated to comply with original certification.

It is prohibited to bring into the GMT any equipment that is a potential ignition source. This includes matches, lighters, and any form of non-approved electronic equipment. Requests to bring electronic equipment considered necessary for the transfer operation of LNG or Condensate shall be directed to the PLM. For personnel accessing or departing an LNG Ship or Condensate Vessel, special arrangements will be made by security personnel for the safe transfer of any electronic equipment to or from the LNG Ship or Condensate Vessel.

2.6.1 Communication Equipment

Medium Frequency (MF) / HF radio transmitting equipment shall be switched off and earthed while the LNGC or Condensate Vessel is alongside the berths. The main radio transmitting aerials shall be earthed while the vessel is at the berth.

Use of satellite communications equipment is permitted but shall be switched off in the event of an emergency, gas release or on the advice of the PLM.

All Chevron Australia chartered Vessels (including non-propelled Vessels) operating within the Port of Barrow Island port limits shall be fitted with an operational AIS at all times. Fixed VHF radio installations, including the AIS, shall be switched to low power – 1 Watt or less. If a low power option is not available, the equipment shall be switched off.

Only handheld VHF or Ultra High Frequency (UHF) radios having an output of 1 Watt or less and complying with the applicable standard, are permitted to be used while the Vessel is at the berth.

Vessel radars shall not be operated while the Vessel is at or in the vicinity of the berth. However, Vessel radars may be operated after the completion of LNG or Condensate transfer operations, including loading arm disconnection, in preparation for departure when confirmed safe to do so by the PLM.

Where essential maintenance and tests are required to a LNGC’s or Condensate Vessel’s radar or communications equipment, the PLM shall be consulted. The precautions and recommendations set out in the International Chamber of Shipping’s (ICS) Tanker Safety Guide and the Australian Standard the Handling and Transport of Dangerous Cargoes in Port Areas AS 3846-2005 shall be strictly adhered to.

2.6.2 Hot Work

Hot work involving sources of ignition or temperatures sufficiently high to cause the ignition of a flammable gas mixture on LNG Ships and Condensate Vessels in the Port of Barrow Island port limits is not permitted.

This includes any work requiring the use of welding, burning or soldering equipment, blow torches, power-driven tools, hand/chipping tools, portable electrical equipment that is not intrinsically safe or contained in an approved explosion-proof housing and portable internal combustion engines.

2.7 Repairs while alongside & main engine readiness

2.7.1 Minor Shipboard Repairs

While in the Port of Barrow Island, minor shipboard repairs to LNG Ship or Condensate Vessel machinery and equipment are permitted providing these do not impair:

- Fire or gas detection equipment
- Firefighting or response capability
- Oil spill response
- LNG and Condensate handling or containment system operation
- Propulsive power or LNG Ship or Condensate Vessel manoeuvrability
- Electrical generation capacity including stand-by and emergency generators
- Mooring system operation
- Operation of safe type equipment located in gas dangerous zones

Entry into a confined or enclosed space on board an LNG Ship or Condensate Vessel in the Port of Barrow Island port limits is not permitted without prior permission of the PLM.

With the exception of marine service providers within the port e.g., Svitzer towage, washing down of vessels generally prohibited within the Port of Barrow Island port limits. However, a dispensation maybe granted with prior approval from the BWI MS.

Below activities are strictly prohibited within Port of Barrow Island port limits

- Hull and / or propeller cleaning
- Recreational swimming
- Fishing
- Unauthorised photography by visitors

- Overside painting

2.7.2 Main Engine Readiness

LNGC's and Condensate Vessels in the Port of Barrow Island shall confirm the main propulsion engine(s) are shut down and their turning gear engaged. Steam ships are permitted to run the turning gear and keep turbines warmed through and lubrication pumps on as required. Motorships can engage turning gear but shall not turn the propeller shaft unless given permission to do so by the PLM.

A Vessels' main propulsion systems must be kept in a state of readiness to enable departure from the berth and manoeuvre within the Port of Barrow Island at the request of the BWI MS with minimal delay.

The LNGC's or Condensate Vessel's draught, trim and stability shall be maintained within safe limits so that the Vessel can proceed to sea at any time subject to the limitations inherent in some LNG Ships and Condensate Vessels (e.g., sloshing limitations, UKC requirements).

LNG's and Condensate Vessels in the Port of Barrow Island shall not immobilise their main engine(s) without the prior permission of the Harbour Master through the BWI MS, who will take into consideration the prevailing and forecasted weather, sea conditions, other port operations that may be affected and any requirement to have a standby vessel in attendance. LNGC's and Condensate Vessel engines and other essential machinery shall remain fully operational.

Isolation of main propulsion machinery will be required prior to landing of the gangway and connection & disconnection of the loading arms and be confirmed as part of the ship-shore checklist.

Procedures for preparing LNG Ship or Condensate Vessel main engines for departure may only be implemented after the loading arms have been disconnected.

Pre-departure testing of the main engine may only be done with the full agreement of the PLM, with terminal tugs in attendance, and when the gangway has been removed. With exception of vessels with a Pilot onboard, Vessels requiring to test their main engine(s), turn their propeller(s), or operate thruster units while alongside a berth must first obtain the approval from the BWI MS

2.8 Provisions and stores (other crafts alongside)

The GMT berths are not fitted with an LNG Ship and Condensate Vessel stores loading capability.

2.9 Safety data sheets (SDS)

This is provided with the 5-day pre-arrival information exchange from the Port via email. See section 5.1.1.

2.10 Benzene and Hydrogen Sulphide (H2S)

Gorgon Condensate contains Volatile Organic Compound (Benzene, N-Hexane, Toluene, Ethylbenzene and Xylene) and vessels should take precautions to prevent exposure of their crew to Condensate liquids and vapours. Shore

personnel will wear PPE when connecting and disconnecting Condensate Marine Loading Arms. Gorgon cargoes do not contain hazardous levels of Hydrogen Sulphide (H_2S). Where an inhalation risk exists, a Type A (organic vapour) respirator to be worn.

Refer to Safety data sheet provided by the terminal for precautions.

Vessel crew to exercise guidance provided in their Health and Safety Management System Policy on use of appropriate PPE.

2.11 Static accumulator

Refer to Section 4.1.8.2.

2.12 Emergency & Lifeboat drills

No Vessel shipboard drills or exercises (including lifeboat waterborne tests) that are required by Flag State Control and Port State Control are permitted whilst the Vessel is alongside the GMT. Occasionally, the GMT is required to perform terminal drills or exercises and the Vessel Master and crews' cooperation will be requested prior to arrival.

3 General Information

3.1 Terminal location

Barrow Island (BWI) is located some 30 nautical miles (nm) [approximately 55.5 kilometres] from the Western Australia (WA) mainland and approximately 75 nm [approximately 139 kilometres] west of the mainland port of Dampier. The Port of Barrow Island is located on the east coast of BWI. Port limits include all that portion of water east of the high-water mark of the Indian Ocean on the eastern shore of BWI and contained within the arc of a circle having a radius of 7 nm [approximately 13 kilometres] from the intersection of latitude 20° 46' 50" South and longitude 115° 27' 54" East.

Chevron Australia is currently undertaking activities at the Port of Barrow Island under an arrangement with WA Department of Transport (DoT) and is the port's single user operator.

3.1.1 Statutes and Regulations

3.1.1.1 Port Operating Requirements – WA DoT Harbour Master

Foreword by WA DoT Harbour Master (Port of Barrow Island)

The Port of Barrow Island is a declared State-owned port under the Shipping and Pilotage Act 1967. As the Harbour Master for the Port of Barrow Island, I shall endeavor to provide as much information to all port users in order to minimise, if not eliminate, ambiguity and to provide clarity in order to ensure safe port operations at all times.

This Port Information Manual was introduced upon the recommendation of the International Harbour Masters' Association (IHMA), after an industry-wide investigation revealed that there is significant lack of uniformly presented, complete, accurate and easily accessible nautical port information around the world.

This Port Information Manual shall be read in conjunction with my Port Operating Requirements. These two (2) separate documents shall provide guidance to all port users utilising the port facilities within the port limits, simultaneously or otherwise, to undertake their operations responsibly. The Port Information Manual and the Port Operating Requirements are in addition to any Australian and/or international legislation and conventions relevant to the safe operations of vessels.

All vessels operating within my port limits shall adhere to the Port Information Manual and Port Operating Requirements at all times. I expect all mariners to comply with any instructions / directives that I may issue, and to report to me through the BWI Marine Superintendent any unsafe operations and incidents.

Capt. Steven Wenban

Harbour Master

Western Australia Department of Transport

The WA DoT Port Operating Requirements can be found at Appendix D

3.1.2 Legislation

All Vessels entering the Port of Barrow Island shall comply with all relevant legislation pertaining to their mode and area of operation including but not limited to the following:

- Western Australian Marine Act 1982 (WA)
- Shipping and Pilotage Act 1967 (WA)
- Shipping and Pilotage (Ports and Harbours) Regulations 1966 (WA)
- Pollution of Waters by Oil and Noxious Substances Regulations 1993 (WA)
- Navigable Waters Regulations 1958 (WA)
- Dangerous Goods Safety (Storage and Handling of non-explosives) Regulations 2007
- Dangerous Goods Safety (Explosives) Regulations 2007
- Navigation Act 2012 (Commonwealth)
- Maritime Transport and Offshore Facilities Security Act 2003 (Commonwealth) (MTOFSA) / (ISPS)
- Biosecurity Act 2015

3.2 Terminal layout

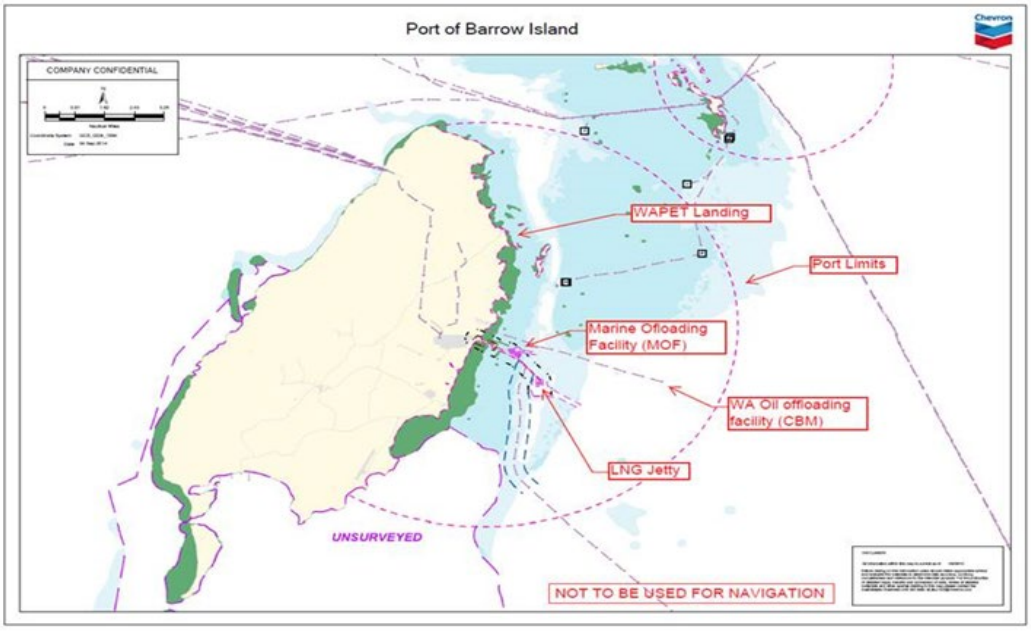

Figure 3-1: Port of Barrow Island

3.3 Hours of operation

The GMT is designed for continuous marine operations in hours of daylight and darkness subject to limiting environmental conditions.

The Port of Barrow Island does not operate a manned 24/7 radio watch. A manned radio watch will be active for port operations described below:

- For all vessels arriving at GMT and WA Oil CBM from 1 hour prior to the Required Arrival Time (RAT) until “All Fast”
- For all vessels departing GMT and CBM - from 1 hour before ‘Letting Go’ until Pilot disembarked
- In response to a Marine distress and emergencies
- As required by BWI MS for abnormal conditions & situations (e.g., weather, equipment failure, infrequent shipping movements at the Material Offloading Facility (MOF))

3.4 Local time

The standard time zone for the Port of Barrow Island is Coordinated Universal Time (UTC) plus 8 hours. Western Australia does not observe daylight savings time.

3.5 Vessel / shore communication policy

LNGC’s and Condensate vessels shall contact the Port on Marine VHF (refer to Table 3-1) 1 hour prior to the RAT. The Port of Barrow Island will reaffirm the RAT and provide information regarding the Pilot Boarding arrangement to be rigged.

Table 3-1: Marine VHF Communication Channels

Marine VHF Channel	Allocation
8	Working channel for pilotage & tugs - MOF and Gorgon Marine Terminal
9	Secondary working channel for pilotage & tugs
10	Port of Barrow / VH6DAL IMPORTANT: All Vessels shall always maintain a continuous listening watch when within port limits.
14	Working channel for CBM terminal marine operations
16	Maritime distress, urgency, safety, and Vessel calling
69	Port operations (General)
72	Port operations (General)

IMPORTANT NOTICE:

Gorgon Security Operations monitor VHF Channel 16 continuously 24/7 for marine distress and emergencies.

3.5.1 Reporting Requirements

VHF communications within the Port of Barrow Island related to vessel movements, including anchoring within Port Limits, shall be made by the respective Master or Marine Pilot via an 'All Ships' call on VHF Channel 10, as per Table 3-2.

All Vessels are to keep a lookout by all available means, including a listening watch on VHF Channel 10 & 16 within Port Limits, and remain vigilant, especially when navigating near the MOF or LNG Channel.

Table 3-2: Reporting Requirements

Vessel Movement	Requirements
Inbound Vessels	• When crossing Port Limits "All Ships x 3", ▪ Vessel Name ▪ Destination, intended route and purpose ▪ If relevant, Pilotage Exemption Certificate (PEC) number ▪ Deepest Vessel draught and/or tow (if applicable) ▪ Report whether Vessel is carrying high risk ballast ▪ Any Vessel defects which may affect the safe Vessel manoeuvrability • When entering either the MOF channel or LNG channel • When 'All Fast' alongside or at anchor
Outbound Vessels	• Before departing, ▪ Vessel Name ▪ Area/ facility/anchorage departing from, destination and intended route ▪ Deepest Vessel draught and/or tow (if applicable) ▪ Last Line or anchor away • When clear of the MOF channel or LNG Channel • When crossing Port Limits outbound
Transiting within port limits	• Area/ facility departing from, destination and intended route

All port users are required to report:

- Any suspicious activity landside and/or waterside,
- Any marine incident or near miss event,
- Any activity that hampers a Vessel's ability to manoeuvre as required by The International Regulations for the Prevention of Collision at Sea 1972 (COLREGs),
- Any intention to anchor especially outside of an approved anchorage area

3.5.2 High Risk Operations Reporting Requirements

All Vessels intending to undertake activities / high risk operations defined by the Port Operating Requirements, shall make an 'All Ships' call on VHF Channel 10 prior to the commencement of operations.

Examples of activities / high risk operations include:

- Any underwater diving operation,
- Any bulk liquid transfers of fuel and cargo oils,
- Any bulk liquid transfers considered toxic, noxious or a marine pollutant,
- All heavy lift operations inside the MOF area,
- Any working over the side including rope access (only allowed for work related to the restoration of the seaworthiness and/or safety of the Vessel),
- Any confined space entries,
- Any hot work,
- Any underwater dredging, drilling, or blasting operation,
- Any helicopter operations or exercises, and
- Subject to Australian Customs / Quarantine approval, the lowering of lifeboats, life rafts or overboard rescue devices. Manned lowering of lifeboats within the Port of Barrow Island port limits is generally not approved.

3.6 Maximum Draughts and Under Keel Clearance (UKC) General Port Area

Except for vessels lifting at the GMT, all Vessels operating within the Port of Barrow Island are required to maintain a minimum static UKC of 15% of the deepest draft or 1.0 m (whichever is the greater) at all times.

3.7 Language spoken

The working language at Port of Barrow Island is English. All verbal communication between vessel and port shall be conducted in English.

3.8 Vessel acceptance / Clearance / Vetting conditions

The clearance process used by the BGPA Operator is a systematic review of an LNGC and Condensate Vessel and its technical operator's management system to assess marine risk.

The clearance process consists of two parts:

1. Compatibility: Verification of the LNGC's and Condensate Vessel's physical and dimensional fit and review of equipment to confirm that the LNGC and Condensate Vessel can safely berth and load/transfer LNG or Condensate at the GMT
2. Vetting: Quality assessment of the LNG Ship and Condensate Vessel and its owner / operator against defined safety, environmental and reliability standards.

Only those LNGC's and Condensate Vessels that have been assessed as being operationally and technically suitable with all requirements of the clearance process will be permitted to berth at the GMT.

Notwithstanding that an LNGC or Condensate Vessel has satisfied the clearance process, compliance with Barrow Island quarantine requirements as referenced in these regulations will be required as a condition of entry to the Port of Barrow Island.

Once an LNGC or Condensate Vessel has completed the clearance process' compatibility verification and been found satisfactory, the LNGC or Condensate Vessel will be added to the BGPA Operator's compatibility register. The LNGC or Condensate Vessel will not be required to undergo future compatibility verification if there are no changes to that LNGC's or Condensate Vessel's configuration (equipment/fittings/hull structure, etc.) which may impact compatibility. If there are changes, these are to be highlighted during the nomination process and relevant documents submitted for assessment to maintain compatibility determination for the vessel.

BGPA Operator will review compatibility and vetting status on a voyage-by-voyage basis before issuing the clearance certificate for the LNGC or Condensate Vessel.

3.8.1 Condition of Use

As a condition for each entry by an LNGC's or Condensate Vessel to the Port of Barrow Island, they shall sign the Conditions of Use (COU) form, which outlines the applicable conditions for the use of the GMT, including the provisions of port and marine services by the BGPA Operator. The COU will be emailed to a vessel as part of the pre arrival messaging.

The terms and conditions contained in the COU are not negotiable and the document shall be signed clean and with no amendments.

If BGPA Operator has not received a signed COU prior to the vessel's arrival at the Port of Barrow Island, the PLM shall arrive onboard with the COU.

A vessel will not be given approval to berth without a signed COU.

3.9 Useful telephone numbers

Refer to emergency contacts

3.10 Environmental monitoring procedures

3.10.1 Tidal Information

Tidal predictions for the Port are available from two areas

- WAPET Landing
- Tanker Mooring

Vessels proceeding to and from the CBM, MOF or GMT shall use the Tanker Mooring tidal predictions for passage planning the UKC calculations

The tides at the Port of Barrow Island are semi diurnal and the tidal ranges for the Tanker Mooring and WAPET Landing are listed in the table below:

Table 3-3: Tidal Information

Title	Tanker Mooring	WAPET Landing
Highest Astronomical Tide (HAT)	4.7 m	3.7 m
Mean High Water Springs (MHWS)	4.0 m	3.0 m
Mean High Water Neaps (MHWN)	2.8 m	2.1 m
Mean Sea Level (MSL)	2.4 m	1.8 m
Mean Low Water Neaps (MLWN)	2.0 m	1.4 m
Mean Low Water Springs (MLWS)	0.7 m	0.5 m

NOTE:
Due to local environmental conditions, the actual and predicted tide readings can vary. During cyclonic conditions, the differential maybe as much as + or – 2.0 m.

3.10.2 Tidal Streams and Currents

The shallow bathymetry to the north and south of Barrow Island restricts the flood tide from the open ocean to the coast. The flood tide flows around the north and south ends of Barrow Island and meets in the vicinity of Dugong Reef and the Lowendal Shelf, where it combines and flows to the coast. The meeting of the current from the north and south of Barrow Island is dependent on the spring-neap tidal cycle and the strength of the southerly winds.

Near the pilot boarding ground and the CBM terminal, the currents correspond with the semi-diurnal tidal movement with the flood current flowing to the southwest with a mean speed of up to 1.0 Knot and the ebb current flowing to the northeast with a mean speed of up to 1.0 Knot.

Closer inshore towards the MOF and the GMT berths, tidal streams tend to flood to the south and ebb to the north with flows up to 2.0 Knots and 1.0 knot, respectively.

Tidal streams in the vicinity of WAPET Landing [latitude 20° 43.45’ South longitude 115° 28.35’ East] flood and ebb in the same direction as the MOF area with flow rates as much as 4.0 Knots in the channel to the east of Double Island.

3.10.3 Weather

3.10.3.1 Seasonal Pattern

In the northwest of Australia, there are 2 distinct seasons.

Summer (November - April): characterized by prevailing winds from the southwest quadrant, peaking in strength through the day and into the evening. There is a distinct lull in wind strength early in the morning. Days are hot with average monthly temperatures ranging from 22^0 Celsius at night and 35^0 Celsius by day. At the peak of the summer season, squalls accompanied by lightning are a frequent event.

Winter (May – October): characterized by prevailing winds from the east to southeast peaking in strength in the morning and early afternoon then easing in

the late afternoon. Strong easterly winds (greater than 20 Knots) will often blow for consecutive days. Days are cooler than the summer months with average monthly temperatures ranging from 17^0 Celsius at night to 31^0 Celsius by day.

Rainfall occurs in heavy short bursts with the exception of cyclonic events. Average monthly rainfall is highest during the months from January to July. The average monthly relative humidity ranges from 61 to 70 percent peaking around February.

3.10.3.2 Squalls

Thunderstorms and associated squall activity occur in this region during the summer months bringing high winds, rain, and lightning. Interruptions to operations are short term, and whilst wind strengths can be significant, they are of short duration.

Chevron Australia operations a stop light system for ceasing operations when lighting is detected in close proximity to BWI. A Terminal representative will brief arriving vessels on the details of the system during the pre-loading meeting.

3.10.3.3 Tropical Cyclones

The official tropical cyclone season for the northwest of Australia is 1st November to 30th April with an annual average of 3 cyclone events in the area of Barrow Island. Normally the cyclones originate from the Timor Sea and transit erratically in a south westerly direction. Yearly fluctuations are expected.

The Port of Barrow Island Cyclone Response Plan is located on the Ports website. Vessel Masters shall be required to comply with this procedure.

3.10.3.4 Weather Forecasting

If requested, The Port of Barrow Island can provide the latest weather forecasts to vessels.

4 Berth Information

4.1 Gorgon Marine Terminal

4.1.1 Berth description and parameters

The GMT has two berths aligned north and south in a hammerhead configuration or “H” configuration. The berths are located approximately 4 kilometres from the Barrow Island shore. Access to the berths from shore is via a 2.1-kilometer-long causeway followed by a 2-kilometer-long trestle structure.

4.1.2 Products handled

Barrow Island is a loading terminal. LNG is transferred from both the east and west berths at GMT. Condensate is transferred only from the east berth at GMT.

Simultaneous LNG transfer operations on two LNGC’s is not possible. Condensate can be transferred simultaneously with LNG to a Condensate Vessel and LNGC, respectively. So as to optimise the GMT berth availability and occupancy, LNGC and Condensate vessel transits and berthing/unberthing operations will be conducted subject to Simultaneous Operations (SIMOPS) constraints.

4.1.3 Berth criteria

The GMT is designed to service LNG Ships that range in capacity from 125,000m³ to approximately 215,000m³ and Condensate Vessels ranging from 80,000 DWT to 120,000 DWT.

Table 8-5 details the operating parameters for channel transit and berthing/unberthing at the GMT. Additional considerations including:

- Vessel windage e.g., 20 knots wind limit for vessels with a windage > 9002 m^2
- Forecasted and prevailing weather conditions
- Wind direction
- Towage assets available

Table 4-1: Terminal Operating Parameters

	LNG Vessel	Condensate Vessel
Vessel Size	Displacement < 147,000t	Displacement < 147,000t
Wind Limitations	~25 knots <9002 m^2 * ~20 knots >9002 m^2 *	~25 knots
Tidal Flow Limit	1.20 knots	1.20 knots
Wave Height (Hs)	1.70 m	1.70 m
Visibility	1.50 nm	1.50 nm

*Longitudinal windage

4.1.4 Controlling depths

The shipping channel used to access the berths is dredged to 13.3 metres referenced to Lowest Astronomical Tide (LAT). Both east and west berth pockets are dredged to a depth of 15 metres referenced to LAT.

4.1.5 Water density and Load Lines

The Port of Barrow Island is an open port where the density of the water is a consistent 1025 kilograms / cubic metre.

As per the International Convention on Load Lines 1966, the Port of Barrow Island is situated within the South Indian Ocean Seasonal Tropical Zone. All Vessels must comply as follows:

- Tropical Zone: 1st May –30th November
- Summer Zone: 1st December –30th April

4.1.6 Maximum Draughts and Under Keel Clearance (UKC) GMT

LNGC's and Condensate vessels are to operate at draughts within their normal operating parameters. To ensure manoeuvrability, the LNG Ship's and Condensate Vessel's trim shall not exceed 0.015 multiplied by the LOA [that is 1.5% of the LOA] and her propeller shall be fully immersed at all times.

PLMs will ensure that LNG Ships and Condensate Vessels meet this requirement prior to boarding.

UKC requirements of Vessels calling at the GMT have been determined through an extensive study. These values will be calculated by the Pilot and communicated during the MPX.

As part of this study, the local environment was analysed with respect to bathymetry, measured wave and wind conditions, and Vessel headings and speeds. Squat, wave-induced motions, heel due to wind, and heel due to turning, were calculated for representative LNG Ships and Condensate Vessels under a range of environmental conditions.

Results were combined with a Permanent International Association of Navigational Congresses (PIANC) recommended safety allowance to determine static UKC requirements across the full range of wave conditions. Comparison between the different hull forms indicated that a single set of guidelines could be used for LNGC's and another set for Condensate Vessels.

The UKC requirements agree with PIANC's guidelines for oil and gas terminals and will be subject to ongoing review and validation against measured ship motions at the GMT.

Vessel scheduling considers UKC requirements, with the Pilot detailing specific UKC details during the MPX. For planning purposes, the following guidelines can be used

- LNGC's – Draft + 1.66m

- Condensate Vessel's – Draft + 1.84m

4.1.7 Load rates and Maximum allowable working pressures

GMT loading facilities are capable of the safe and reliable transfer of LNG at a steady rate of not less than 10,000 m³ per hour using two loading arms and 12,000m3 per hour using three loading arms when loading LNG of a density of 450kg per m³ against a back pressure of not more than 300kPa absolute for LNGC's with membrane LNG tanks systems and 350kPa absolute for LNG Ships with self-supporting LNG tank systems.

Each LNGC shall have a gross LNG tank capacity of at least 125,000m³ that is designed, equipped and manned to safely and reliably transfer a full LNG cargo at a steady rate and not less than the rates set out in the table below for the applicable LNGC size range.

Table 4-2: LNG Ship Size Range

Ships Size m³ (cargo capacity)	Transfer using 3 Liquid Arms	Transfer using 2 Liquid Arms
125,000 – 145,999	Not less than 10,000m³ / hour	Not less than 9,500m³ / hour
146,000 and above	Not less than 11,000m³ / hour	Not less than 10,000m³ / hour

Each LNGC must not have a backpressure at the delivery point greater than 350kPa absolute when transferring LNG with a density of 450kg per m³ at the rates specified and using one vapour return arm (maximum back pressure allowance to include the pressure drop caused by strainers which may be installed by the LNG Ship).

Each Condensate Vessel must have a Condensate tank capacity of at least 98,000m³ which is designed, equipped, and manned so as to safely and reliably transfer a full Condensate cargo at a steady rate not less than the rates set out in the table below.

Table 4-3: Condensate Loading Arms

Transfer through 2 Arms	Transfer through 1 Arm
5,000m³ / hour	2,500m³ / hour

4.1.8 Marine Loading Arms

The east and west berths are fitted with 4 16-inch EMCO Wheaton LNG Marine Loading Arms (MLA). The east berth also has 2 12-inch EMCO Wheaton Condensate loading arms.

The MLA's have operational envelopes, which include allowances for all tidal ranges and LNGCs' and Condensate Vessels' loaded conditions.

The maximum wind operating limit is 43 knots

LNG MLA specifications are detailed in Appendix E

Condensate MLA specifications are detailed in Appendix F

4.1.8.1 Powered Emergency Release Coupler (PERC)

Each loading arm is equipped with a sixteen (16) inch double ball valve Emergency Release Coupler (ERC), which is also known as a PERC. The PERC can be activated manually at the loading arm control board or automatically when the loading arms reach specific angles.

When activated, the double ball valves close in less than 20 seconds and the coupler is released less than 20 seconds later. For the double ball valves to close, an ESD signal must have also been activated. If the ESD signal was not previously activated, the PERC system will activate the ESD before closing. The loading arm will move upwards approximately 2 metres and the hydraulic cylinders will lock.

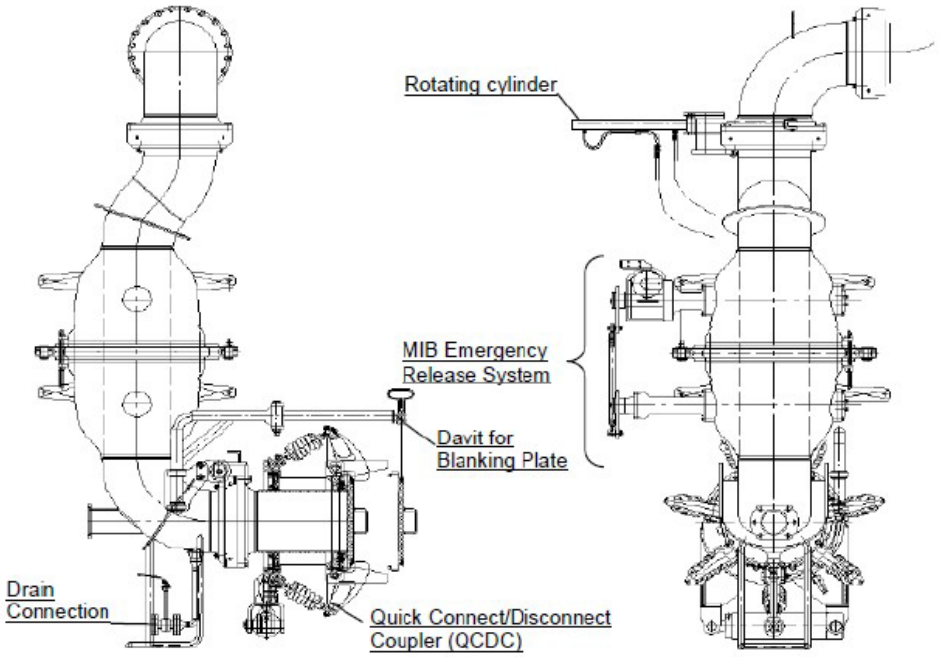

Figure 4-1: Power Emergency Release Coupler (Emergency Release System)

4.1.8.2 Electrostatic Bonding Arrangements

Insulation flanges are provided on the loading arms to avoid static charge at the LNGC or Condensate vessel manifold. Bonding cables are not provided or supported at the berths. The insulating flange electrically separates the triple swivel assembly from the loading arms. The resistance between the inlet flange and the outlet flange should be at least 1,000 Ohms (Ω) when the loading arm is empty. The location of the insulating flange is “19” in the following figure:

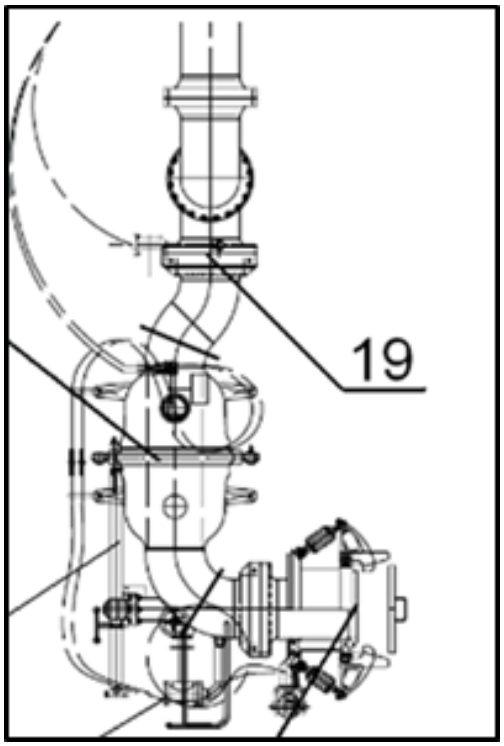

Figure 4-2: Insulation Flange

4.1.9 Vapour Recovery

As per Section 6.7

4.1.10 Safe working load of mooring components

4.1.10.1 Mooring Dolphins

The west and east berth mooring dolphins are each equipped with 3 Trelleborg 125 tonne Quick Release Hooks (QRH). The QRHs are located at an elevation of 13.1 metres above LAT. The northern dolphins are offset from the berthing line at a perpendicular distance of 69.7 metres and the southern dolphins are offset from the berthing line at a perpendicular distance of 94.5 metres.

4.1.10.2 Breasting Dolphins

The west and east berth breasting dolphins are each equipped with 2 Trelleborg 125 tonne QRHs. The hooks are located at an elevation of 13.1 metres above LAT and are offset from the berthing line at a perpendicular distance of 10.7 metres.

Each dolphin has 1 Trelleborg SCN2000 E1.5 fender with the cell centre located at an elevation of 6.5 metres above LAT.

4.1.10.3 Quick Release Hooks

All hooks are designed to be manually or remotely released with no load or a load up to their rated capacity.

To manually release the hooks, the Gorgon Marine Terminal personnel will wait until the mooring line to be released is slacked by the LNG Ship's or Condensate

Vessel's personnel to ensure there is no load and then use the following procedure.

4.1.10.4 Capstans

All mooring and breasting dolphin QRH assemblies include a capstan, which is located above and directly behind the hooks.

4.1.10.5 Fenders

Each dolphin has 1 Trelleborg SCN2000 E1.5 fender. The fenders have a reaction force of 335 tonnes. The fender panels have the following dimension: width 5.4 metres, length 6.4 metres and a surface contact area of 34.56 square metres. The fender contact surface is covered with Ultra High Molecular Weight Polyethylene (UHMW-PE) pads.

4.1.10.6 Fender Compression Curve

The fender compression curve shows the rated reaction force of 335 tonnes reached at 72% deflection.

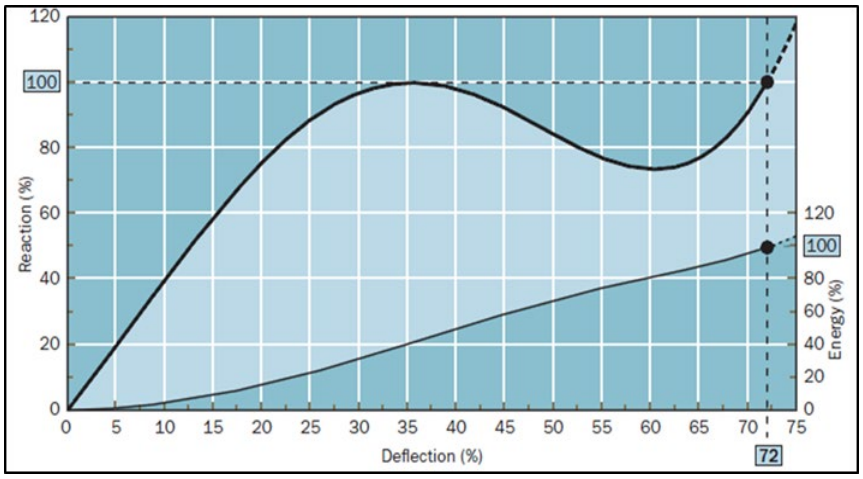

Figure 4-3: Fender Compression Curve

4.1.11 Other relevant compatibility Information

4.1.11.1 Ship to Shore Linked System (SSL)

The GMT east and west berths are equipped with a Seatechnik SMART fibre optic module that is in full compliance with the Society of International Gas Tanker and Terminal Operators (SIGTTO) Ship to Shore Link (SSL) recommendations. The fibre optic system is a 4-channel system that allows for phone, data and ESD communication between the LNG Ship and the GMT Central Control Room (CCR).

The GMT east and west berths are equipped with an electrical SSL system that uses a 37 pin Pyle National connector and allows for phone, data and ESD communication between the LNG Ship and the Gorgon Marine Terminal CCR. The Seatechnik Smart electrical SSL system has a Pyle National to Miyaki electrical adapter that is connected to LNG Ships, which have Miyaki electrical connections.

Both east and west berths are equipped with a Seatechnik pneumatic ESD system that is in full compliance with SIGTTO SSL recommendations.

SSL pin configurations are detailed in appendix G

4.1.11.2 Emergency Shutdown System

LNG transfer operations are protected through an ESD system. For LNGC's, the primary system may be either fibre optic or electric with fibre optic preferred as the primary link. In the absence of one of the primary systems, a pneumatic system is provided as a secondary system.

4.1.11.3 Condensate Portable Electric System (PES)

Figure 4-4: Portable Electric System (PES)

Condensate vessels will be provided with a Portable Electronic System (PES) link system that will be located near the Condensate Vessel manifold. The PES will provide ESD and telecommunication capability.

The PES is connected to the SSL system using a standard 37-way electrical umbilical cable from the electric cable reel. It provides the primary features and functions of a "ship" SSL system, as recommended under the EN1532 (1997) standard.

A "ship to shore" ESD is initiated by depressing the enclosed pendant button (twist to release). Light Emitting Diodes (LEDs) show ESD status, and a buzzer provides warning annunciation.

If fitted, a compatible Condensate Vessel's SIGTTO ship-shore link system will not incorporate phone lines. Therefore, for additional functionality, the pelicase PES phones can continue to be used even when the Gorgon Marine Terminal SSL system has "SIGTTO" selected. The Private Automatic Branch Exchange (PABX) phone can be used for public and Gorgon Marine Terminal phone systems. The "Hot phone" is lift-to-ring.

Included in the PES is a 5-metre long SIGTTO umbilical connector that can be attached to the pelicase's 5 core receptacle. This allows the Condensate

Vessel's SIGTTO system ESD to be used instead of a pendant for activating or receiving an ESD.

4.1.11.4 Manifold Area

Each LNGC and Condensate Vessel shall have a manifold arrangement compliant with SIGTTO and OCIMF recommendations as applicable, which are compatible with the GMT.

4.1.11.5 Loading Arm Presentation Flange Compatibility

LNGC and Condensate Vessel presentation flanges should conform to American Society of Mechanical Engineers (ASME) B16.5 Class 150.

LNGC presentation flanges should be suitable for use with the marine loading arm cryogenic seal.

LNGC and Condensate Vessel operators should only use residue free solvent to clean flange faces. Petroleum based solvents should not be used to clean flange faces as this can leave a greasy film and impact the ability to maintain a proper seal potentially leading to manifold leaks

4.1.11.5.1 LNG Carriers

An LNGC shall present at the GMT with ship supplied short distance/spool pieces fitted to its liquid and vapour return manifolds as detailed in these regulations and the applicable compatibility checklist.

LNG Ship's and Condensate Vessel's presentation flanges should conform to the American Society of Mechanical Engineers (ASME) B16.5 Class 150.

LNG Ship's presentation flanges should be suitable for use with the marine loading arm cryogenic seal.

As Quick Connect Disconnect (QC/DC) fittings are utilised, provision of bolt holes in the presentation flange is not mandatory.

Loading arm coupler seals will be renewed as required to ensure no leakage from the flanges between the loading arm and manifold.

Under normal conditions, a liquid strainer no finer than 60 mesh (or dual flow strainer) shall be provided by the LNGC and installed by the crew in each of the nominated liquid lines.

In exceptional circumstances and subject to BGPA Operator's discretion, strainers no finer than 200 mesh may be provided by the LNGC and fitted by the vessel crew in each of the nominated liquid lines for start-up / initial GMT LNG transfer, after major maintenance periods or other times when debris may be expected.

An LNGC may install strainer no finer than 60 mesh on vapour line, with maximum DP 300 KPa, provided this does not limit the vessels vapour return capacity.

LNGC's performing gas up / cool-down Tare required to install strainers on vapour line.

LNG Ship personnel / Lifters requesting to use 200 mesh strainers must advise the strainer maximum allowable Differential Pressure (DP). Gorgon Marine Terminal supplied 200 mesh strainers have a maximum DP of 300 kPa, which will not be exceeded.

Should LNG Ship personnel / Lifters request the use of GMT strainers, and such a request is approved, then any time required to install and remove the strainers will be counted as a delay attributable to the LNGC.

If a minimum loading rate consistent with the GLLA cannot be achieved due to the LNGC supplied strainer DP, then any additional time required to complete LNG transfer as a result will be considered as a delay attributable to the LNGC.

If damage is noted to a strainer prior to loading arm connection, then LNG transfer shall be delayed until the affected strainer is replaced.

BGPA Operator and the LNGC Master or delegate shall jointly inspect the strainer before commencement and after completion of LNG transfer recording the strainer cleanliness and condition in the port time sheet.

4.1.11.5.2 LNG Ship Presentation Flange Size

Table 4-4: LNG Ship Presentation Flange Size

Size (inches)	Thickness (millimetres)		Outside Diameter (millimetres)	
	Minimum	Maximum	Minimum	Maximum
16	36.6	39.8	595.3	598.5

For presentation flange surface finish requirements, refer to Figure 4-5.

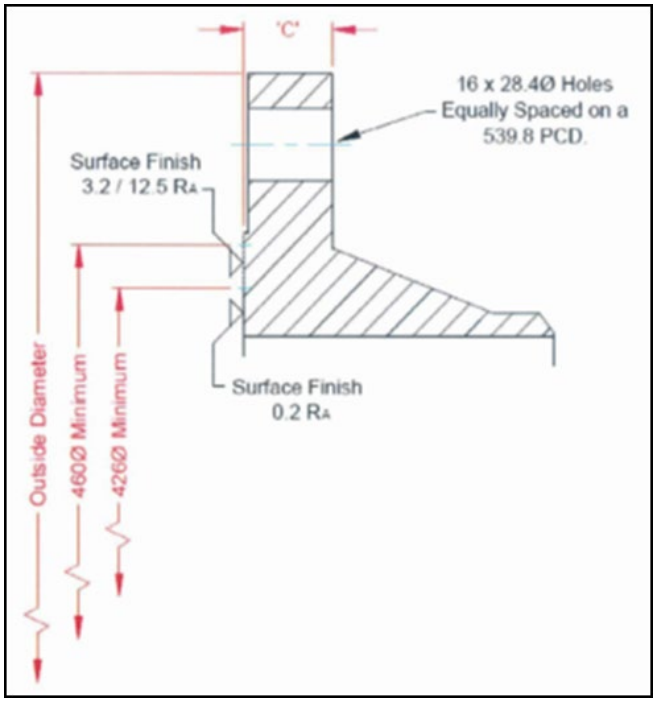

Figure 4-5: Presentation Flange Surface Finish Requirements

4.1.11.6 Condensate Vessel Presentation Flange

A Condensate Vessel's presentation flanges should conform to ASME B16.5 Class 150.

Table 4-5: Condensate Vessel Manifold Flange Size

Size (inches)	Outside Diameter (millimetres)		Thickness (millimetres)	
	Minimum	Maximum	Minimum	Maximum
16	595.3	598.6	36.6	39.8
12	481	484.2	31.8	35

Presentation flange shall be free of wastage and meet minimum thickness and diameter requirements as per these Regulations. Flange face to be bright metal, of uniform appearance and free of visible defects such as indentation, corrosion, pitting, and rust scale build up.

4.1.11.7 Loading Arm QC/DC Clearance

Each LNGC and Condensate Vessel must ensure compatibility with the manifold recommendations set out by SIGTTO and OCIMF to ensure sufficient clearance around the manifold flange for connection of the loading arm QC/DC coupler.

4.2 Material Off Loading Facility

4.2.1 Berth description and parameters

The MOF [latitude 20º 47.80' South longitude 115º 28.80' East] is the gateway to Barrow Island for the importation of major construction items and logistics by a variety of vessels. The MOF consists of the following infrastructure:

- Roll-on Roll-off (RoRo) berth.
- Heavy Lift Facility (HLF).
- Module Carrier Berth (MCB).
- Tug pens; and
- Small Craft Landing (SCL)

The channel to the MOF is 150 m wide and extends into a swing basin of 320 m diameter inside the breakwater.

The berth pockets inside the MOF are dredged to 8.0 m below chart datum and the channel & turning basin are dredged to 6.5 m below chart datum.

Specific berth information, including fendering and bollard specifications can be obtained from the Port of Barrow Island.

4.2.2 Berth Criteria

The maximum transit / berthing parameters for the MOF are dependent upon both speed and direction of the wind and tidal flow, but can be considered as follows:

- Tidal streams up to a maximum of 1.2 Knots.
- Maximum wind speed 25 Knots; and the
- Maximum Significant Wave Height (Hs) is dictated by the safe transfer of the pilot as well as tug operability.

With prior approval from the BWI MS, Vessels entering the MOF not requiring pilotage, can request a relaxation of the above criteria.

4.2.3 Passage Planning

The recommended passage plan for transit from the inner Pilot Boarding Ground to the MOF can be downloaded from the Port website. Any alteration from the recommended route e.g., logistic vessels transiting North of the CBM, must be declared in the Arrival/Departure notice (section 5.2.3.2 and section 5.2.3.3)

4.2.4 Alongside Berth Survivability

There are no specific alongside berth survivability criteria at the MOF. However, during periods of forecasted inclement weather the BWI MS will contact vessels berthed at the MOF to understand the operating parameters of the vessels mooring plan and state of cargo operations.

Unless otherwise approved by the BWI MS (see important notice), all vessels intending to conduct operations at any berth in the MOF (other than the tugpens) must have an industry approved mooring study that states the upper environmental parameters e.g., wind and sea state, that the vessel can safely remain alongside the berth.

All Vessels operating in the MOF are required to adopt heightened awareness to ensure the safety of the Vessel's operations during periods of forecast and actual inclement weather conditions. The BWI MS may direct a vessel to depart the berth early to safeguard the safety of the vessel and MOF infrastructure. The Vessel Master will always retain the right to suspend operations and/or to depart the berth at the earliest opportunity to safeguard the safety of the Vessel and/or crew.

A vessel may be required to vacate the MOF prior to the onset of inclement weather. Any decision to depart the MOF early shall factor in the Pilotage requirements stated in section 5.1.6 and the environmental operating parameters for vessel movements at the MOF as stated in section 4.2.2.

IMPORTANT NOTICE:

For vessels conducting operations without an approved mooring study. If the forecast indicates that the following parameters are expected to be exceeded, wind 20 Knots (10 minute average) from direction 320º True clockwise through to 140º True; and / or a sea state Hs >1.0 m at the wave rider buoy, approval to remain alongside from the BWI MS must be obtained by the Vessel Master.

4.3 Conventional Buoy Mooring – WA Oil

4.3.1 Berth Description and parameters

For vessel proceeding to the Conventional Mooring Buoy (CBM) export facility refer to WA Oil Barrow Island Marine Terminal Manual available at Port of Barrow Island website.

4.4 WAPET Landing

4.4.1.1 Berth Description and parameters

WAPET Landing a logistic material supply location that can be used by self-propelled landing craft as a roll on-roll off facility.

WAPET Landing is a tidally restricted area that experiences significant tidal flows near the landing groyne. There is no assist vessel available to support vessel movements at WAPET Landing.

Vessel movements are restricted to daylight operations only with the following operating parameters.

- Tidal streams up to 2.0 Knots.
- UKC > 0.5 metres except for Vessels on the LCT ramps.
- Hs < 0.5 m.
- Wind speed up to 20 Knots (10-minute average) from a direction 270º True clockwise through to 180º Ture; and
- Wind speed up to 25 Knots (10-minute average) from a direction 180º True clockwise through to 270º True

5 Pre-arrival communications

5.1 Pre-arrival information exchange from terminal to vessel

5.1.1 GMT Pre-Arrival Messaging

5 days prior to a vessels RAT the Port will email a “5 – Day Pre Arrival” message. As a minimum the message will include attachments relating to

- Barrow Island Port Facilities COU
- GMT Pre-Loading Data & Emergency Contact Information
- GMT - Loading Plan
- Safety Data Sheet
- Pre-Arrival Questionnaire pertaining to ships particulars

5.1.2 Water depths and channel

The pilot boarding ground location for LNGC’s and Condensate Vessels is described on the appropriate ENC and paper chart.

The approximate distance from the pilot boarding ground to the GMT and Condensate berths is 6.8 nautical miles, and consists of two courses:

The GMT Channel is 260 m wide and 2 nautical miles in length. The channel is dredged to a depth of 13.3 m LAT. The turning basin is 830 m in length and 650 m in width. The turning basin is dredged to a depth of 13.3 m LAT. Each berth pocket is dredged to a depth of 15.0 m LAT.

5.1.3 Navigation Aids

The reference coordinate system (World Geodetic System) used for navigation purposes is WGS84.

Masters of Vessels entering the Port of Barrow Island shall carry onboard all publications required by legislation and pertaining to their mode and area of operation including navigation charts and Electronic Navigational Charts (ENC) applicable to Barrow Island corrected to the latest Notice to Mariners. Vessel Masters shall also carry onboard or be conversant with the latest revisions of the following publications:

- Australian National Tide Tables (AHP11), AusTides or local Tide Tables for the Port of Barrow Island
- A complete set of the latest Temporary Notices to Mariners (TNTM) issued by the Department of Transport (available on the Department of Transport website)
- A complete set of the latest Port of Barrow Island Marine Notices (available on the Port of Barrow Island website)

The Port of Barrow Island uses International Association of Lighthouse Authorities (IALA) buoyage system.

5.1.4 Pilotage Procedures

5.1.4.1 Pilotage Requirements

The Port of Barrow Island is a compulsory pilotage area unless

- The Vessel's Master holds a valid Pilot Exemption Certificate (PEC) for the Port of Barrow Island issued by the WA DoT.
- The Vessel is exempt in accordance with the Western Australian Shipping and Pilotage (Ports and Harbours) Regulations 1966 and is considered:
  - A vessel of war; or
  - A vessel owned by any of Her Majesty's States or Colonies or the government of any country that is a member of the British Commonwealth of Nations, that is engaged in a non-commercial voyage; or
  - A vessel with a length overall of nor more than 35m
  - A training vessel on a non-commercial voyage; or
  - A vessel on a non-commercial voyage may be exempt at the discretion of the Port of Barrow Island Harbour Master.

Where a Vessel Master has a valid PEC, entry to the MOF berths, swing basin and MOF channel, without a licensed pilot, will be subject to the prior approval from the BWI MS.

5.1.4.2 Pilotage Exemption

In accordance with the Shipping and Pilotage (Ports and Harbours) Regulations 1966, the Master and Chief Mate of a Vessel may apply for a PEC for the Port of Barrow Island, administered and issued by the WA Department of Transport.

Refer to the WA DoT website for information regarding PEC requirements, assessment, and validity of PEC:

5.1.4.3 Provision of Pilotage – GMT

For vessels proceeding to and from the GMT, Pilotage and towage services will be organized by the BWI Marine Team as per the shipping schedule.

Correspondence will be sent ~24 hrs prior to a vessels RAT detailing timeline with below information:

- Confirmation of RAT
- Pilot Onboard Time (POB)
- A timeline of events
- Pilot Boarding requirements

- Mooring diagram
- Towage resources
- Intended route, and,
- Key timings for the arrival

For departures information, correspondence will be sent after,

- For LNG vessels, full rate loading
- For Condensate vessels, final tank change

5.1.4.4 Provision of Pilotage – CBM

For vessels proceeding to and from the CBM, Pilotage and towage services will be organized by the BWI Marine Team as per the shipping schedule.

Correspondence will be sent ~24 hrs prior to a vessels RAT detailing,

- POB
- Towage resources
- Intended route, and,
- Key timings for the arrival
- Draft and UKC requirements

5.1.4.5 Pilot Requests – MOF and Port Transit

Pilot requests for vessels proceeding to and from the MOF and other locations within port limits should be submitted to the Marine Superintendent the relevant CVX representative.

5.1.4.6 Local Knowledge Certificate (LKC)

A person in charge of the safe navigation of any Vessel operating under a business arrangement with Chevron Australia and within the Port of Barrow Island must hold a valid LKC issued by the BWI MS. A valid LKC recognizes that the holder has successfully undertaken a local knowledge exam and has operated within the Port of Barrow Island in the last 12 months. Where a holder fails to meet the above criteria, the holder is required to apply for the issue of a new certificate. The LKC is a Chevron Australia requirement, approved by the WA DoT.

Refer to the Port of Barrow Island website for further information.

5.1.4.7 Pilot Boarding Ground

Vessels entering the Port of Barrow Island shall meet the pilot at one of two designated pilot boarding ground (PBG).

- For vessels proceeding to the GMT. The outer PBG - latitude 20º 47.60’ South longitude 115º 38.00’ East.

- Unless otherwise advised, all other vessels will proceed to the inner PBG - latitude 20º 48.60’ South longitude 115º 36.00’ East.

5.1.4.8 Pilot Ladder Safety

Vessel Masters and crew are reminded that Pilot Ladders are rigged in accordance with the IMO Regulations (IMO Resolution A.1045(27) and SOLAS Regulation V/23). Failure to supply or rig a suitable boarding arrangement may result in significant delay to berthing operations and will be reported to the Australian Maritime Safety Authority (AMSA). The Master is to ensure a Responsible Officer checks the condition and rigging of the boarding arrangement prior to use. A Responsible Officer must also stand by the boarding arrangement, maintaining direct communication with the bridge during pilot transfer to or from your vessel.

5.1.5 Anchorage

All Vessels may utilize the anchorages marked on the relevant ENC or chart. Refer to section 3.5.1 for reporting and communication requirements.

There is no requirement for vessels to request to use the designated anchorages.

Inside the Port of Barrow Island port limits and notwithstanding emergency situations, all Vessels shall only anchor within the designated B2 anchorage.

5.1.5.1 Outer Anchorage

There are five designated anchorages located outside the Port of Barrow Island port limits:

1. (B1) latitude 20° 46.60’ South longitude 115° 37.10’ East
2. (LNG1) latitude 20° 46.10’ South longitude 115° 44.60’ East
3. (LNG2) latitude 20° 45.00’ South longitude 115° 46.20’ East
4. (LNG3) latitude 20° 44.00’ South longitude 115° 47.80’ East
5. (LNG4) latitude 20° 43.00’ South longitude 115° 49.40’ East

The seabed consists of sand, shell and coral.

NOTE:
B1 anchorage is only to be used by vessels intending to moor at the CBM

5.1.5.2 B2 Anchorage (Northeast of Mushroom Island)

The designated anchorage (B2) is located inside the Port of Barrow Island port limits northeast of Mushroom Island, with co-ordinates as follows:

1. latitude 20° 41.927’ South longitude 115° 29.515’ East
2. latitude 20° 41.932’ South longitude 115° 30.091’ East

3. latitude 20° 42.474' South longitude 115° 30.085' East
4. latitude 20° 42.471' South longitude 115° 29.797' East
5. latitude 20° 42.200' South longitude 115° 29.800' East
6. latitude 20° 42.198' South longitude 115° 29.512' East

The seabed consists of sand over rock with some coral and the holding capacity is reported as poor.

5.1.6 Tug Requirements

All Vessels calling at the GMT and MOF will be provided with the Port of Barrow Island tug and pilotage services. Refer to appendix b for details and specifications of towage assets and pilot boat.

Use and allocation of towage assets will be briefed by Pilot during the Master Pilot Exchange (MPX).

Table 5-1: Details of Terminal Tugs and Pilot Boat

Parameter	Tugs	Pilot Boat
Application	Escort tug	Pilot transfer vessel
Vessel Name	Svitzer Euro Svitzer Boodie Svitzer Dugong Svitzer Perentie	Osprey
Classification	Lloyd's Register 100A1 Escort Tug, Fire Fighting Ship1 with spray	Not applicable
Crew	Three (3)	Two (2) + four (4) passengers
Speed	12.5 Knots	25 Knots
Length / Breadth / draft	32.6m / 13m / 6.6m	16m / 5.39m / 1.42m
Main propulsion	2 x 2,300 kW Schottel thrusters (Diesel electric hybrid)	Cummins QSL 11-610
Bollard Pull	80 tonnes ahead / 80 tonnes astern	Not applicable
Drives	Azimuth stern drive with fixed pitch propellers	Outward turning propellers
Towline	200m of diameter 72mm PSR Plasma	Not applicable
Lifting equipment	2 tonne deck cranes	Not applicable
Firefighting capability	Total 2,400 m3/h at minimum range of 120m and height 45m	Not applicable
Salvage capability	2 tugs only	Not applicable

5.1.6.1 Standby Tug

When not in use for pilotage duties, 1 tug with fire-fighting capability will be fully manned and remain on standby in the tug pen while LNGC's and Condensate

vessels are alongside the berths. This tug may be called to attend an LNG Ship or Condensate Vessel at any time.

The remaining tugs are on 60-minute standby.

5.1.7 Vessel and terminal limitations per berth

Each LNGC must have a loaded displacement of not more than 147,000 tonnes and a Length Overall (LOA) between 270 metres and 315 metres unless otherwise determined to be compatible with the GMT by the Clearance Process conducted by the BGPA Operator.

Each Condensate Vessel must be in the size range 80,000 DWT to 120,000 DWT, having a maximum loaded displacement of 147,000 tonnes and a LOA of between 230 metres and 260 metres unless otherwise determined to be compatible with the GMT by the Clearance Process conducted by the BGPA Operator.

5.1.8 Minimum mooring requirements and mooring diagram

Each LNGC and Condensate Vessel shall be equipped with adequate facilities for mooring and unmooring designed in accordance with the recommendations of OCIMF and SIGTTO and are capable of complying with the computer based mooring analysis used in the clearance process.

All LNG Ships and Condensate Vessels should comply with the recommendations set out in the current edition of OCIMF's Mooring Equipment Guidelines (MEG)

5.1.8.1 Mooring Integrity

Mooring plans for the GMT will be developed using a computer-based mooring analysis program as part of the clearance process.

The LNGC or Condensate Vessel Master and the PLM, shall review the clearance process approved mooring plan during the MPX. Any deviation from these plans shall be agreed by the above taking into consideration the weather prognosis for the Vessel's anticipated time alongside the berth in compliance with the computer-based mooring analysis as a minimum.

Confirmation that the Vessel's mooring equipment required for the mooring configuration is present and in good working order shall be provided in the ETA notices described in Appendix C and Appendix D.

The Vessel Master should ensure adequate mooring lines are provided and properly tended whilst moored alongside.

Prior to landing the gangway, connecting the loading arms, and commencing LNG or Condensate transfer operations, the Vessel Master and PLM shall agree that the Vessel is adequately moored.

Should any concerns arise regarding the mooring integrity, in particular mooring lines load/tension) then the PLM shall inform Vessel Master.

LNG or Condensate transfer operations will be stopped if there are any concerns with regard to the mooring integrity, particularly if the LNG Ship or Condensate Vessel fails to take adequate measures to adjust moorings.

Mooring line load/tension monitoring arrangements are provided at the GMT. All mooring hook loads are monitored by the Mooring Load and Environmental Management System (MEMS).

When adjusting moorings, Vessel crew shall take utmost care not to inadvertently move the Vessel out of position as this could compromise the gangway or loading arms and initiate an ESD.

Mooring ropes on bitts are prohibited.

Mixed construction mooring lines are prohibited.

5.1.8.2 General Mooring Arrangement

LNGC's and Condensate vessels will be swung or rotated in the turning basin and, backed into the berth in order to be moored head or bow out ready for unmooring and departure.

There will be occasions where a vessel will be berthed "bows in" to the terminal. This may occur for the following reasons

- LNGC's – To maintain safe berth operability parameters during periods of inclement weather
- Condensate vessel – in order to meet optimoor and berth compatibility requirements

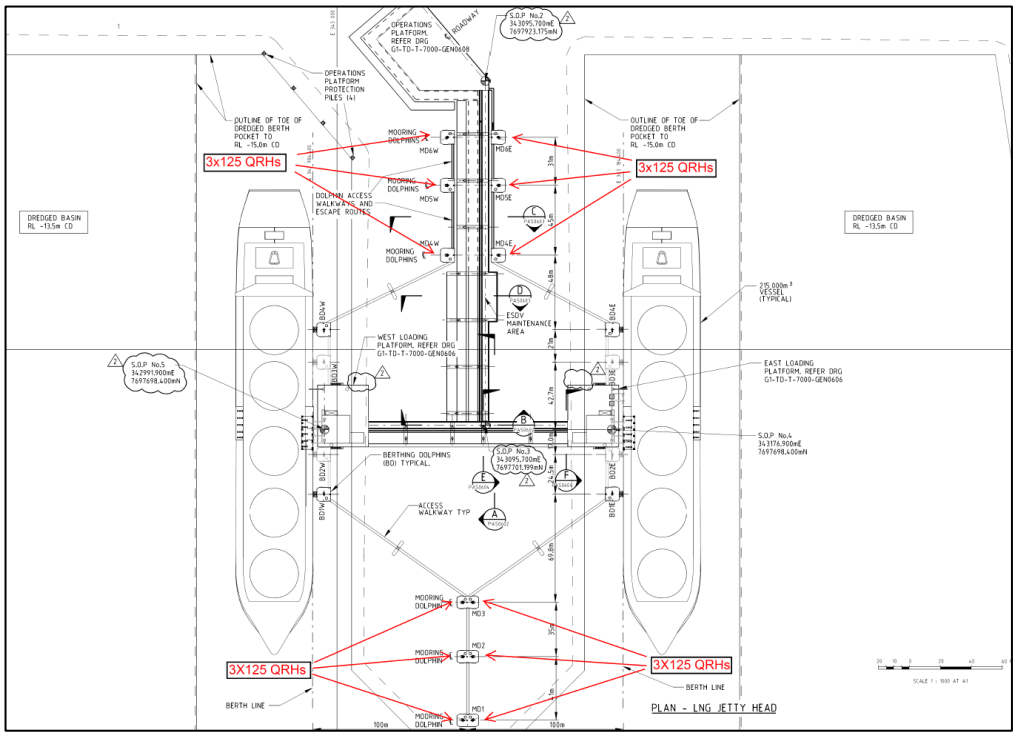

Figure 5-1: General Mooring Arrangement

At the west berth (LNG transfer only), LNGC's will berth port side alongside the berth with a heading of 180° True and bow heading towards the channel.

- The berth has 6 mooring dolphins: - 3 forward of the vapour line and 3 aft of the vapour line.
- The berth has 4 breasting dolphins: - 2 forward of the vapour line and 2 aft of the vapour line.
- At the east berth (LNG or Condensate transfer), LNG Ships and Condensate Vessels will berth starboard side alongside the berth with a heading of 180° True and bow heading towards the channel.
- The berth has 6 mooring dolphins: - 3 forward of the vapour line and 3 aft of the vapour line.
- The berth has 4 breasting dolphins: - 2 forward of the vapour line and 2 aft of the vapour line

5.1.8.3 Commercial Moorings

Commercial moorings may be established within the Port of Barrow Island following Chevron Australia and WA Department of Transport approval. Commercial mooring applications shall be submitted directly by the proponent to the WA Department of Transport. An application is Vessel(s) or purpose specific and must be an engineered design. Vessels not specified on the license wishing to use a mooring must attain formal approval from the licensee. Approval from the licensee shall be consistent with the license application.

Commercial mooring licensees shall comply with the terms and conditions of the mooring license at all times to ensure moorings are adequately maintained and do not present a hazard to navigation. Moorings that present a hazard to navigation risk may result in retraction of their license and removal by the WA Department of Transport.

5.1.9 Line handling procedures and Line Load Monitoring

Swell-induced movement of LNGC's and Condensate vessels can cause high mooring line loads. The minimum mooring requirements have been determined from mooring studies.

The following points are emphasised:

- Mooring lines shall only be run after an LNGC, or Condensate vessel has landed and remains alongside on the fenders
- Mooring lines would normally be run 2 by 2 at each end of the LNGC or Condensate vessel and this will be discussed and confirmed during the Pilot/Master information exchange
- More than 1 mooring line on a single quick release hook is prohibited.

- Mooring lines are to be tensioned/adjusted only when all GMT personnel are clear of the dolphin and positive communication has been received to this effect
- Checks are to be made to ensure mooring lines have an even load/tension and are maintained by the LNG Ship or Condensate Vessel crew
- Care shall be exercised to ensure that the LNG Ship or Condensate Vessel does not move out of position when adjusting mooring lines.
- The GMT berths are not protected from the prevailing ocean swells and there may be occasions when swell-induced movement can result in increased mooring line loads.
- The MEMS monitors all mooring hook loads. For LNGC's, mooring line data can transmit to the ship via the SSL. If this function is not available on a LNGC and for all Condensate vessels, a terminal laptop will be provided to monitor mooring tensions

5.1.9.1 Mooring Line Pre-tension and Load Limits

On completion of the mooring operation, final adjustments shall be made to the vessel mooring lines, if required, to ensure that all mooring lines are correctly pre-tensioned as agreed between the PLM and vessel Master.

Vessel crews should maintain mooring line load/tensions within the parameters in the table below. Should the pre-alarm be initiated, mooring lines should be adjusted back into the permissible load/tension range as soon as possible while maintaining the LNGC and Condensate vessel position.

Table 5-2: Mooring Line Load Limits

Berth	Permissible Range (Metric tonne)	Minimum Alarm (Metric tonne)	Pre-alarm (Metric tonne)	Maximum Alarm (Metric tonne)
East	10 – 30	8	35	40
West	10 – 30	8	35	40

5.1.9.2 Jockey Ropes

Small jockey ropes shall be fitted to all mooring line tails for ease of handling by the GMT personnel.

Jockey ropes shall be thoroughly inspected by the Vessel crew prior to arrival. If deterioration is found during the visual inspection, then the jockey rope is to be replaced.

All jockey ropes should be replaced at the same time as the mooring line tails.

Jockey ropes shall be a minimum of 26-millimetre diameter polypropylene rope or a HMSF rope of equivalent minimum breaking load.

The working end of a made-up jockey rope on a mooring line tail should be approximately 0.5 metre shorter than the length of the mooring line tail to

facilitate proper landing of the mooring line tail eye onto the quick release mooring hook by the GMT personnel.

Typical finished length for the jockey rope is approximately 5.3 metres with two soft eye splices as depicted in Figure 5-2 below

Figure 5-2: Jockey Rope

5.1.9.3 Requirements for Vessels with Wire Mooring Lines

All LNG Ship and Condensate Vessel wire mooring lines are to be fitted with synthetic tails in accordance with current edition of MEG

Excess grease should be removed from sections of the mooring wire likely to come into contact with water.

Synthetic tails are to satisfy the same criteria as detailed in the mooring analysis.

5.1.9.4 Requirements for Vessels with Soft Mooring Lines

All LNG Ship and Condensate Vessel High Modulus Synthetic Fibre (HMSF) mooring ropes should be fitted with synthetic tails in accordance with current edition of MEG.

5.1.9.5 Self-Tensioning Mooring Winches

LNG Ship and Condensate Vessel self-tensioning mooring winches (where fitted) are not permitted to operate in the self-tensioning mode whilst the is moored alongside the GMT.

5.1.9.6 Emergency Towing-Off Pennants (Fire Wires)

LNGC's and Condensate Vessel's emergency towing-off pennants (fire wires) are not permitted at the GMT.

5.1.10 Berth manoeuvres / Approach speeds

5.1.10.1 Passage Planning

There are two recommend routes for transit to and from the GMT, The Primary and Alternate route. The passage plans are available for download from the Port of Barrow Island website.

IMPORTANT NOTICE:
All vessels lifting at the GMT are required to have both the Primary and Alternative routes uploaded to ECDIS or transcribed to the relevant paper chart for arrival and departure moves.

5.1.10.2 Exclusion Zones

Domestic Gas Pipeline

The Domestic Gas (Dom Gas) pipeline extends 3 nm south of the Gorgon Marine Terminal berths, and then alters to the southeast towards the Australian mainland. The Dom Gas pipeline passes over seabed undulations and may protrude more than 1.5 m above the seabed, reducing charted depths. All Vessels shall avoid anchoring, trawling, or conducting other underwater operations near the Dom Gas pipeline. Refer to the relevant navigational charts for up-to-date exclusion requirements.

CBM Export Pipeline

All Vessels shall avoid anchoring, trawling, or conducting other underwater operations near the WA Oil export pipeline. Refer to the relevant navigational charts for up-to-date exclusion requirements.

5.1.10.3 Vessel Speed

Vessels operating within the Port of Barrow Island shall navigate at a safe speed commensurate with the activities being undertaken and as defined by the COLREGs. During times of significant marine fauna activity, such as turtle breeding season and whale migration, speed restrictions may apply to certain areas of the Port of Barrow Island. Such restrictions will be communicated via a Marine Notice (Current Marine Notices are on the Port of Barrow Island website).

5.1.10.4 Main Engine Astern Test

LNGC's and Condensate vessels are requested to conduct a recorded engine astern test within 3 hours of the RAT. The Pilot will confirm if the astern has been completed, and if required, request an astern test be conducted prior to entering Port Limits.

5.1.10.5 Speed of Approach Meters

LNG Ship and Condensate Vessel speed of approach display boards are located:

- West berth breasting dolphins' numbers 1 and 4
- East berth breasting dolphins' numbers 3 and 4

The maximum speed of approach onto the fenders is 10 cm/sec.

5.1.11 Garbage, Sewage and Slops disposal procedures

The Port of Barrow Island does not provide any dedicated services. The Port of Barrow Island may be able to provide assistance on a case-by-case basis - enquiries are to be directed to the BWI MS.

5.1.11.1 Garbage

Shore based reception facilities for transfer of garbage are not available at the Port of Barrow Island.

Vessels within the Port of Barrow Island port limits must retain all solid wastes and garbage on board in secure containers. Waste and garbage may only be discharged in accordance with a Chevron Australia approved waste management plan or in accordance with the requirements of MARPOL Annex V once a Vessel clears the Port.

5.1.11.2 Sewage

Shore based reception facilities for the transfer of Sewage are not available at the Port of Barrow Island.

In accordance with MARPOL Annex IV and the Port of Barrow Island Harbour Master's Port Operating Requirements, Vessels operating within the Port of Barrow Island shall not discharge any form of sewage (as defined in MARPOL) into the sea but shall retain sewage onboard.

5.1.11.3 Slops and Oily Ballast Residues

Shore based reception facilities for the transfer of slops and oily ballast residues are not available at the Port of Barrow Island.

5.2 Pre-arrival information exchange from vessel to terminal

IMPORTANT NOTICE:

The Port of Barrow Island expects all Vessels entering, operating, or departing to have no defects or limitations that affect the Vessel's normal mode of operation as it relates to navigation and manoeuvring to avoid collision and/or allision. Therefore, any defects and/or limitations to the Vessel's navigation and propulsion equipment is to be declared to the Port of Barrow Island prior to arrival or departure.

5.2.1 Gorgon Marine Terminal

LNGC's and Condensate vessels intending to lift at the GMT shall send, via email, the Estimated Time of Arrival notices as prescribed in,

- Appendix C for LNGC's
- Appendix D for Condensate vessels

5.2.2 CBM Operations

Vessels lifting at the CBM, refer to The WA Oil Barrow Island Marine Terminal Manual (refer to the Port of Barrow Island website) for notification requirements.

5.2.3 General Port Area

Except for vessels lifting at the GMT and CBM, all vessels shall adhere to the requirements of section 5.2.3.1 and 5.2.3.2. This includes vessels supporting CBM liftings e.g., line boat and assist tugs.

The required notifications shall be emailed to following address

GOPORTOps@chevron.com

5.2.3.1 Notification – International Voyage

Vessels engaged in an international voyage, proceeding to the Port of Barrow Island shall send the following notifications:

- Seven days prior to arrival – Estimated Time of Arrival (ETA) update.
- 72 hours prior to arrival – ETA update and estimated arrival drafts.
- 48 hours prior to arrival – ETA update. Confirmation that the Vessel has a compliant pilot boarding arrangement, that all bridge equipment is operational, and that the Vessel has the necessary charts or ENC cells onboard.
- 24 hours prior to arrival – ETA update (if Vessel's ETA to the pilot boarding ground changes by more than one hour, notify the Port immediately) and confirmation of arrival drafts. Confirmation that all bridge equipment is operational
- 12 hours prior to arrival – ETA update (if Vessel's ETA to the pilot boarding ground changes by more than one hour, notify the Port immediately) and confirmation of arrival drafts. Confirmation that all bridge equipment is operational

5.2.3.2 Notification – Domestic Voyage

Vessels engaged in a domestic voyage, proceeding to or from the Port of Barrow Island, shall provide the following information via email 12-24 hours prior to arrival or departure:

a. Name of Vessel
b. ETA / Estimated Time of Departure (ETD)
c. Master's name
d. Local Knowledge Certificate number
e. Pilot Exemption Certificate (PEC) number (if held)
f. Dangerous cargo
g. Deepest draft
h. Passage from
i. Passage to
j. Description of route within Port of Barrow Island port limits
k. Controlling depth of passage
l. Minimum Under Keel Clearance (UKC) calculated
m. Activities/intentions within the Port of Barrow Island (e.g., proceed to B2 anchorage then to MOF for bunkers)
n. High risk ballast onboard (Yes/No)
o. Any known defects reported

5.2.3.3 Departure Notice

The domestic voyage Vessel operator is to send a Domestic Voyage Departure (DVD) notification to the Port of Barrow Island 12 – 24 hours prior to Vessel departure. The format for the DVD is as per section 5.2.3.2.

5.2.4 Commonwealth and State Regulatory Requirements

Vessel Master is to consult directly with their agent to ensure that all statutory government and regulatory requirements for a vessel entering or transiting Australian Commonwealth and State waters are met and approved prior to arrival at the Port.

5.2.4.1 Modernised Australian Ship Tracking and Recording System Reporting

For Australia to fulfill its international obligation to carry out Search and Rescue (SAR) activities, LNG carriers and Condensate tankers are required to participate in Modernised Australian Ship Tracking and Recording System Reporting (MASTREP).

Refer to the website for more information:

5.2.5 Arrival Communication

5.2.5.1 Tendering NOR For a LNGC

The Master of each LNG Ship shall give a NOR to load/transfer LNG when the LNG Ship:

- Has arrived at the pilot boarding ground (inbound), or such other point located at or proximate to the Port of Barrow Island as may be advised by the BGPA Operator
- Has received all necessary port clearances and
- Is able to receive LNG for loading / transfer and, if relevant, purging or cooling.

The NOR shall be delivered by the Master of the LNG Ship to the BGPA Operator and OLC by facsimile or electronic mail. In addition, the NOR may be handed to the PLM after the PLM has boarded the LNG Ship, in which case, the PLM shall countersign for receipt on behalf of the BGPA Operator.

A NOR is effective:

- For an LNG Ship giving its NOR on its RAT – at the RAT
- For an LNG Ship giving its NOR after its RAT– when the PLM boards the LNG Ship, following BGPA Operator's notice to the LNG Ship that the Gorgon Marine Terminal is ready to receive that LNG Ship for loading/transfer of LNG
- For an LNG Ship giving its NOR before its RAT – the earlier of the RAT or when the PLM boards the LNG Ship, following the BGPA Operator's notice to that LNG Ship that the Gorgon Marine Terminal is ready to receive the LNG Ship for loading/transfer of LNG.

5.2.5.2 Tendering NOR for a Condensate Vessel

The Master of each Condensate Vessel shall give a NOR to load Condensate when the Condensate Vessel:

- Has arrived at the pilot boarding ground (inbound), or such other point located at or proximate to the Port of Barrow Island as may be advised by the BGPA Operator
- Has received all necessary port clearances
- Is able to receive Condensate for loading

The NOR shall be delivered by the Master of the Condensate Vessel to the BGPA Operator and OLC by facsimile or electronic mail. In addition, the NOR may be handed to the PLM after the PLM has boarded the Condensate Vessel, in which case, the PLM shall countersign for receipt on behalf of the BGPA Operator.

At the time that the NOR is delivered, the BGPA Operator will notify the quantity of Condensate to be loaded, which shall usually be a quantity of between 98,000m3 and 108,000m3.

A NOR is effective:

- For a Condensate Vessel giving its NOR within the Two-Day Loading Date Range (LDR), at the time 6 hours after the NOR is tendered, or when such Condensate Vessel is ‘all fast alongside’ the berth, whichever is earlier
- For a Condensate Vessel giving its NOR after the Two-Day LDR, when such Condensate Vessel is ‘all fast alongside’ the berth
- For a Condensate Vessel giving its NOR before the Two-Day LDR, at 06:00 hours on the first day of its Two-Day LDR, or when the Condensate Vessel is ‘all fast

6 Operational Information

6.1 Gangway and transverse space

The gangway tower is located on the north corner of the loading platform deck. LNGC and Condensate vessel personnel are required to assist in the landing operation with respect to best placement of the gangway on board. The gangway shall touch down on the deck in a safe and unobstructed area. It should touch down aft of the manifold between the manifold and the superstructure such that personnel do not pass the manifold during LNG or Condensate loading / transfer operations.

Once the gangway is landed on the deck, the control is placed in freewheel mode allowing the gangway to follow the LNG Ship's or Condensate Vessel's motion. If the gangway reaches an angle of 17° while in the freewheel position it will automatically move to the next higher or lower access platform.

The maximum wind velocity the gangway can operate in is 39 knots

Table 6-1: Gangway Envelope Particulars

Gangway Position	Value
Maximum height	LAT + 24.90 metres
Minimum height	LAT + 6.50 metres
Maximum slew south (Forward on LNG Ship and Condensate Vessel headed bow out)	4.36 metres
Maximum slew north (Aft on LNG Ship and Condensate Vessel headed bow out)	5.00 metres
Minimum LNG Ship and Condensate Vessel deck landing area required	1.500 metres fore and aft and 1.135 metres athwartships

6.1.1 Gangway Pedestal

Each berth is equipped with a pedestal mounted telescopic, self-tread-levelling gangway. The gangway base will form a footprint of 1.5 metres fore and aft and 1.135 metres athwartships.

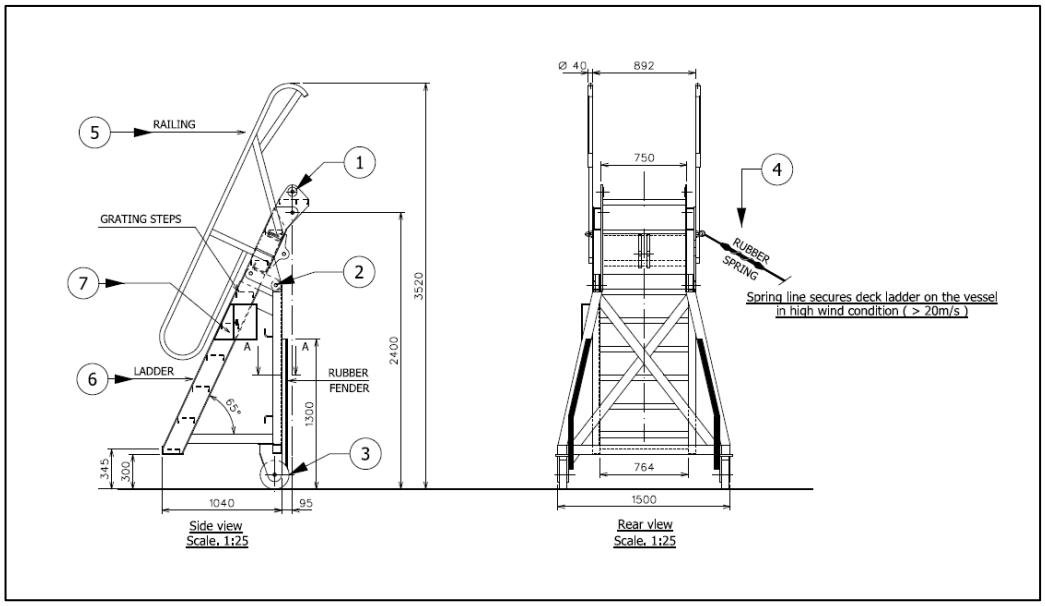

Figure 6-1: Gangway Pedestal Dimensions

6.2 Pre-transfer conference policy

A pre-loading conference will be held between the LNG carrier's or Condensate carrier's personnel and the GMT representative to discuss the loading operation and highlighting the safety precautions and emergency procedures required at GMT. As a minimum, the vessel master along with the Chief Officer, must attend this meeting.

6.3 Ship - Shore Safety Checklist and other documents

6.3.1 Ship-Shore Safety Checklist

The ship/shore safety inspection will be periodically conducted jointly by the PLM on behalf of the GMT and a responsible officer nominated by the Vessel's Master.

The relevant safety checklist will be completed and signed by the PLM and responsible officer prior to commencing any LNG or Condensate transfer operations and prior to the opening of any of the LNG Ship's or Condensate Vessel's valves. However, loading arm manifold connections may be allowed.

Warm ESD testing and verification will be satisfactorily completed prior to the commencement of LNG transfer operations. Warm ESD testing and verification will be satisfactorily completed prior to the commencement of Condensate transfer operations.

Repeated checks will be performed as necessary, and the checklist is to be initialled with the time of the check to verify continued compliance.

6.3.2 Safety Letter

A ship shore safety letter shall be provided to the Vessel Master by the PLM.

6.3.3 Emergency Notice

An emergency notice – an instruction to the Vessel Master for fire or other emergency – is displayed near the shore manifold and one copy shall be provided to the Vessel Master by the PLM.

6.3.4 Shore Facility Integrity

A written statement of the integrity of pipelines, loading arms and other equipment shall be provided to the Vessel Master by the PLM.

6.3.5 LNG and Condensate (cargo) Loading Plan

A cargo handling plan shall be prepared by the Vessel Master indicating LNG or Condensate on-board and that to be transferred.

The LNG Ship cargo handling plan shall identify all sloshing damage risk range and expected time periods in which the LNG Ship will be exposed to such risks. Mitigation plans for these time periods shall be documented in the cargo handling plan. For LNG loading operations, the plan will also include a “ramp down” procedure that can be presented to the PLM prior to the commencement of “ramp down” or the commencement of LNG loading operations.

The cargo handling plan shall be subject to agreement between the LNG Ship or Condensate Vessel Master and the PLM prior to commencing LNG and Condensate transfer operations.

6.4 Ballasting Policy

To prevent the introduction of Marine Pests to BWI or the waters surrounding BWI Trading Vessels carrying high-risk ballast water (including water taken up within Australia’s domestic ports) must not discharge ballast water when accessing BWI. Trading Vessels are permitted only to discharge low risk ballast water when accessing BWI. For additional information refer to Barrow Island Quarantine Trading Vessel Procedures.

If the LNGC or condensate tanker has regulatory approval to discharge ballast, then the vessel can discharge before Quarantine attends the vessel. If no prior approval is received, the vessel may not discharge ballast water until Quarantine officials board the vessel and give such approval.

There is no facility to treat ballast water in the Port of Barrow Island.

6.5 Loading arm connection and disconnect / draining procedures

6.5.1 Loading arm connection

The loading arms are connected to the LNGC’s sixteen (16) inch flange and the Condensate vessel’s 16 inch or 12-inch flange by a Rotaram 8.22.2 QCDC hydraulic coupler with three clamping latches. With the Vessel’s manifold blanks removed and, the QCDC depressurized, the loading arm is manoeuvred so the two flange guides are aligned outside the Vessel’s manifold flange. The loading arm is manoeuvred so the front flange face of the QCDC comes into unobstructed contact with the Vessel’s flange face. The QCDC is then closed until it reaches the fully locked position. If the QCDC is in an obstructed area of the Vessel’s flange face, it is acceptable to rotate the QCDC. Once connected,

the loading arm is placed into freewheel mode so it will follow the LNG Ship's or Condensate Vessel's motion.

In the event the hydraulic power supply has a failure, the QCDC can be operated by a hydraulic hand pump.

6.5.2 Draining and Purge

Production Operations and the vessel crew are accountable for the safe liquid draining and nitrogen purging of the loading arms. Detailed procedures will be discussed by the LM during pre-transfer meeting.

6.5.3 Loading arm disconnection

Production Operations are accountable for disconnection and stowage of the loading arms from the manifold presentation flanges. MLA's are to be considered a suspended load and all personnel are to remain clear when they are being manoeuvred.

The vessel crew, Production Operations and the LM shall inspect the manifold presentation and QCDC flanges for damage or other anomalies prior to fitting blanks. If damage is noted, it should be determined whether the damage was pre-existing or occurred during the loading operation and appropriate records made.

LNGC cargo strainers will also be inspected and if debris is found, samples and photographs will need to be taken and records maintained (if suitable camera is available and/or if strainer can reasonably be transported outside gas-danger zone).

6.6 Cargo transfer policy and terminal manning requirements

6.6.1 LNGC Containment System Pressures

LNGC's are requested to arrive with stable tank pressures that are within the safe operating limits of the vessel's MARVS. The Terminal does not have a specified upper limit arrival pressure however the Pilot will ask the Master to clarify the state of the MARVS during the MPX.

An LNGC may be refused entry to the Port if arrival pressures are determined to be a risk eg, activation of vessel safety system resulting in a Loss of Containment (LOC), within to the Port.

6.6.2 LNGC Loading Lines

Terminal requires that vessels arrive with LNG liquid lines warm and empty.

6.6.3 Tank Vapour Quality

LNGC arriving with an LNG "heel" onboard, and a Condensate vessel shall arrive with cargo tanks in a condition in accordance with the table below.

Table 6-2: Cargo Tank Vapour Space Requirements

Condition	LNG Ship	Condensate Vessel
Hydrocarbon content	> 95% in volume	<2% in volume
Oxygen content	<5% in volume	<8% in volume
Hydrogen Sulphide	N/A	Maximum 5 parts per million
LNG inert gas dew point	at least -40° Celsius within the entire cargo system (including cargo tanks, cargo pipelines and cargo machinery)	N/A
Carbon Dioxide and other inert gases	<1% in volume	N/A

6.6.4 Manifold access

Manifold access restrictions during LNG and Condensate transfer operations will be agreed as part of ship/shore initial interface meeting, in accordance with SIGTTO and OCIMF recommendation and LNG Ship's or Condensate Vessel's Safety Management System (SMS).

6.6.5 Supervision of Shipboard Operations

During LNG or Condensate transfer and other Vessel operations in the Port of Barrow Island, the Vessel shall be manned according to the Safe Manning Certificate (SMC) so that adequate crew are able to perform all of the required tasks during the stay whilst fully complying with the current edition of Standards of Training Certification and Watchkeeping Code (STCW) working hours and rest period requirements. While the PLM will function as a ship/shore interface and Terminal Representative remaining on-board the LNG Ship or Condensate Vessel during such operations, this does not relieve the Vessel crew of their shipboard responsibilities or the overriding authority of the Vessel's Master.

Suitable accommodation and meals will be required on-board the LNG Ship or Condensate Vessel for the PLM.

6.6.6 Non-Standard Loading Operations

The following operations **cannot** be conducted at the GMT

- Cargo pump testing
- Containment system/tank high level alarm testing
- Non – Standard tank Cooldowns
- Non – Standard Loading operations eg, internal tank transfers

6.7 Vapour Recovery

6.7.1 LNG Vapour Return

LNG vapour return to shore is via vapour return arm and fixed pipeline. Details on vapour arm are in Appendix E.

While in the Port of Barrow Island, LNG Ships shall take all reasonable steps to avoid venting hydrocarbon gas to atmosphere.

In exceptional situations, where all other means of control have proved ineffective in maintaining LNG tank pressures in normal operating limits, venting may occur.

The PLM shall be advised once it becomes apparent that venting may occur and/or has occurred.

During LNG loading/transfer operations, in the event of a return gas compressor trip or breakdown, the GMT CCR operator shall be advised immediately and requested to adjust LNG loading/transfer rates to safely manage LNG Ship tank pressures. The PLM shall also be notified as soon as possible. LNG Ships are permitted (and encouraged) to use vapour as fuel during LNG loading/transfer operations.

6.7.1.1 During LNG Gas Up Operations

Venting of purged inert gas shall initially be through the LNGC forward mast riser until a maximum 5% hydrocarbon by volume is detected. Thereafter, the displaced inert gas / hydrocarbon mix must be re-routed to shore via the terminal LNG vapour return line. Prior to re-routing inert gas vapour to shore, the LM shall consult with the Terminal CCR in enough time to have the BOG flare assist gas burners available as required.

Venting to atmosphere during gas up will not be allowed during periods of electrical storm activity at or near the Terminal.

Where inert gas venting to atmosphere is conducted during gas-up operations, extra vigilance is to be taken onboard the LNGC, ashore and in the surrounding Gorgon Marine Terminal exclusion zones to ensure that there are no ignition sources present.

Prior to re-routing purged inert gas / hydrocarbon vapour to “shore,” the PLM shall consult with the GMT CCR operator in sufficient time, to have the boil off gas flare assist gas burners available during the purging operation where required.

6.7.2 Condensate Vapour-Volatile Organic Compounds (VOC) Return

Condensate vapour “shore” return facilities are not available at the GMT. Condensate Vessels are therefore required to purge inert gas and Condensate vapours containing Volatile Organic Compounds (VOCs), using shipboard venting arrangements during Condensate loading operations.

To minimise the volume of VOC released in the Port of Barrow Island, Condensate Vessels are to purge Condensate tanks to 2% hydrocarbon by volume prior to arrival at the Port of Barrow Island and lower Condensate tank pressures as far as practicable prior to berthing.

Closed gauging and sampling should be undertaken using the fixed gauging system or by using portable equipment passed through a vapour lock to minimise the amount of vapour release from the Condensate tank ullage space.

A minimum 10-minute average wind speed as recorded by the GMT of 5 Knots is required during Condensate loading operations.

Operations may be suspended at wind speeds of less than 5 Knots, or the wind direction causes excessive vapour levels around accommodation and/or engine room ventilation intakes. Condensate Vessel and/or GMT provided portable and/or fixed gas detection can be used in this regard.

6.8 Crude Oil Washing (COW)

COW is not permitted at Port of Barrow Island.

6.9 Safe Operations requirements (wind, lightning, tide, current, waves, ice)

6.9.1 Electrical Storms

When there is electrical storm activity in the vicinity of the GMT, the PLM shall consult with the Vessel Master to suspend LNG and Condensate transfer operations until the threat from the storm recedes.

6.9.2 Low wind condition

Operations may be suspended at wind speeds of less than 5 Knots, or the wind direction causes excessive vapour levels around accommodation and/or engine room ventilation intakes. Condensate Vessel and/or GMT provided portable and/or fixed gas detection can be used in this regard.

6.10 Tank cleaning and tank entry policy

Tank cleaning and tank entry is not permitted.

6.11 Inert gas systems policy

Vessels fitted with Inert Gas system should ensure the system is operational.

6.12 Surveyors / sampling and gauging

6.12.1 Sample container Management

GMT is equipped with auto-sampling and analysing system for LNG. Production Operations and the cargo surveyor are accountable for the operation and verification of this system. If requested by lifters, a sample of LNG vapour may be placed on board the LNG carrier prior to departure, with prior agreement with the terminal.

Sample of Condensate may be placed on board the condensate tanker prior to departure, basis instructions received from lifters.

As receipt for samples will require signature from the LNG carrier or condensate tanker Master.

6.12.2 Marine Terminal Feedback

If requested or required to highlight any issues during the vessel's stay at Port of Barrow Island, the PLM or LM will provide feedback to the LNG or condensate carrier, and in all cases comply with Chevron Marine Assurance (PAVIS) terminal feedback reporting requirements post departure.

6.12.3 Port and Marine Service Charges

6.12.3.1 Fees and Charges

Vessel Master is to consult directly with their shipping agent to ensure that all statutory government and regulatory charges are paid as required.

6.12.3.2 Port and Marine Services Fees and Charges

LNGC's and Condensate Vessels entering the Port of Barrow Island will be subject to Port and Marine Services fees and charges. These fees and charges are for services provided for the berthing, loading/transfer and unberthing of LNG Ships and Condensate Vessels. These fees and charges will include costs accrued during the clearance process and for marine services provided for the safe transit, mooring, transfer of LNG and Condensate, cargo documentation, unmooring and departure from the GMT.

Port and Marine Services fees and charges are determined on an annual basis.

These fees and charges apply to all LNGC's and Condensate Vessels irrespective of size, type and number of tugs or services used.

Once berthed, should the LNGC or Condensate Vessel no longer be able to satisfy the NOR conditions requiring the Vessel's removal from the berth, an additional Port and Marine Services fee will be imposed for re-berthing. An additional Port and Marine Services fee will not be imposed when the NOR conditions remain valid, but the BGPA Operator requires the LNG Ship or Condensate Vessel to vacate the berth.

6.12.4 Vessel Inspections at GMT

Table 6-3 provides guidance on which activities may be undertaken when inspections e.g. Flag/Port State inspections are required to be conducted on vessels berthed at the GMT.

Table 6-3: Permitted operations – Vessel inspections

Operation	No Cargo Ops	Gas-up	Cool down	Ramp Up or Down	Full Rate	Notes
Review of Vessel Certification/Records	✓	✓	✓	✓	✓	
Fire Detection System Testing	✓	⊘	✓	⊘	✓	Announcements made before/after testing
Navigation Light Panel Testing	✓	✓	✓	✓	✓	
GMDSS Testing MF/HF Radio	✓	⊘	⊘	⊘	⊘	No MF/HF Radio Transmission During any Cargo Ops
GMDSS Testing Sat C	✓	✓	✓	✓	✓	
SART Inspection	✓	⊘	⊘	⊘	⊘	Requires Radar operating
Radar Testing	✓	⊘	⊘	⊘	⊘	

Operation	No Cargo Ops	Gas-up	Cool down	Ramp Up or Down	Full Rate	Notes
Portable VHF Inspection	✔	✔	✔	✔	✔	From within Wheelhouse
AIS	✔	✔	✔	✔	✔	Low power setting
ECDIS	✔	✔	✔	✔	✔	
EPIRB Testing	✔	✔	✔	✔	✔	
Battery Room Inspection	✔	✔	✔	✔	✔	
Gas Detection System Testing	✔	⊘	⊘	⊘	✔	Provided testing not associated with Trip function during cargo ops
Emergency Stop Testing	✔	⊘	✔	⊘	✔	With discretion, no testing of stops that would impact running generators.
Quick closing/Instant valve testing	✔	⊘	✔	⊘	✔	With discretion, no testing of valves that would cause loss of fuel supply to running generators if tripped.
Engine Room Fire Dampers	✔	✔	✔	⊘	✔	Fire dampers can be tested on local control without effecting the whole system.
Funnel Damper Testing	✔	✔	✔	⊘	✔	Funnel dampers can be tested on local control without effecting the whole system.
Emergency Power Source Testing	✔	⊘	✔	⊘	✔	Off load during cargo operations/on load permitted when no cargo operations taking place
Survival Craft Lowering (embarkation level only)	✔	⊘	✔	⊘	✔	
Survival Craft Engine	✔	⊘	✔	✔	✔	
Life raft Davit Testing (embarkation level)	✔	⊘	✔	✔	✔	
Rescue Boat Davit Testing	✔	⊘	✔	✔	✔	
Fixed Fire Extinguishing System Testing	✔	⊘	✔	⊘	✔	With discretion, no testing of stops that would impact running generators/cargo machinery.
Emergency Fire Pump	✔	✔	✔	⊘	✔	

Operation	No Cargo Ops	Gas-up	Cool down	Ramp Up or Down	Full Rate	Notes
Fire Protection for Cargo Tanks and Deck Area	✔	✔	✔	⊘	✔	
Emergency Steering Test	✔	✔	✔	✔	✔	
OWS Testing	✔	✔	✔	✔	✔	
Bilge Alarm Testing	✔	✔	✔	✔	✔	
Sewage Plant Inspection	✔	✔	✔	✔	✔	
Inert Gas System	✔	⊘	✔	⊘	✔	
ODME (Oil Discharge Monitoring Equipment)	✔	N/A	N/A	⊘	✔	No Discharge Overboard
CMR/Pumproom ventilation systems	✔	⊘	⊘	⊘	✔	With discretion, no testing of stops that would impact running generators/cargo machinery.

6.12.5 Cargo Document Management

Depending on circumstances, cargo documentation for LNG carriers and Condensate tankers at the GMT can either be (i) an Early Departure Procedure (EDP) by which the LNG carrier's or Condensate tanker's Master authorises in writing the LNG carrier's or Condensate tanker's representative to sign cargo documents on behalf of the LNG carrier's or Condensate tanker's Master; or (ii) a full suite of cargo documents in accordance with the Documentary Instruction from the Lifter is presented to the vessel's Master for signing prior to departure from GMT.

6.13 Ship to Ship Transfer and Bunkering Policy

The Port of Barrow Island does not provide a service for fuel bunkering. The bunkering facilities in the tug pen support GMT operations exclusively.

The transfer of bulk liquids between Vessels is subject to prior formal approval by the BWI MS and is to be a continuously monitored operation. This includes the refuelling of barge cranes, sewage transfers from accommodation type vessels, transfer of bunkers between Vessels and refuelling between Vessels.

Vessels shall adhere to applicable State legislation, industry best practices and all Chevron Australia specific environmental requirements always.

The use of automatic fuel nozzles used for transferring fuel to small Vessels such as crew transfer Vessels and work punts with bunkering manifolds less than 50 Millimetres (mm) in diameter, shall:

- Be type approved, fit for purpose, and subject to annual pressure test and verification; and
- Serviced in accordance with manufacturer's instructions.

6.14 Environmental protection and Pollution Prevention

6.14.1 Fauna Activity

During times of significant marine fauna activity (e.g., turtle breeding season and whale migration), Vessel speed restrictions may be applied to certain areas of the Port of Barrow Island. These restrictions will be communicated through a Port of Barrow Island marine notice available on the Port of Barrow Island website.

6.14.2 Protection of the Environment

BWI is a Class A nature reserve and as such, must adhere to specific environmental protective measures in accordance with Commonwealth and State legislation.

In addition to legislative requirements, Chevron Australia requires all Vessels calling at the MOF, WAPET Landing, CBM and, working within the Port of BWI port limits for the Gorgon project, to adhere to Chevron Australia specific measures that are designed to protect the environment, its flora and fauna both on land and at sea. Measures include:

- Reducing light spill and direct overboard lighting to the absolute safe minimum levels required for meeting safety and security requirements.
- Minimising vibration and marine and airborne noise.
- Minimising emissions of atmospheric pollutants.
- If marine turtles are sighted near the path of a vessel, vessels are to divert to avoid them if safe to do so, and/or slow down to a minimum speed for safe steerage.

For any additional information, contact Chevron Australia Barrow Island Quarantine at the following email address:

ABUHSEBWIQuarantine@chevron.com

6.14.3 Quarantine

All Vessels visiting the Port of BWI and the waters surrounding BWI, must comply with the quarantine requirements of the Australian Department of Agriculture, Fisheries and Forestry (DAFF) and the Western Australian (WA) Department of Primary Industries and Regional Development (DPIRD).

Under the Biosecurity Act 2015 (Commonwealth), the Port of Barrow Island is a non-proclaimed port for overseas Vessels. All international Vessels intending to come to BWI as the first port of call must apply, usually through their shipping agent, for DAFF Biosecurity permission to enter Australian waters and visit a non-proclaimed port.

In addition to State and Commonwealth regulatory requirements all vessels visiting the Port of BWI or the waters surrounding BWI, must comply with the requirements of the Quarantine Procedure – Marine Vessels OE-07.08.1010.

These requirements include:

- Vessel quarantine compliance for BWI, which includes topsides, wet sides, and ballast water requirements.
- Submission and approval of a Vessel Quarantine Management Plan.
- Appropriate Quarantine training for Vessel crew.

For further information, Vessels visiting the Port of BWI or the waters surrounding BWI, should contact Chevron Australia Barrow Island Quarantine at the following email address:

ABUHSEBWIQuarantine@chevron.com

6.14.4 Light

Barrow Island contains regionally significant nesting populations of green and flatback turtles with approximately 1,600 flatback turtles nesting annually on the east coast of the island adjacent to the GMT. Light spill from Vessels overboard (creating pool of light on water) and from the Vessel itself (internal and external lighting) can significantly impact marine turtles by disorientating hatchlings so that they cannot safely disperse offshore and causing females to avoid nesting beaches. The effects of artificial lighting on turtles are dependent on the intensity and wavelength of the light, the extent to which light spills into areas that are significant for breeding and foraging (direct light spill) and the glow (indirect light spill).

To reduce the lighting impacts on marine turtles, vessels working at night within the Port of Barrow Island will be required to reduce lighting to the minimum required for safe operations whilst always meeting their own and regulatory safety and security requirements.

Additional focus will be placed on the reduction of light spill, horizon glow and overboard lighting during peak turtle nesting and hatching season [November to February (inclusive)], where the risks associated with artificial light spill are greatest.

Table 6-4 details the lighting controls to be implemented by a vessel operating within ports limits at night.

Table 6-4: - Lighting Controls

Lighting Control	Examples
Replace external white lights	Installing yellow / orange covers or light filters over white lights
Change the direction of lights to focus onto work areas and away from the water to avoid direct artificial light spill onto water where practicable	Modifying the angle and direction of accessible existing lights to direct lighting downward onto Vessel or work area

Lighting Control	Examples
Shielding light fittings	Use of gaffer tape along the edges of the light fitting to reduce spill and horizon glow (this is most relevant to fluorescent light fittings
Implement lighting reduction measures to keep external lighting to a minimum	Switching off lights when not in use Removing bulb/s or fuses from white lights if lights cannot be modified and are non-essential
Prevent light spill from portholes and windows	Covering windows and portholes with cardboard/fabric/window film (or other suitable material) and ensuring windows are covered between sunset and sunrise while in Port Bridge lighting should be maintained as low as possible between sunset and sunrise if no modifications are made to windows

It is recommended that lighting inspections are included in regular rounds l to ensure that vessel lighting modifications and controls are implemented and are effectively minimising overboard light spill and glow. These inspections should include the verification that portholes and windows are covered each evening.

IMPORTANT NOTICE:

The requirements of this section do not supersede the vessels safe working practices. Any concerns in complying with these requirements should be raised with the Port of Barrow Island or the PLM prior to the commencement of cargo operations.

6.14.5 Noise

Noise emissions can have a significant impact on wildlife that have a critical reliance on hearing to either avoid predators or locate and hunt prey. Noise interference can also affect communications between birds.

Vessels' crews should therefore make efforts to minimise marine and airborne noise as well as vibration from engines and other noise-emitting equipment.

Noise-reduction measures should be implemented on Vessels visiting the Port of Barrow Island and can include techniques such as:

- Operation of machinery essential for safe operations and security only
- Ensuring silencers, acoustic enclosures, and vibration isolation devices (where fitted) are in place and operational

6.14.6 Pollution Prevention

The internal transfer of persistent oil on board visiting LNGC'S Ships and Condensate Vessels is prohibited.

All Vessels shall comply with the relevant provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) defined as the

'Convention' in the Pollution of Waters by Oil and Noxious Substances Act 1987 of the State of Western Australia and the Protection of the Sea (Prevention of Pollution from Ships) Act 1986 of the Commonwealth and comply with other legislation of the State or Commonwealth pertaining to pollution.

Washing down/cleaning of the Vessel surfaces are prohibited in the Port of Barrow Island.

Closing devices for deck scuppers shall be in place while Vessels are located in the Port of Barrow Island. It is permissible to open scuppers to drain excess water that accumulates due to heavy rain or water spray. Prior to opening a scupper, the water to be drained shall be ascertained to be pollutant-free, and the PLM should be informed.

Oil-absorbent pads should be placed close to the scupper to collect any oily substances that may be carried by the outflowing water. In the event hydrocarbons are detected within the excess deck water, this is to be retained on board. Vessel officers and crew shall maintain a regular overboard watch.

During LNG transfer operations, the scuppers in the LNG Ship manifold area are kept closed.

All sea and overboard discharge valves that are connected to cargo or ballast pumps, other than those to segregated ballast lines, shall be kept closed unless permitted by the BWI MS.

Any valve that is required to be closed shall be secured by lashing. Remotely operated valves shall be marked to show they are closed, to prevent their accidental operation.

The following operational controls should be exercised in the Port of Barrow Island:

- Induced steam dumping kept to minimum levels
- No blowing down of boilers to sea
- Chlorination units for seawater piping systems to be isolated

6.14.7 Emission Control

Except for LNGC's conducting gassing up operations (HC <5%/vol) and during Condensate loading operations (displaced vapor from cargo tanks), the release of any hydrocarbon or noxious substance to the environment is prohibited.

LNGC's and Condensate Vessels berthed at the GMT are requested to minimise emissions of atmospheric pollutants (e.g., nitrogen oxides [NOx], Sulphur oxides [SOx], particulate matter [PM], VOCs, greenhouse gases [GHGs] and ozone-depleting substances [ODSs])

Operational controls that could be considered to meet this objective include:

- Use of natural gas or low Sulphur diesel for fuel whilst in the Port of Barrow Island (in accordance with latest regulation) any case not to exceed the Sulphur content of marine fuels as specified under MARPOL Annex VI)
- Optimised operation of diesel engines to minimize PM and unburnt VOCs
- Ensuring planned maintenance systems are up to date
- Prohibiting maintenance on shipboard systems containing ODS
- Soot blowing of boilers and use of on-board incinerators is prohibited.

6.15 Potable Water and Provisions

The Port of Barrow Island does not provide a service for the resupply of food provisions or potable water.

Appendix A Nomination Form

Appendix Table A-1: Nomination Form

LNG carrier / Condensate tanker Nomination Form		
Lifter:		
Current Lifting Details (per ADS/SDS)	Cargo No.:	
	SLV:	
	RAT:	
Vessel nomination details	LNG carrier/ Condensate tanker Name:	
	International Maritime Organization (IMO) Number:	
Vetting Docs:		

Appendix B LNG Carrier Pre-Arrival Notice Templates

Notwithstanding the requirements of a vessels voyage orders, the following email addresses will be included in all ETA notices.

Distribution List for Pre-Arrival Notices	
Office of Lifting Coordinator	GorgonOLC2@chevron.com
BGPA Operator	GOPORTOps@chevron.com

Appendix Table B-1: Distribution List for Pre-Arrival Notices

Departure Notice from Port of Departure

The Departure Notice will be sent to the BGPA operator and OLC immediately upon departure from port of departure or repair dock.

Appendix Table B-2: Departure Notice from Port of Departure

Departure Notice of Port of Departure	
AA	LNG Ship's name and call sign
BB	Date (dd/mm/yy) and hour of departure [Full Away on Passage (FAOP)] from port of departure (or dry-dock/repair port anchorage or lay-up enroute to Port of Barrow Island)
CC	ETA at Port of Barrow Island [pilot boarding ground - Local Time/Universal Time (UTC)] including earliest possible ETA
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity on departure (Units: m3)
FF	Estimated quantity of LNG to be loaded/transferred, including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading of LNG (Units: m3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals

Note: If this ETA changes by an amount equal to or greater than 12 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. This applies until Seven-Day Notice of Arrival is given. Similarly, if any of the conditions stated in FF through JJ change, then the message shall be re-transmitted, with the appropriate amendments made.

Seven-Day ETA Notice

The Seven-Day ETA Notice will be sent 168 hours prior to the ETA set out in the Departure Notice (unless the Departure Notice was issued less than 48 hours previously), confirming or amending the LNG carrier's then ETA.

Appendix Table B-3: Seven-Day ETA Notice

Seven-Day ETA Notice	
AA	LNG Ship's name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC)
CC	Earliest possible ETA at Port of Barrow Island (pilot boarding ground – Local Time/UTC)
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity at present (Units: m^3)
FF	Estimated quantity of LNG to be loaded/transferred, including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading/transferring of LNG (Units: m^3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals

Note: If this ETA changes by more than 6 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. This applies until Two-Day ETA notice is given. If a Departure Notice has not been issued, the Seven Day ETA Notice shall be sent 168 hours prior to the RAT. Similarly, if any of the conditions stated in FF through JJ change, then the message shall be re-transmitted, with the appropriate amendments made.

Five-Day ETA Notice

The Five-Day ETA Notice will be sent 120 hours prior to the ETA set out in the Departure Notice (unless the Departure Notice was issued less than 48 hours previously), confirming or amending the LNG carrier's then ETA.

Appendix Table B-4: Five-Day ETA Notice

Five-Day ETA Notice	
AA	LNG Ship's name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC)
CC	Earliest possible ETA at Port of Barrow Island (pilot boarding ground – Local Time/UTC)
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity at present (Units: m3)
FF	Estimated quantity of LNG to be loaded/transferred, including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading/transferring of LNG (Units: m3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals

Note: If this ETA changes by more than 6 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. This applies until Two-Day ETA notice is given. If a Departure Notice has not been issued, the Five-Day ETA Notice shall be sent 120 hours prior to the RAT. Similarly, if any of the conditions stated in FF through JJ change, then the message shall be re-transmitted, with the appropriate amendments made.

Three-Day ETA Notice [72 Hours]

The Three-Day ETA Notice will be sent 72 hours prior to the ETA set out in the Five Day Notice.

Appendix Table B-5: Three-Day ETA Notice

Three Day ETA Notice	
AA	LNG Ship's name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC)
CC	Earliest possible ETA at Port of Barrow Island (pilot boarding ground – Local Time/UTC)
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity at present (Units: m3)
FF	Estimated quantity of LNG to be loaded/transferred, including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading/transferring of LNG (Units: m3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals

Note: If this ETA changes by more than 6 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. This applies until the Two-Day ETA notice is given. If a Departure Notice has not been issued, the Three-Day ETA Notice shall be sent 72 hours prior to the RAT. Similarly, if any of the conditions stated in FF through JJ change, then the message shall be re transmitted, with the appropriate amendments made.

Two -Day ETA Notice [48 Hours]

The Two-Day ETA Notice will be sent 48 hours prior to the ETA set out in the Three Day Notice [72 Hours].

Appendix Table B-6: Two-Day ETA Notice

Two-Day ETA Notice	
AA	LNG Ship's name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC)
CC	Earliest possible ETA at Port of Barrow Island (pilot boarding ground – Local Time/UTC)
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity at present (Units: m^3); individual LNG tank temperatures (Units: degrees Celsius) and individual LNG tank pressures (Units: kPa)
FF	Estimated quantity of LNG to be loaded/transferred, including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading/transferring of LNG (Units: m^3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals

Note: If this ETA changes by more than 4 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. This applies until 24 hours ETA notice is given. Similarly, if any of the conditions stated in FF through JJ change, then the message shall be re-transmitted, with the appropriate amendments made.

24-Hours ETA Notice

The 24-Hours ETA Notice will be sent 24 hours prior to the ETA

Appendix Table B-7: 24-Hours ETA Notice

24-Hours ETA Notice	
AA	LNG Ship's name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC)
CC	Earliest possible ETA at Port of Barrow Island (pilot boarding ground – Local Time/UTC)
DD	LNG Ship's voyage number, Lifting number and/or cargo number
EE	Heel quantity at present (Units: m^3); individual LNG tank temperatures (Units: degrees Celsius) and individual LNG tank pressures (Units: kPa)
FF	Estimated quantity of LNG to be loaded/transferred including any LNG required to purge and cool LNG Ship's tanks to the required loading temperature to permit continuous loading/transferring of LNG (Units: m^3)
GG	Estimated time required for the purging and/or cool down based upon the date the LNG Ship is scheduled to commence loading/transferring LNG
HH	The arrival and expected departure draught (forward & aft) of the LNG Ship (Units: metres).
II	Any operational deficiencies that may affect the LNG Ship's operating performance or acceptance to load/transfer LNG
JJ	Any other relevant operational information as required in the port and terminal operating manuals
KK	Confirmation that the LNG Ship ESD system has been tested and is operational

Note: If this ETA changes by more than 2 hours after sending this Notice, the LNG Ship's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. Similarly, if any of the conditions stated in FF through KK change, then the message shall be re-transmitted, with the appropriate amendments made.

Appendix C Condensate Pre-Arrival Notices Templates

Notwithstanding the requirements of a vessels voyage orders, the following email addresses will be included in all ETA notices.

Distribution List for Pre-Arrival Notices	
Office of Lifting Coordinator	GorgonOLC2@chevron.com
BGPA Operator	GOPORTOps@chevron.com

Appendix Table C-1: Distribution List for Pre-Arrival Notices

Departure Notice from Port of Departure

The Departure Notice will be sent to the WMT operator and OLC immediately upon departure from port of departure.

Appendix Table C-2: Departure Notice from port of Departure

Departure Notice from Port of Departure	
AA	Condensate Vessel name and call sign
BB	Date (dd/mm/yy) and hour of departure FAOP from port of departure or lay-up enroute to Port of Barrow Island)
CC	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC) including earliest possible ETA
DD	Condensate Vessel voyage number, Lifting number and/or cargo number
EE	Estimated volume of Condensate to be loaded
FF	The arrival and expected departure draught (forward & aft) of the Condensate Vessel (Units: metres).
GG	Any operational deficiencies that may affect the Condensate Vessel's operating performance or acceptance to load Condensate
HH	Any other relevant operational information as required in the port and terminal operating manuals

Five-Day ETA Notice [120 Hours]

If required, the Five-Day ETA Notice will be sent 120 hours prior to the ETA set out in the Departure Notice confirming or amending the Condensate tanker's then ETA.

Appendix Table C-3: Five-Day ETA Notice

Five-Day ETA Notice	
AA	Condensate Vessel name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC) including earliest possible ETA
CC	Condensate Vessel voyage number, Lifting number and/or cargo number
DD	Estimated volume of Condensate to be loaded
EE	The arrival and expected departure draught (forward & aft) of the Condensate Vessel (Units: metres).
FF	Any operational deficiencies that may affect the Condensate Vessel's operating performance or acceptance to load Condensate
GG	Any other relevant operational information as required in the port and terminal operating manuals

Three-Day ETA Notice [72 Hours]

The Three-Day ETA Notice will be sent 72 hours prior to the ETA set out in the Departure or Five Day Notice as the case may be.

Appendix Table C-4: Three-Day ETA Notice

Three-Day ETA Notice	
AA	Condensate Vessel name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC) including earliest possible ETA
CC	Condensate Vessel voyage number, Lifting number and/or cargo number
DD	Estimated volume of Condensate to be loaded
EE	The arrival and expected departure draught (forward & aft) of the Condensate Vessel (Units: metres).
FF	Any operational deficiencies that may affect the Condensate Vessel's operating performance or acceptance to load Condensate
GG	Any other relevant operational information as required in the port and terminal operating manuals

Two-Day ETA Notice [48 Hours]

The Two-Day ETA Notice will be sent 48 hours prior to the ETA set out in the Three Day Notice [72 Hours].

Appendix Table C-5: Two-Day ETA Notice

Two-Day ETA Notice	
AA	Condensate Vessel name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC) including earliest possible ETA
CC	Condensate Vessel voyage number, Lifting number and/or cargo number
DD	Estimated volume of Condensate to be loaded
EE	The arrival and expected departure draught (forward & aft) of the Condensate Vessel (Units: metres).
FF	Any operational deficiencies that may affect the Condensate Vessel's operating performance or acceptance to load Condensate
GG	Any other relevant operational information as required in the port and terminal operating manuals

24-Hours ETA Notice

The 24-Hours ETA Notice will be sent 24 hours prior to the ETA set out in the Two Day Notice [48 Hours].

Appendix Table C-6: 24-Hours ETA Notice

24 Hours ETA Notice	
AA	Condensate Vessel name and call sign
BB	ETA at Port of Barrow Island (pilot boarding ground - Local Time/UTC) including earliest possible ETA
CC	Condensate Vessel voyage number, Lifting number and/or cargo number
DD	Estimated volume of Condensate to be loaded
EE	The arrival and expected departure draught (forward & aft) of the Condensate Vessel (Units: metres).
FF	Any operational deficiencies that may affect the Condensate Vessel's operating performance or acceptance to load Condensate
GG	Any other relevant operational information as required in the port and terminal operating manuals
HH	Confirmation that the Condensate Vessel has purged down Condensate tanks to less than 2% HC by volume as per the Barrow Island Terminal Regulations
II	Closing time of remote operated manifold valves where fitted

Note: If this ETA changes by more than 4 hours after sending this Notice, the Condensate Vessel's Master will promptly give notice of the corrected ETA to OLC and BGPA Operator. Similarly, if any of the conditions stated in FF through GG change, then the message shall be re-transmitted, with the appropriate amendments made.

Appendix D WA DOT Port Operating Requirements

Government of **Western Australia**
Department of **Transport**
Marine Safety

Port of Barrow Island

Port Operating Requirements

These operating requirements or directions are issued pursuant to the powers and duties vested in the Harbour Masters pursuant to the *Shipping & Pilotage Act 1967* and the *Shipping & Pilotage (Ports and Harbours) Regulations 1966*

In addition, Masters of all vessels entering, departing and within the Port are to observe the following requirements:

Vessel Movements

1. All vessels intending to enter the Barrow Island port limits shall communicate with the Harbour Master through the Barrow Island Port Captain via VHF radio or email.
2. All vessel movements within the Barrow Island port limits shall comply with the *Shipping and Pilotage Act 1967*. *Shipping & Pilotage (Ports and Harbours) Regulations 1966* pilotage requirements.
3. No vessel movements shall supersede the safe operations being carried out or planned to be carried out within Barrow Island port limits by the Harbour Master through the Barrow Island Port Captain.
4. All vessels are prohibited within a 500 metre radius of the Marine Export Terminal / Conventional Buoy Mooring (CBM) and within a 200 metre radius of the Gorgon Marine Terminal Loading Berths, whenever a vessel is using the facility, unless the Master has been given a directive / permission from the Harbour Master through the Barrow Island Port Captain.

Pilots and Pilotage Requirements

1. All vessels operating within the Barrow Island port limits shall have onboard a marine pilot licensed under the *Shipping and Pilotage (Port and Harbours) Regulations 1966* issued by the Western Australian Department of Transport, unless the vessel's Master holds a valid Pilotage Exemption Certificate for the Port of Barrow Island issued by the CEO of Department of Transport.
2. As stated in the *Shipping and Pilotage (Ports and Harbours) Regulations 1966*, the only vessels exempted from complying with the above requirements are:

   (a) a vessel of war;

   (b) a vessel owned by any of Her Majesty's States or Colonies or the government of any country that is member of the British Commonwealth of Nations, that is engaged in a non-commercial voyage;

   (c) a private pleasure vessel of less than 35 metres;

   (d) a training vessel on a non-commercial voyage;

ISO 9001 certified Equal Assurance

1 Essex Street, Fremantle, Western Australia, 6160
PO BOX 402, Fremantle, Western Australia, 6959
Tel: (08) 9435 7500 Fax:(08) 9435 7806
www.transport.wa.gov.au

(e) an Australian registered commercial or fishing vessel of less than 35 metres; or

(f) a vessel on a non-commercial voyage exempted in circumstances which are at the discretion of the CEO of Department of Transport.

3. A tug that is towing a barge such that the combined overall length of the combination is over 35 metres must comply with Part 1 of this section.

4. In the event that dredging operations within the Barrow Island port limits have been given consent by the Harbour Master, the movements of the dredger within the Barrow Island port limits may be permitted without having a licensed marine pilot onboard, subject to the requirements and directions of the Harbour Master.

Garbage and Sewerage

1. No vessels operating within the Barrow Island port limits shall discharge any form of garbage (as defined in MARPOL) into the sea and instead garbage must be retained onboard in secure containers.

2. No vessels operating within the Barrow Island port limits shall discharge any form of sewage (as defined in MARPOL) into the sea unless it is via a fully operational and Flag approved MARPOL Annex IV, Regulation 9.1.1, or Regulation 9.1.2 sewerage system. This discharge should not produce discolouration or evidence of floating solids. Otherwise sewage must be retained onboard unless prior permission has been obtained from the Harbour Master through the Barrow Island Port Captain.

Anchoring

1. All vessels intending to anchor within the Barrow Island port limits shall request permission and obtain a designated anchoring location from the Harbour Master through the Barrow Island Port Captain.

2. In addition to those vessels already anchored within the Barrow Island port limits, all vessels' Masters shall promptly move his / her vessel, depart the port limits, put down additional anchors or pay out additional cable if requested by the Harbour Master through the Barrow Island Port Captain

3. No vessel shall anchor in any non-designated anchorage area without the prior permission from the Harbour Master through the Barrow Island Port Captain. The Port Captain must first obtain written approval from the Harbour Master before a vessel is directed to anchor in any non-designated anchorage area.

Cyclone Contingency Plans

1. All vessels **regularly** (tugs, dedicated support craft etc) operating within the Barrow Island port limits shall have in place, aboard their vessels, a current and up-to-date Cyclone Contingency Plan. All other trading vessels that call at the Port of Barrow Island shall, as a minimum, have aboard their vessel, and be guided by, the ABU-Port of Barrow Island Cyclone Procedure ABU-COP-0017. A current and up-to-date copy of this procedure is available from the Port of Barrow Island website http://www.chevronaustralia.com/our-businesses/barrow-island/barrow-island-port.

2. All companies and entities based upon and operating at Barrow Island shall have in place a current and up-to-date Cyclone Contingency Plan.

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1 Essex Street, Fremantle, Western Australia, 6160
PO BOX 402, Fremantle, Western Australia, 6959
Tel: (08) 9435 7500 Fax: (08) 9435 7806
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3. All vessels' Masters upon the directive from the Harbour Master through the Barrow Island Port Captain shall vacate the Barrow Island port limits in the event of an approaching cyclone and activate in a timely manner as stipulated in their Cyclone Contingency Plan.

4. All companies and entities based upon and operating at Barrow Island through the Port Captain shall continuously advise the Harbour Master in a timely manner of the weather forecast during the onset of a cyclone including the staged response as stipulated in the Cyclone Contingency Plan.

Good Order

1. All vessels operating within the Barrow Island port limits are to comply with all Australian / International legislation and conventions relevant to the safe operations of the vessel.

2. All vessels' Masters are obligated to inform and report to the Harbour Master through the Barrow Island Port Captain within 4 hours of any incident, near miss or relevant events. This does not relieve the Master from his obligation to report the same incident, near miss or relevant event as required by any other Australian / International legislation.

3. All vessels operating within the Barrow Island port limits are to report to the Harbour Master through the Barrow Island Port Captain prior to any planned OH&S operations whether in an emergency or otherwise to obtain permission. (Examples of OH&S operations are Hot Work, Confined Space Entry, Diving, Overside Maintenance).

4. All vessels' Masters are to report to and inform the Harbour Master through the Barrow Island Port Captain prior to entering Barrow Island port limits of any conditions that may, or is, affecting the seaworthiness of the vessel.

5. The Barrow Island Port Captain shall immediately advise the Harbour Master of any irregular operations that may affect the safe operations of the port and / or any incident, near miss or relevant events that have been reported by a vessel's Master.

Capt. Steve Wenban
Harbour Master
Port of Barrow Island

V.3
16 / 09 / 2017

1 Essex Street, Fremantle, Western Australia, 6160
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Appendix E LNG Marine Loading Arm Specifications

Parameter	LNG Loading Arm	Hybrid - Liquid Hybrid - Vapour	Vapour	Condensate
QC/DC receiving flange (ship" side)	16-inch ANSI B16.5 CL. 150	16-inch ANSI B16.5 CL. 150	16-inch ANSI B16.5 CL. 150	12-inch ANSI B16.5 CL. 150
Pressure at "ship" flange	350 kPa for self-supporting LNG tank systems 300 kPa for membrane LNG tank systems	350 kPa for self-supporting LNG tank systems 300 kPa for membrane LNG tank systems Return pressure from LNG Ship	Return pressure from LNG Ship	As required to satisfy flow rate below
Maximum Flow (Per arm)	5,000 m³/hour	5,000 m³/hour (liquid) 40,000 m³/hour (vapour)	40,000 m³/hour	2,500 m³/hour
Operating Wind Speed	22m/s (43 Knots)	22m/s (43 Knots)	22m/s (43 Knots)	22m/s (43 Knots)
Operating Working Temperature (°C)	-161 < Temp. °C < +75	-161 < Temp. °C < +75 -105 < Temp. °C < +75	-105 < Temp. °C < +75	-7 < Temp. °C < +45
Ice Build up	25 mm	25 mm	25 mm	N/A
Purging System	Nitrogen at base	Nitrogen at base	Nitrogen at base	Nitrogen at apex
East Loading Platform	OZ-3401D (North) OZ-3401A (South)	OZ-3401C	OZ-3401B	OZ-3301A (North) OZ-3301B (South)
West Loading Platform	OZ-3402D (North) OZ-3402A (South)	OZ-3402C	OZ-3402B	-
ESD-1 Valve close time	15s	15s	15s	15s
ESD-2 Valve close time	5s (also initiates ESD-1)	5s (Also initiates ESD-1)	5s (Also initiates ESD-1)	5s (Also initiates ESD-1)

LNG Loading Arm Description	Particulars
Upper Working Envelope (approximate) (Referenced from 12m above dummy manifold, at about LAT+29m)	1.9m < Working range < 12.4m 12.4m < ESD 1 range< 13.8m 13.8m < ESD 2 range< 15.5m
Lower Working Envelope (approximate) (Referenced from 1.6m below dummy manifold, at about LAT+16.7m)	1.9m < Working range < 6.85m 6.85m < ESD 1 range < 8.25m 8.25m < ESD 2 < 9.94m
Drift Envelope (Referenced from target line at berthing line)	Working range ± 2.5m ESD 1 range± 3.35m ESD 2 range ± 4.75m
Alarm at ESD-1 excursion	Yellow Beacon Flash Horn on permanent
Alarm at ESD-2 excursion	Yellow Beacon Flash Red Beacon Flash Horn on intermittent
ESD-2 (Sequence of automated actions)	Emergency release valve closes (5s) Emergency Release coupling disconnects (Time < 7s) Marine Loading Arm moves to parked position

Appendix F Condensate Marine Loading Arm Specifications

Condensate Loading Arm Description	Particulars
Upper Working Envelopes (Referenced from LAT+23.9m or 6.1m above dummy manifold)	1.9m < Working range < 11.7m 11.7m < ESD 1 range < 12.2m 12.2m < ESD 2 range< 14.9m
Lower Working Envelopes (approximate) (Referenced from LAT+10m or 7.8m below dummy manifold)	1.9m < Working range < 6.85m 6.85m < ESD 1 range< 7.35m 7.35m < ESD 2 range< 11.0m
Operational Envelope (Referenced from target line)	Working ± 1.75m ESD 1 ± 2.25m ESD 2 ± 5.0m
Alarm at ESD-1 excursion	Yellow Beacon Flash Horn on permanent
Alarm at ESD-2 excursion	Yellow Beacon Flash Red Beacon Flash Horn on intermittent
ESD-2 (Sequence of automated actions)	Emergency release valve closes (5s) Emergency Release coupling disconnects (Time < 7s) Marine Loading Arm moves to parked position

Appendix G Ship-Shore Link Pin Configuration Details

Fibre Optical System:	
Manufacture	Seatechnik
Connector Type	6 Pin
Shore-Ship	4 (ESD), 2 (Comms)
Ship-Shore	3 (ESD), 1 (Comms)
Cable Length	50 Metre
Connection Box Position	Approx 14 m North of the shore vapor arm centre / 5 m inboard of fender line

Electric System	
Manufacture	Seatechnik
Connector Type	Pyle National
Shore-Ship (ESD)	13 & 14
Ship-Shore (ESD)	15 & 16
Hotline	5 & 6
Public Phone	7 & 8
Plant Phone	9 & 10
Mooring load Monitoring	31, 32 & 33, 34
Cable Length	50 M
Connection Box Position	Approx 14 m North of the shore vapor arm centre / 5 m inboard of fender line

Pneumatic System	
Manufacture	Nitta Moore (Snaptite)
Connector Type	1/2 inch male
Cable Length	50 Metre
Connection Box Position	Approx 14 m North of the shore vapor arm centre / 5 m inboard of fender line
Setpoint for Trip	3.0 bar

Appendix H Acronyms and Abbreviations

Acronym / Abbreviation	Definition
ABU	Australasia Business Unit (Chevron Australia)
AIS	Automatic Identification System
AMSA	Australian Maritime Safety Authority
Area of Operations	The Port of Barrow Island and adjacent navigable areas within 30 nautical miles of the Port of Barrow Island pilot boarding ground
ADP	Annual Delivery Programme
ASME	American Society of Mechanical Engineers
BGPA	Barrow Island Gas Plant Ownership and Operating Agreement
BGPA Operator	Chevron Australia
BIPIM	Barrow Island Port Information Manual
BoM	Australian Bureau of Meteorology
BWI	Barrow Island
CBM	Conventional Buoy Mooring
CCR	Central Control Room
CEO	Chief Executive Officer
Chevron Australia	Chevron Australia Pty. Ltd. (A.B.N. 29 086 197 757), a company existing under the laws of Australia
Chevron (TAPL)	Chevron (TAPL) Pty. Ltd. (A.B.N. 18 081 647 047), a company existing under the laws of Australia
COLREGS	International Regulations for the Prevention of Collision at Sea 1972
Condensate Vessel	Any vessel proposed by a Lifter for the transportation of its Condensate (irrespective of whether such vessel is used to carry other products) which vessel meets the BGPA Operator Clearance Process requirements
COU	Conditions of Use
CTMS	Custody Transfer Measurement System
DAFF	Department of Agriculture, Fisheries and Forestry
Departure Notice	Notice from the LNG Ship and Condensate Vessel of its departure from the port of departure, dry-dock, repair port or other point of departure en route to the Port of Barrow Island
Dom Gas	Domestic Gas
DOS	Declaration of Security
DoT	Department of Transport (WA)
DVD	Domestic Voyage Departure
DWT	Deadweight Tonnes
ENC	Electronic Navigational Chart
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ERC	Emergency Release Coupler
ESD	Emergency Shut Down

Acronym / Abbreviation	Definition
FAOP	Full Away on Passage
Fl	Flashing
G	Green
GBB	Groyne Barge Berth
GGOA	Means the agreement entitled Greater Gorgon Operating Agreement
GHG	Green House Gas
GMT	Gorgon Marine Terminal
GMDSS	Global Maritime Distress and Safety System
GT	Gross Tonnage
HAT	Highest Astronomical Tide
HF	High Frequency
HMSF	High Modulus Synthetic Fibre
Hs	Significant Wave Height
IALA	International Association of Lighthouse Authorities
ICS	International Chamber of Shipping
IHMA	International Harbour Masters' Association
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
ISPS	International Ship and Port Facility Security Code
ISSC	International Ship Security Certificate
kPa	Kilopascal
Knots	Nautical miles per hour
kW	Kilowatt
L	Long
LAT	Lowest Astronomical Tide - chart low water datum - the lowest tide level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions
LBW	Land Back Wharf
LC	Lifting Coordinator appointed by the Lifters to facilitate communications and coordinate activities
LCT	Landing Craft Transport
LED	Light Emitting Diode
LDR	Loading Date Range, which commences at 00:00:00 hours on the first day of the loading date range and ends 23:59:59 hours on the last day of the loading date range
Lifter	A party to the GGOA
LKC	Local Knowledge Certificate
LNG	Liquefied Natural Gas
LNGC	Liquefied Natural Gas Carrier

Acronym / Abbreviation	Definition
LNG Ship	Liquefied Natural Gas Ship; any vessel proposed by a Lifter for the transportation of its LNG that meets the BGPA Operator Clearance Process requirements
LOA	Length Overall
M	Nautical Mile
m	Metre
mm	Millimetre
m^3	Cubic Metre
MARPOL	International Convention for the Prevention of Pollution from Ships
Master	The person so designated in the Ship's Register on board the LNG Ship and Condensate Vessel
MPX	Master Pilot Exchange
MASTREP	Modernized Australian Ship Tracking and Recording System
MCAZ	Marine Controlled Access Zone
MEG	OCIMF's Mooring Equipment Guidelines
MEMS	Mooring Load and Environmental Monitoring System
MF	Medium Frequency
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MNL	Marine Navigation Levy
MOF	Material Offloading Facility
MSL	Mean Sea Level
MTOFSA	Maritime Transport and Offshore Facilities Security Act, 2003
NMERA	National Maritime Emergency Response Division Arrangements
NOR	Notice of Readiness
NOx	Nitrogen Oxides
NT	Net Tonnage
OCIMF	Oil Companies International Marine Forum
ODS	Ozone-Depleting Substance
OOW	Officer Of the Watch
OTS	Office of Transport Security
PABX	Private Automatic Branch Exchange
Person	Any individual, corporation, partnership, trust, unincorporated organization, or other legal entity
PEC	Pilot Exemption Certificate
PERC	Powered Emergency Release Coupling
PES	Portable Electronic System

Acronym / Abbreviation	Definition
PIANC	Permanent International Association of Navigational Congresses
PIC	Person in Charge
PBG	Pilot boarding ground - equal to pilot station; area where pilot is embarked / disembarked.
PLM	Marine Pilot Loading Master: the person appointed by Chevron Australia Pty. Ltd. to perform duties under the provisions of these procedures and conditions and qualified as required by Chevron Australia Pty. Ltd.
PFSO	Port Facilities Security Officer; the responsible person ashore for ensuring terminal security under the Maritime Transport and Offshore Facilities Security Act (MTOFSA) and the ISPS
PM	Particulate Matter
POLREP	Marine Pollution Report
PPA	Pilbara Port Authority
PSL	Protection of the Sea Levy
PSP	Port Security Plan
Q	Quick
QC/DC	Quick Connect Disconnect
QPAR	Quarantine Pre-Arrival Report
QRH	Quick Release Hook
R	Red
RCC	Rescue Coordination Centre Australia
RFL	Marine Navigation (Regulatory Functions) Levy
RAT	The Required Arrival Time and date specified in the applicable SDS for an LNG Ship or Condensate Vessel to arrive at the Pilot station (inbound)
SAR	Search and Rescue
Sec	Second
SDS	Safety Data Sheet
SMCO	Shipping Marine Communications Operator
SIGTTO	Society of International Gas Tanker and Terminal Operators
SIMOPS	Simultaneous Operations
SIRE	OCIMF Ship Inspection Report Programme for the inspection of oil tankers, combination carriers, shuttle tankers, chemical tankers, and gas tankers
SDS	Specific Delivery Schedule: developed by the Lifting Coordinator showing the 90 days forward plan for LNG and Condensate lifting
SMC	Safe Manning Certificate
SMS	Safety Management System
SOLAS	International Convention for the Safety of Life at Sea
SOx	Sulphur Oxides
SSL	Ship to Shore Linked System
Standard Cargo	A cargo of Condensate within the range of 98 000 m^3 to 108 000 m^3
STCW	Standards of Training Certification and Watchkeeping Code 1995

Acronym / Abbreviation	Definition
Transporter	The owner or operator of an LNG Ship or Condensate Vessel, including any person contracted by a Lifter or its LNG or Condensate buyer to provide or operate an LNG Ship or Condensate Vessel.
UHF	Ultra-High Frequency
UHMW-PE	Ultra-High Molecular Weight Polyethylene
UKC	Under Keel Clearance
UKSTC1986	United Kingdom Standard Conditions for Towage and Other Services 1986
UTC	Coordinated Universal Time (Greenwich Mean Time)
VHF	Very High Frequency
Vessel	Has the same meaning as the definition in the Australian Navigation Act 2012 Part IV
Vessel Interests	Means jointly and severally, the vessel, her owners, charterers (time, voyage, demise or otherwise), operators, managers and Master, and the owners of cargo and/or bunkers aboard the vessel
VIQ	OCIMF SIRE Vessel Inspection Questionnaire
VOC	Volatile Organic Compound
WA	Western Australia
WAPET	West Australian Petroleum