7. Port Navigation and Movement Restrictions

7.1 General

Draft figures are related to a draft in salt water of density 1025 kg/m³.

7.2 Speed

The Transport Operations (Marine Safety) Regulation 2016 sections 81, 83 and 84 and 85 apply and refer to ships not being operated at a speed of more than six knots when within 30 metres of any wharf, boat ramp or pontoon, a vessel at anchor or moored or made fast to a jetty.

Passenger transfer vessels are restricted to a speed no greater than 25knots within the harbour. With the exception of the above no speed restriction is specified in the port. However, ships masters should be fully aware of the effects of interaction, particularly when passing ships moored at berths adjacent to the channels, ships flying international code signals ‘A’ or ‘R’ over ‘Y’ and any directive given by Gladstone VTS.

7.3 Trim Requirements

The safe handling of ships within the confines of the channels and swing basins requires certain conditions of trim. Ships should be ballasted or loaded in order to have an even keel or trimmed by the stern with the forward draft not less than 2% of the LOA and the propeller fully submerged. Vessels trimmed by the head or listing may be subject to restrictions and the Regional Harbour Master is to be informed when bookings are made. Ships not meeting trim requirements may experience considerable delays until the problem is rectified.

Masters should pay special attention to their loading/ballasting plans to ensure that their ships are suitably trimmed and able to put to sea at short notice, especially during the cyclone season – November to April.

7.4 Draft Restrictions

Weather, tidal conditions or special circumstances, may require a departure from these guidelines.

7.4.1 Under Keel Clearance (UKC)

The following table identifies the minimum under keel clearances vessels are required to maintain while manoeuvring within the pilotage area. Vessels alongside any berth must maintain a minimum 0.5 m UKC, except for Barney Point where a minimum 1 m UKC is required.

Table 23 Minimum under keel clearances

Minimum under keel clearance				
Ship size (Summer DWT)	At berth	At anchor	Inner harbour	Sea channel
Less than 85,000	0.5m	10% draft	0.7m	1.5m
85,000 to 200,000	0.5m	10% draft	1.2m	1.8m
More than 200,000	0.5m	10% draft	1.2m	2.0m
LNG Vessels	0.5m	1.2m	1.2m	1.2m

Notes: loaded Panamax and Post Panamax class vessels transiting the Targinie Channel require a minimum UKC of 1.0 metres.

Maximum drafts and tidal windows for harbour transits are calculated by a computer programme. Maximum drafts for ships departing from Clinton Coal Terminal are compiled into monthly predictions for each tide.

Ships greater than 100 000 tonnes displacement swinging in the Clinton Swing Basin must have an under keel clearance not less than two metres and are restricted to enter the swing basin not earlier than one hour before HW.

If a tidal window calculation is required, Gladstone VTS will require the following information in order to perform the necessary tidal window calculations. It includes:

- name of ship;
- date of arrival/departure/removal;
- earliest ETA/ETD/removal;
- ship's draft;
- ship's deadweight; and
- name of berth.

7.4.2 Static Under Keel Clearance (SUKC)

The SUKC system is a computer programme that assimilates the charted depths, predicted tides and draft of ships and applies a number of constants to determine when a ship can move safely in the port. The SUKC system can be used to predict maximum draft, tidal windows or low water deepest draft. The use of SUKC is an optional means of improving safety and efficiency. SUKC predictions are provided without cost.

7.4.3 Dynamic Under Keel Clearance (DUKC)

DUKC methodology determines the UKC required for a given transit using the most accurate modelling techniques available and is the primary tool for determining

sailing drafts and transit times. For each section of the transit, each UKC factor is individually determined based on the forecast environmental conditions, channel configuration, vessel dimensions, load state and speed. VTS will use the DUKC programme to determine the tidal window for vessels departing Clinton Coal Wharves and WICET over 15m in draft and arriving vessels into Fisherman's Landing 1 over 8.8m.

Agents for vessels calling these wharves are required to have masters complete the DUKC Draft Request Form (appendix –Draft Request Form) and once complete agents are required to email the form to VTS no later than 48hrs prior to a vessels transit. Updates to a vessel's draft or stability information must be notified to VTS no later than three hours prior to the vessel commencing its transit. This notification may be done by phone or emailing VTS an updated form.

7.5 Approaches to Pilot Boarding Ground

7.5.1 From the North

When making for the port of Gladstone, Mount Larcom, a conspicuous peak 628 metres high, will generally afford an excellent landmark. The S1 beacon is fitted with a racon exhibiting (3 and 10cm) code 'G'.

Ships proceeding south along the coast should not approach within 1.5 nautical miles of Facing Island's shores due to the presence of rocks extending almost that distance. Ships will keep clear of these rocks by keeping the true bearing of North Point light less than 313°. When approaching from the north, make for Hummock Hill on a bearing of about 195°.

7.5.2 From the South

Care should be taken to keep Bustard Head light well open of Point Richards, the North West point of Rodds Peninsula, so as to clear the Jenny Lind Bank.

7.5.3 Dangers

- **Sable Chief Rocks** – lying 358°, 3 nautical miles from East Point on Facing Island.
- **East Point Ledge –** a bank of shoal water with 2 to 4 metres on it, lies with its outer extreme 043°, .1.4 nautical miles from East Point.
- **East Banks –** extend in an ESE direction for 5.5 nautical miles from East Point.
- **Seal Rocks –** lying 131°, 7.5 nautical miles from East Point lighthouse.
- **Jenny Lind Bank –** lying 125°, 8 nautical miles from East Point lighthouse.

7.5.4 Restricted Areas

The coral reefs to the east of Gladstone forming the southern extremity of the Great Barrier Reef are enclosed in exclusion zones clearly shown on AUS chart 819.

7.6 Transit from Fairway to Berth

Subject to draft, the Fairway Buoy may be passed either side to bring Wild Cattle leads in line on a bearing of 224° before entering the South Channel passing between beacons S1 and S2. Utilising the channel truncation to the north, beacon S9 is rounded to bring Boyne Island Cutting leads in line bearing 264° to enter Boyne Island Cutting passing between beacons S11 and S12.

Utilising the channel truncation to the north, beacon S15 is rounded to enter the Golding Cutting between beacons S17 and S18 with the Golding Cutting leads in line astern bearing 122•5°. The vessel adopting a track of 302•5° until altering to starboard to bring the Quoin/Turtle leads in line on the bearing of 312° to transit the Gatcombe Channel. Passing the buoy G4 to enter the Auckland Channel 293°, Boyne Smelter Wharf and South Trees Wharves will be seen to port.

The Auckland channel is entered between beacons A1 and A2 with Auckland Channel leads in line bearing 293.2°. About 2.5 miles past South Trees wharves, Barney Point Wharf is situated to the port side. Auckland Point Wharves lie about a mile further West, also on the port side.

Just after passing Barney Point Wharf, course may be altered to enter the Clinton Bypass Channel steering 303º with CB2 and C3 in line. When abeam CB1 course may be altered to 314º to bring C5 and Tide Island rear lead in line until the vessel enters the Clinton Swing Basin.

When nearly abeam of beacon A7 alter course to starboard to bring Clinton Channel leads in line astern on a bearing of 127° adopting a track of 307° until past beacon C1 where the course can be altered to 319°. Clinton Coal Facility lies on the port side adjacent beacon C3.

After Clinton Coal Facility has been passed, alter to port to bring the Targinie leads in line astern bearing 113.5° to steer a course of 293.5° to enter Targinie Channel until abreast, buoy T10 marking the western extremity of the Targinie swing basin.

Please note that draft and depth permitting, ships may enter and exit the South Channel by the Boyne Extension passing between beacons S8 and S10 (refer to appendices for detailed channel drawings).

7.7 Passing Restrictions

7.7.1 General

Passing is only permitted using accepted Bypass channels. To facilitate port efficiency and safety, Bypass channels have been established for the Clinton, Gatcombe Channel and Golding Cutting.

Subject to draft, ships may pass between Gatcombe Head and Boyne Smelter Wharf. (The South Trees Anchorages may also be utilised when available, to facilitate passing)

If draft allows, a ship may exit a channel to permit a passing manoeuvre.

When ships are scheduled to pass during port transits, the duty VTSO will monitor the passing position, advising the transiting ships of the passing prediction/CPA (Closest Point of Approach).

7.7.2 Non gas-free tankers

The berths of QCLNG, APLNG, GLNG South Trees East, Auckland Point 3 and Fisherman's Landing No 4 and No 5 are the only berths fitted to accept NGF ships occupancy. South Trees East berth is fitted to accept ships where cargo flash point is greater than 63°C.

The minimum distance between a tanker and any other vessel in the harbour is never to be less than 30 metres.

7.8 Distances from Fairway Beacon to Targinie Channel

Table 24 Fairway Beacon to T10 distances

FWB															
S1	0.95	**S1**													
S9	3.33	2.38	**S9**												
S15	5.15	4.20	1.82	**S15**											
S21	6.87	5.92	3.54	1.72	**S21**										
S29	9.07	8.12	5.74	3.92	2.20	**S29**									
G2	10.11	9.16	6.78	4.96	3.24	1.04	**G2**								
G1	10.45	9.50	7.12	5.30	3.58	1.38	0.34	**G1**							
G4	12.77	11.82	9.44	7.62	5.90	3.70	2.66	2.32	**G4**						
A1	14.38	13.43	11.05	9.23	7.51	5.31	4.27	3.93	1.61	**A1**					
A5	16.30	15.35	12.97	11.15	9.43	7.23	6.19	5.85	3.53	1.92	**A5**				
A7	17.52	16.57	14.19	12.37	10.65	8.45	7.41	7.07	4.75	3.14	1.22	**A7**			
C3	18.38	17.43	15.05	13.23	11.51	9.31	8.27	7.93	5.61	4.00	2.08	0.86	**C3**		
T2	20.21	19.26	16.88	15.06	13.34	11.14	10.10	9.76	7.44	5.83	3.91	2.69	1.83	**T2**	
T8	21.73	20.78	18.40	16.58	14.86	12.66	11.62	11.28	8.96	7.35	5.43	4.21	3.35	1.52	**T8**
T10	22.75	21.80	19.42	17.60	15.88	13.68	12.64	12.30	9.98	8.37	6.45	5.23	4.37	2.54	1.02

Note: distances are in nautical miles.

7.9 Weather Restrictions

Generally, when mean wind speeds are in excess of 40 knots as registered either at Maritime Safety Queensland's weather station at Gatcombe Head or any other reliable source, such as Bureau of Meteorology, vessel movements in the port of Gladstone will be suspended.

7.10 Nuclear Powered Ships

7.10.1 General

These procedures are for the safe passage of nuclear powered ships arriving and departing the Port of Gladstone.

In accordance with the requirements of the Visiting Ships Panel (Nuclear), Department of Defence, a Port Safety Plan for Visits of Nuclear Powered Warships to Gladstone will be in effect for the duration of each visit.

7.10.2 Arrival

The movement of a nuclear powered ship will be restricted to daylight hours only with berthing at HW slack. At a point 30 minutes prior to the pilot boarding, Gladstone VTS should be contacted and informed of the position of the ship so that it may be identified on the Vessel Traffic System and to enable track monitoring.

Gladstone VTS: (07) 4839 0208

The pilot will be informed of any navigational hazards and any special navigational considerations, including traffic movements.

Reports to Gladstone VTS should be made on VHF channel 13 at the following times:

- When the pilot is on board.
- When passing the Fairway Buoy giving ETA at berth.
- When ship is all fast alongside berth, giving first lines and all fast times.

For large NPW Vessels – the operating parameters will be as per the recommendations of the Maritime Safety Queensland ship simulation study and as agreed by the Regional Harbour Master on a case by case basis.

A security exclusion zone around the vessel at the berth will be declared and marked by Fl Y ‘special mark’ buoys and the area monitored by Water Police patrols.

7.10.3 Route to be Followed

Nuclear powered ships will use tracks as per ‘Port Safety Plan for Visits of Nuclear Powered Warships to the Port of Gladstone’.

7.10.4 Other Traffic

Gladstone VTS will advise all other traffic (LOA >35 metres) that no passing may occur in any dredged channels, and that all ships maintain a safe distance. Commercial shipping will, in general, be given priority however a security exclusion zone around the vessel may be imposed with passing restricted in certain areas.

7.10.5 Departures

Departures are programmed to occur on HW slack and during daylight hours only. The Regional Harbour Master must be advised of intended departure before noon on the day before the departure date.

Phone: (07) 4839 0208

One hour prior to departure, advise Gladstone VTS, confirming ETD. Gladstone VTS will advise of any navigational hazards and give traffic update. Five minutes prior to letting go lines advise Gladstone VTS.

7.10.6 Vessels at Adjacent Berths

Under the conditions of the 'Port Safety Plan for the Visits of Nuclear Powered Warships to the Port of Gladstone', all vessels berthed within 800 metres of a nuclear powered warship vessel, will be issued with a written instruction from the harbour master.

This instruction will advise the master what is required of him in the event of a nuclear accident (see Instructions to Masters of Ships Berthed Within Zone 1).

7.11 Advisory Note - Interaction with Marine Mammals

The presence of whales or marine mammals indicates that our ports are seen as environmentally attractive places.

The safety of life and the security of the environment from ship based incidents is paramount.

All vessel masters are required to fully comply with relevant marine mammal legislation, such as the provisions of the Nature Conservation (Animals) Regulation 2020 Chapter 6 Part 1 which prescribes minimum approach distances and maximum speeds within proximity to whales as illustrated in the diagram below.

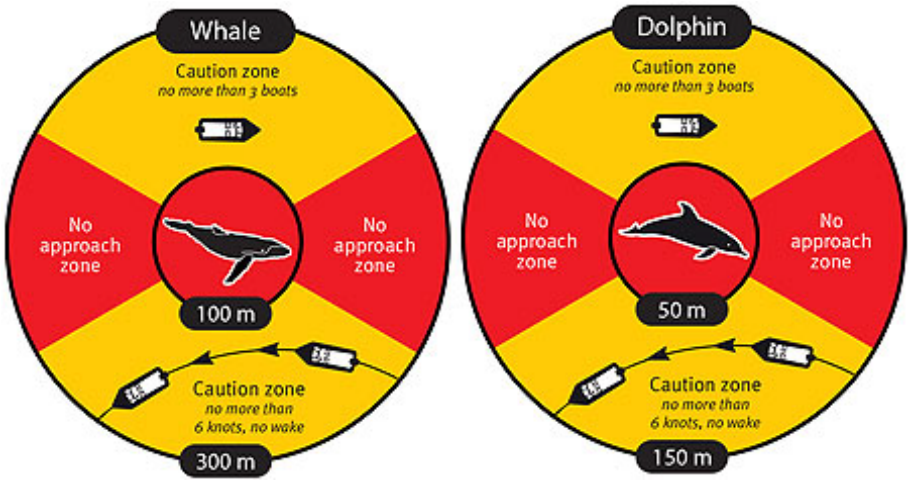

Figure 1 Minimum approach distances and maximum speeds within proximity to whales and dolphins

When whales or marine mammals are reported in the vicinity of port areas and a risk to marine mammals is perceived, then every possible endeavour will be undertaken to manage shipping movements around the marine mammals to keep them safe, provided the safety of life, the ship and other environmental protection objectives are not threatened. Such action may include not commencing transits until the mammals are deemed clear.

In situations where a vessel is underway and restricted in its ability to manoeuvre or constrained to a channel and marine mammals are reported in the vicinity of the transit and a risk to marine mammals is perceived, the master must take all reasonable action necessary to keep them safe, without endangering the vessel, crew and the environment. Such action may include the reduction of speed to the minimum safe speed to safely navigate the channels.

Masters are required to report collisions with marine mammals to VTS and Department of Environment and Science **1300 130 372**

Marine wildlife strandings | Environment, land and water | Queensland Government (www.qld.gov.au)

7.12 Personnel transfers to and from vessels using Pilot or combination ladders

Personnel transfers to and from vessels is an inherently dangerous evolution and should only be undertaken after personnel who will be using the Pilot or combination ladder have been thoroughly briefed. Most personnel, including seafarers, are not practised or experienced in ascending or descending the ladders.

AMSA have released Marine Notice 06/2021 in reference to fatal accidents from falling off Pilot ladders. This Notice refers to some earlier documents that should also be consulted with respect to personnel transfers:

Marine Safety Bulletin Issue 10 – Sep 2019 – Safe Vessel Access

Marine Notice 4/2023 – Pilot Transfer Arrangements

MSQ Gladstone have developed a Safe Work Method Statement for use by boat crews and personnel undertaking personnel transfers with vessels in the Gladstone Region. A copy can be found at Section 16.44 and is provided for guidance, by companies developing their own procedures for personnel transfers at the anchorage, underway or alongside at Terminals.

Personnel Transfers within the Port Limits of Gladstone are as a minimum to meet the following requirements:

- Daylight only;
- Head Protection (not a construction helmet) to be worn. An example is Helmets - Petzl Other | Professional;
- Auto inflating lifejacket; and

- Back packs and effects are to be passed by heaving line, not on person.

7.13 Personnel transfers to and from vessels underway

Due to the inherent risks associated with transferring personnel to and from vessels that are underway, the only approved transfers while under way within the pilotage area are for Marine Pilots when joining and departing from vessels. No other personnel transfers are to occur without the express approval from the Regional Harbour Master.

7.14 Harbour Transits – fuel changeover (Trade vessels)

Maritime Safety Queensland has outlined the requirements for establishing safe engine configuration at https://www.msq.qld.gov.au/shipping/establishing-safe-engine-configuration

LNG Carriers calling at the Port of Gladstone are permitted to undertake fuel changeover whilst underway in pilotage waters, subject to the following conditions:

- On arrival, a single fuel changeover from LNG to Fuel Oil shall occur whilst escort tugs are connected.
- On departure, a single fuel changeover from Fuel Oil to LNG shall occur whilst escort tugs are connected
- Except in an emergency, fuel changeover shall not happen at any other time whilst underway in the pilotage area.
- Masters shall outline the details of fuel changeover parameters when requested during the Master/Pilot Exchange.