4. Port description

4.1 General

The Port of Hay Point is situated 40 kilometres south of Mackay. The port is managed by the North Queensland Bulk Ports Corporation Limited, a statutory Queensland Government owned Corporation, who maintain the dredging, security, berths and operations at the port. There are currently two terminals that operate 24 hours a day seven days a week, BHP Billiton Mitsubishi Alliance and the Dalrymple Bay Coal Terminal (DBCT). Total nominal throughput is 140 million tonnes per annum. (16.7 Hay Point port details)

BMA consists of three berths with a loading capacity of 4,500-10,000 tph.

Dalrymple Bay Terminal consists of four berths, serviced by three gantries with a loading capacity of 7,200-8,650 tph.

The pilotage limits for the port of Hay Point are divided between a Pilotage Area and a Compulsory Pilotage Area. Vessels may anchor within the designated Pilotage Area without utilising the services of a pilot.

4.2 Port Environment

The berths at Port of Hay Point are located up to 4 km offshore and are exposed to the SE trade winds that blow for most of the year. The winds produce a short sharp sea and swell which has a long fetch up the Capricorn Channel to the SE.

In addition, the area experiences a large tidal range with king tides reaching heights of 7m above LAT. With this large tidal range comes strong currents, with the Ebb tide setting to the NNW and the flood tide to the SSE on about 150º. To facilitate berthing operations, the berths (except HP1) have been aligned with the 150/330º to minimise the effect of current.

In inclement weather when the wind rises above 25 knots, shipping operations, particularly berthing becomes difficult and operations are often suspended, particularly on a flood tide when the current is running against the prevailing wind and sea.

In more severe conditions ship movement alongside the berths can lead to broken mooring lines, hull damage and damage to wharf infrastructure (fenders). Hay Point VTS maintains a close weather eye on sea and wind conditions and is supported by a sea condition analysis program, Berth Alert System (BAS) to provide advance warnings.

4.3 Port limits

Port Limits defines the area of jurisdiction of the North Queensland Bulk Ports Corporation Limited.

The **port** of Hay Point consists of the area covered by waters, including tidal waters, of the sea or waters connecting with the sea within the following boundary:

- starting at the high-water mark at the southern extremity of the north head of Bakers Creek entrance

- then generally north-easterly along the geodesic to latitude 21° 10·76'S, longitude 149° 17·73'E
- then generally north-easterly along the geodesic to latitude 21° 09·91'S, longitude 149° 20·06'E
- then east along the parallel to latitude 21° 09·91'S, longitude 149° 30·06'E
- then south along the meridian to latitude 21° 17.91'S, longitude 149° 30·06'E
- then west along the parallel to the intersection of the high-water mark on the mainland with latitude 21° 17·91'S
- then generally northerly along the high-water mark on the mainland to the starting point; and
- includes the area covered by waters of navigable rivers and creeks flowing directly or indirectly into waters within the boundary.

4.4 Pilotage area limits

The pilotage limits for the port of Hay Point are divided between a Pilotage Area and a Compulsory Pilotage Area. Vessels may anchor within the designated Pilotage Area without utilising the services of a pilot.

Hay Point Pilotage Area defines the area of jurisdiction of the Regional Harbour Master.

The Hay Point pilotage area is the area of-

(a) Waters bounded by an imaginary line drawn:

- starting at the high-water mark at the southern extremity of the north head of Bakers Creek entrance
- then generally north-easterly along the geodesic to latitude 21° 10.759'S, longitude 149° 17.730'E
- then generally north-easterly along the geodesic to latitude 21° 09.909S, longitude 149° 20.060'E
- then east along the parallel to latitude 21° 09.909'S, longitude 149° 30.060'E
- then south along the meridian to latitude 21° 17.909'S, longitude 149° 30.060'E
- then west along the parallel to the intersection of the high-water mark on the mainland with latitude 21° 17.909'S
- then generally northerly along the high-water mark on the mainland to the starting point; and

(b) the navigable waters of rivers and creeks flowing, directly or indirectly, into the waters in paragraph (a).

4.4.1 Compulsory pilotage area

The Compulsory Pilotage Area defines that part of the Pilotage Area where a vessel of LOA 50 metres or more must use the services of a pilot The Hay Point Compulsory Pilotage Area is described in Schedule 3 of the *Transport Operations (Marine Safety) Regulation 2016* as the part of the Hay Point pilotage area that is the area of:

(a) Waters bounded by an imaginary line drawn-

- starting at the high-water mark at the southern extremity of the north head of Bakers Creek entrance
- then generally north-easterly along the geodesic to latitude 21° 10·76'S, longitude 149° 17·73'E
- then generally south-easterly along the geodesic to latitude 21° 14·00'S, longitude 149° 20·50'E
- then south along the meridian to latitude 21° 15·69'S, longitude 149° 20·50'E
- then generally north-easterly along the geodesic to latitude 21° 14·49'S, longitude 149° 25·41'E
- then generally south-easterly along the geodesic to latitude 21° 14·80'S, longitude 149° 25·50'E
- then generally south-westerly along the geodesic to latitude 21° 16·11'S, longitude 149° 20·50'E
- then south along the meridian to latitude 21° 17·91'S, longitude 149° 20·50'E
- then west along the parallel to the intersection of the high-water mark on the mainland with latitude 21° 17·91'S
- then generally northerly along the high-water mark on the mainland to the starting point; and

(b) the navigable waters of rivers and creeks flowing, directly or indirectly, into the waters in paragraph (a) Internal anchorage sites and arrival limit.

Mapping of both the Pilotage Area and the Compulsory Pilotage Area are available in section 16.10 Port and Pilotage Limits.

4.5 Load lines

Hay Point is in the Tropical Load Line Zone. The area outside the Great Barrier Reef is in the South Pacific Seasonal Tropical Zone.

Tropical: ..... From 1 April to 30 November; and

Summer: ..... From 1 December to 31 March.

4.6 Maximum vessel size

There are no restrictions on length. Refer to individual berth information for maximum vessel size.(5.1 Berth information).

A Departure channel has been established with a least design depth of 14.7 metres above port datum (LAT). Please refer to the latest Queensland Notices to Mariners for up-to-date port depth information.

4.7 Mooring Line Management

The bulk-loading berths at both terminals at Hay Point, BMA and DBCT, are exposed offshore facilities and are impacted by wind, current, sea and swell waves. These environmental conditions can cause vessels secured alongside to roll, heave and yaw and can result in damage to ship's mooring lines though abrasion (chaffing). This can cause lines to fail at much lower tensions than typically expected and much lower than their certificated holding capacity.

The emphasis on ensuring continuous safe mooring practices whilst berthing, alongside and sailing from any terminal in Hay Point should not be undervalued. It is expected that the Master understands and accepts their leadership role in promoting safe mooring operations, enhanced through additional training and discussions with their crew prior to arrival. It is recommended that prior to berthing at any Hay Point terminal the Master arranges for a discussion about safe mooring operations/practices and the requirement for continuous monitoring of mooring lines with all officers and crew (including additional environmental considerations such as expected large tidal ranges, wave/swell action and possible fresh winds), to assist in the prevention of parting lines.

Masters are expected to ensure their vessel presents at the Port of Hay Point with all mooring equipment in working order as per the machinery design specifications, with all mooring lines and fairleads maintained in good condition with negligeable abrasion damage. Failure to inform Hay Point VTS on arrival, or as soon as discovered, of any mooring equipment failure or damage, resulting in the inability of the vessel to make fast in accordance with the terminal's accepted mooring requirement, may result in the Regional Harbour Master directing the vessel to remain, or return to anchor until satisfied safe mooring may occur. It is recommended that any mooring equipment failure be reported to the Regional Harbour Master and the Australian Maritime Safety Authority via their agent (AMSA form 18) and Hay Point VTS soonest, to allow an assessment to mitigate/manage risk to occur. It is recommended that master's conduct a serviceability check of their mooring equipment before arrival at anchorage to prevent delays and allow sufficient time for repair or rectification of any issue.

The Master is reminded of their responsibility to ensure their vessel remains safely moored at all times, this includes taking adequate action subsequent to the event of a parted or lost mooring line. Any parted or lost Head and Stern lines, or failures of multiple concurrent mooring lines, will initiate an immediate port emergency response action. These actions have been agreed to by both bulk-loading terminals, the Port Authority and MSQ and a vessel's Master accepts these as a pre-condition for calling at the port. The emergency response action will involve the activation of pilots and tugs. Any costs incurred during the emergency response for tugs or pilotage will be borne by the vessel. These actions are based on historical events where ships have continued to part lines as wind and tide take effect, departing the berth pocket resulting in a port emergency.

To prevent mooring lines parting, Masters of ships berthed at the Port of Hay Point are reminded of their requirement to ensure an effective deck watch for continuous mooring line maintenance from first line on berthing to last line at departure. An effective deck watch would include, but not be limited to, ship's mooring lines being regularly checked by an appropriate number of experienced officers or crew and adjustments conducted when required to ensure the correct and equal tension is maintained through all lines.

Adjustments may also be required for any mooring line protection sleeves, placed to prevent chaffing. It is highly recommended that Officers of the Cargo watch are aware of the change of tide times and inform their deck watch when rising or falling tide so it is understood lines may be required to be slackened or tightened and ensuring that the mooring system remains adequately tensioned, excess tension should be avoided. As matter of good seamanship practices the Master should consider, as an additional check in supporting the deck crew mooring rounds, a deck officer conduct a mooring lines inspection either at commencement or completion of their watch duty and an entry made into the ships logbook when this is conducted. Failure to effectively and safely manage ships lines may result in the Regional Harbour Master directing the ship to depart the berth until satisfied the Master, Officers and Crew are fully aware of their responsibility to be vigilant with mooring lines.

The Master is to contact the terminal via the provided UHF radios if the vessel is unable to maintain a safe mooring position, with all lines of equal tension, and the vessel secured such that the shoreside gangway can reach the ship.

The Master is to contact Hay Point VTS on VHF Channel 10 if any line parts so that the port emergency action plan can be considered or activated. Failure to inform VTS of a parted line may result in the Regional Harbour Master directing the ship to depart the berth until satisfied the Master is fully aware of their responsibility to report failures immediately.

For parted Head and Stern lines or multiple concurrent parted lines, the emergency action plan will be activated, with tugs sent to assist the vessel remain alongside and a pilot dispatched to assist the Master deal with resecuring lines and communicating with tugs or lines staff. Should tugs arrive on station prior to a pilot, the Master is reminded of their legal responsibility to take positive action in dealing with any situation, that is considered by the port as an emergency event. The Master is reminded that the action plan was engaged due to the failure of their ship's line, and hence to promote the safety of their ship in the port they are recommended to engage with the tugs if necessary before the arrival of a pilot. Tug costs will be incurred due to the emergency response activation regardless of whether they are engaged or not, therefore it is highly recommended the Master take appropriate action to prevent a worsening of the situation. The Master is always reminded of their continuous legal responsibility for the safe operation of the vessel and take positive actions to prevent any unsafe action or a worsening of an unsafe situation. Failure to take appropriate action in any emergency event may result in the Regional Harbour Master directing the ship to depart the berth until satisfied the Master is fully aware of their legal responsibility to take positive action to ensure the safety of their ship and crew.

Masters are to ensure all officers and crew involved in deck operations have a good understanding of the risks associated with parted or snagged lines, in particular the unexpected release of stored energy through mooring line snapback, they are to ensure that crewmembers remain in safe locations away from snapback zones whenever possible during mooring and deck operations.

The below are tug communications standard terminology:

PUSH UP ORDERS All orders preceded by: "TUG forward PUSH…." or "TUG aft PUSH…." or "TUG forward and aft PUSH…."	MEANING Tugs will push on the hull at indicated power setting.	APPROX B.P (t)
No Weight	*Tug off the hull*	
Minimum	*Resting on hull (minimum power)*	5
Bare Weight	*Pods inline 650 RPM (40% power)*	10
Quarter	*Pods inline 800-900 RPM (55% power)*	15
Half	*Pods inline 1100-1250 RPM (78% power)*	30
Three Quarter	*Pods inline 1450 RPM (90% power)*	45
Full	*Pods inline 1600 RPM (100% power)*	60

In the event that a vessel has come away from the berth and tugs are used to bring the vessel back alongside or hold it in a safe position it is recommended that power settings on tugs are gradually increased to ensure that the vessel does not close the berth too hard resulting in damage to the vessel and terminal.

4.8 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 to have an even keel or trimmed by the stern with a maximum trim of 2.5 meters and the propeller fully immersed.

Vessels trimmed by the head or listing are not permitted. Ships not meeting trim requirements may experience considerable delays until the problem is rectified.

Vessels are to advise VTS of any change to draft so as VTS can assess UKC safety margins for the anchorage.

4.9 Preparedness for putting to sea at short notice

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 — 1st November to 30th April inclusive.

4.10 Time zone

UTC + 10 hours throughout the year.

4.11 Working Hours

Port Service providers are available 24 hours per day seven days per week.

4.12 Charts and Books

Masters shall have the latest edition charts (paper and electronic) with temporary and permanent corrections not exceeding three months. For navigation in pilotage areas, masters should refer to the nautical charts produced by the Australian Hydrographic Office and Admiralty Sailing Directions NP15 (Australian Pilot Volume III/V).

4.13 Shipping announcements

4.13.1 Notices to Mariners

Maritime Safety Queensland promulgates marine safety information to mariners, organizations and other interested parties, in the form of Queensland Notices to Mariners.

Notices to Mariners advise of:

- Navigation warnings and hazards (such as aids to navigation which may have been destroyed, missing or unlit),
- Changes to the uniform buoyage system (which assists with the correction and updating of marine charts),
- Navigation depths (necessary when navigating in channels with depth restrictions),
- Any other works which may affect the safe navigation of vessels in Queensland coastal waters and ports (such as dredging operations and construction works).

The Australian Hydrographic Office of the Royal Australian Navy is the Commonwealth authority responsible for national chart production known as AUS Charts and the circulation of Australian Notices to Mariners that are distributed nationally and internationally. Information contained in the Queensland notices is regularly reproduced in the Australian Notices. These notices are recognised as being an authoritative, accurate guide on marine charts.

4.13.2 Request to issue Notice to Mariners

A Notice to Mariners Request form is available to organisations or individuals who wish to apply for a Notice to Mariners or Advice Notice to be issued. Once the form is complete it should be emailed to VTS for consideration.

- A Notice to Mariners is issued for the purpose of providing permanent navigation information – generally this information will result in a chart correction.
- A Notice may be marked Temporary (T) if the information will remain valid only for a limited time
- Advice notices will cover short term navigation advice and may include information on fireworks displays, aquatic events or similar.