9. TERMINAL OPERATIONS AND PROCEDURES

These Guidelines have been prepared in accordance with the principles of the BLU Code to assist in achieving an optimum loading time.

9.1 COMMUNICATIONS

The means of communication between the vessel and shore shall be advised by the PWCS Person in Charge to the Master of the Vessel immediately after berthing (see Section 9.14.2), and shall be documented and agreed by both parties on the Ship/Shore Safety Checklist.

Communications will be in English, in person, by phone and/or radio. If a PWCS radio is issued to the vessel, the PWCS Person in Charge shall advise and document acceptance of a procedure for correct usage.

The PWCS Person in Charge acts as the primary terminal contact between berthing and completion of loading. Between completion of loading and departure the Terminal Representative (PWCS Operations Supervisor) shall be the primary contact.

The following table lists useful contact details and phone numbers, however please refer to the Ship/Shore Safety Checklist for specific advice. Add +61 as a country code if dialling from a satellite phone.

Terminal	PWCS Person in Charge	Terminal Representative	Emergency
Carrington	Radio & phone advised on berthing	02 4907 3287	02 4907 3222
Kooragang	Radio & phone advised on berthing	02 4907 2361	02 4907 2111

9.2 BERTH ALLOCATION

Vessels shall be allocated a terminal and berth determined by PWCS, taking into account a range of factors including those outlined in Section 4.2 and Section 4.3. There is a preference wherever possible for vessels loading multiple brands of coal and vessels with deck gear to be loaded at CCT.

Not later than ten (10) days prior to the vessel's ETL, a provisional berth allocation and order of loading will be determined by PWCS for the vessel based on the ETA of the vessel in comparison with the ETA of all other vessels allocated to that provisional berth at the Terminal.

The ETL, order of loading and berth allocation may be varied by PWCS from that provisionally advised. As a result, the vessel may be scheduled to enter port earlier or later than initially indicated.

9.3 ENGAGEMENT OF A MARINE SURVEYOR

The Master of the Vessel, the Vessel Agent or the Vessel Owner must, at their cost, engage a Marine Surveyor to attend the loading of each vessel from the commencement of the loading pass performed immediately prior to the interim draught survey through to the completion of the loading of the vessel.

The engagement of the Marine Surveyor is to include performing the interim draught survey and provision of advice and assistance to the Master of the Vessel with the vessel trimming procedure.

The Vessel Representative must ensure the Marine Surveyor has access to the vessel and all necessary information to enable them to properly carry out their functions and duties. Draft survey ladders must be in place and in good working order.

The advice and results of the Interim Draught Survey are to be provided to the PWCS Person in Charge prior to the completion of the loading of the vessel.

9.4 CARGO HOLD CLEANLINESS

Prior to berthing the Master of the Vessel must ensure all cargo holds are clear of residue waste material, previous cargo and/or other foreign objects (other than holds containing ballast). If waste is present, the vessel must dispose of all material responsibly. PWCS must be notified prior to berthing of any impact on loading arising from the removal of waste, with appropriate changes reflected in the Coal Loading Plan.

9.5 PORT ENTRY AND BERTHING

The Coal Exporter must provide, or cause the Master of the Vessel or Vessel Agent to provide, via the PWCS Services Portal website, updates of the vessel's ETA to PWCS at least 10 days, 7 days, 48 hours and 24 hours before the ETA and at all other times requested by PWCS.

If the vessel intends to discharge or partially load at another terminal in Newcastle prior to berthing at PWCS, the Vessel Agent must notify PWCS at least ten (10) days prior to ETL. Restrictions apply to vessels entering port in a part-cargo condition. Requests must be made to the Harbour Master for assessment.

Two navigational charts are published for Newcastle: AUS 207 (Approaches to Newcastle) and AUS 208 (Newcastle Harbour).

The entrance is subject to swell conditions and the port may be restricted due to bad weather. The port is tidal; consequently, deep draught vessels are subject to tidal conditions as per the Port Authority's Ship Handling Safety Guidelines.

All vessels in ballast and/or part-cargo condition requiring the services of a Pilot must be ballasted and trimmed as follows:

Minimum draughts are Forward: 2% of LOA and Aft: 3% of LOA; and
Vessels over 175m LOA must be of such a draught that the propeller is fully immersed and trim by the stern does not exceed 1% of the vessel's overall length.

The Master of the Vessel shall also ensure that the air draught restriction (see Section 9.8) at the allocated Terminal is met.

9.6 MOORING

It is the Master of the Vessel's responsibility to ensure the safe mooring of their vessel, including the following provisions:

Mooring lines must be kept taut and secure at all times. Regular inspections and adjustments must be performed as the vessel's vertical height relative to the berth varies due to loading and tide height;
All mooring lines must be of suitable type and of adequate condition;
Shipboard winches must be set to 'brake' mode. Automatic self-tensioning mode must never be used;
Brake holding capacity must be set at a level that will both keep the vessel securely alongside at all times and allows the winch to render before the line snaps; and,
The mooring layout should be correct for prevailing conditions.

The typical mooring arrangement for vessels of Panamax size or larger is four head lines, two forward breast lines, two forward spring lines, two aft spring lines, two aft breast lines and four stern lines. The typical mooring arrangement for Handysize/Handymax vessels is four head lines, two forward spring lines, two aft spring lines and four stern lines. The pilot will advise the Master of the Vessel in determining an appropriate mooring arrangement, which may vary from the typical mooring arrangement to account for prevailing conditions, berth positioning/equipment and shipboard equipment. Any reasonable direction given by the Pilot in this regard should be observed.

Mooring lines must not obstruct loading operations, shiploader maintenance or another vessel's lines. No mooring shall be secured to any berth structure except the quick release hooks unless authorised by PWCS. Vessel crew must not operate terminal mooring equipment except in cases of extreme emergency or as directed by the Harbour Master.

The PWCS Person in Charge may request line(s) be temporarily slackened to facilitate personnel access on the berth or movement of a shiploader to its maintenance position.

The Master of the Vessel should monitor the impact of prevailing port conditions on moorings, and where required seek advice from the Harbour Master. PWCS will not specify what conditions do or do not represent a hazard, however loading may cease due to adverse weather conditions impacting shiploader operation. In this event, the vessel may use the storm bollards deployed at PWCS berth areas for extra security of the vessel, at the Master of the Vessel's discretion. The PWCS Person in Charge and the Harbour Master must be consulted prior to this action being taken.

Prior to arrival all mooring lines on winches must be flaked on deck and spooled correctly onto the drum, with the line tightly packed and correctly layered. A 'buried turn' when tension is applied to a poorly spooled line can cause dangerous shock forces and parted lines.

PWCS may refuse berthing of a vessel which does not have adequate mooring lines. See Appendix E.13 for examples of unacceptable mooring line conditions.

9.6.1 MOORING OPERATIONS

Mooring services are provided by contractors accredited by PWCS, who are to be booked by the Vessel Agent.

Upon berthing, lines will be taken ashore by a launch, except for springs which shall use the vessel's heaving lines. Vessels must ensure mooring lines tended meet the specification below. The attending mooring service provider may refuse mooring lines that do not meet the specification.

- First lines should always be of synthetic or similar floating type with a minimum diameter of approximately 72mm
- Excessively weighted monkey's fists must not be used, such as those containing heavy materials
- Lines must be tended ashore in a controlled manner. Excessive amounts of line should not be flaked on deck prior to berthing. Paying out too much line during handling ashore can cause the line to drag back into the harbour under its own weight, and cause injury to linesmen
- All mooring ropes and wires are to have a three (3) metre tail of light rope spliced into the eye to facilitate the transfer from on board the launch to the mooring arrangement
- Vessels using heavy wire ropes for the purpose of mooring lines shall notify the mooring service provider prior to berthing, and terminate the wire ends with a fibre rope tail no less than 10 metres long finished with a spliced eye for placing over the quick release hooks.

During mooring operations communication between shore and vessel shall be via visual\hand signals. One linesman in each group shall wear a red hat, indicating that they will perform the communications role. In performing the mooring operations:

- Vessel crew must maintain visual contact with the linesman wearing the red hat – if contact is lost mooring operations will stop
- Monitor the position of linemen and the lines boat – stop operations if any person is in a dangerous position
- No mooring lines are to be tensioned until instructions are given by the linesman wearing the red hat.

9.6.2 HYDRAULIC INTERACTION

Vessels moored at PWCS terminals are subject to hydraulic interaction caused by vessels passing in the adjacent channel, which can cause the moored vessel to move significantly. This could result in snapped mooring lines, disconnection of gangway/brow access, damage to wharf and equipment and serious personnel injuries.

To ensure potential for hydraulic interaction is minimised the Master of the Vessel must ensure that moorings are appropriately configured and maintained at all times, but especially whilst a vessel passes in the channel.

Hydraulic interaction occurs in all conditions, but is most severe when high volumes of fresh water are flowing down the Hunter River following rain in the river catchment.

These conditions can be noted visually (when the river appears fast-flowing, turbulent and discoloured), through water density sampling (see Section 9.11), and through the advice of the pilot (upon berthing), PWCS Person in Charge or Marine Surveyor.

Hydraulic interaction is particularly pronounced at the Carrington Terminal (Berths D4, D5) which is located in close and limited proximity to the Steelworks Channel. Prior to a vessel passing, the PWCS Person in Charge shall follow designated guidelines in deciding whether loading can continue safely. Access to vessel gangways and the lower wharf deck at Carrington is prohibited whilst a vessel is passing.

The Kooragang Terminal (Berths K4, K5, K6, K7) are less affected due to their differing location and configuration. When vessels transit the channel past the Kooragang Terminal, moored vessels will continue to load as usual, but Masters should be prepared and vigilant.

Failure to appropriately configure and maintain moorings may render the vessel liable for the consequences of injury to people and damage to property. Failure to demonstrate adherence to requirements may result in the vessel being deemed unsuitable to load at PWCS Terminals.

For a poster to inform vessel crew about hydraulic interaction refer to Appendix E.5.

9.6.3 MOORING INCIDENTS

Snapped mooring lines must be reported immediately to the Port Authority ('Newcastle Harbour' on VHF Channel 9), and PWCS (to the PWCS Person in Charge or the emergency numbers listed on page 2). The Master of the Vessel must also immediately arrange (via the Vessel Agent) for a lines crew to re-set the snapped line.

In the event of an incident (and until notified by the Terminal Representative that the hazard has passed) vessel crew must:

- Not access the gangway and berth apron. Other mooring line failures may occur, and vessel movement may dislodge the gangway and brow from the berth
- Not re-set a line or otherwise operate terminal mooring equipment. Accredited lines company personnel must be called for this purpose
- Take appropriate precautions to avoid accessing snap-back zones surrounding shipboard mooring equipment.

9.7 GANGWAYS

9.7.1 GANGWAY SPECIFICATION AND POSITION

Due to the configuration of PWCS facilities, gangways will not rest on the wharf whilst alongside. Gangways will be suspended at the vessel's side and connected to a brow supplied by the terminal.

Terminal personnel will not board the vessel until safe access is provided. Vessels that do not comply with the instruction below will delay loading, and may be subject to suspension from loading at the terminal under the conditions outlined in Section 7.4, and be issued with a defect notice by AMSA Port State Control inspectors.

Prior to PWCS personnel accessing the vessel, the vessel must:

- Rig gangways with safety nets at handrail height and on the gangway underside to reduce the risk of a person falling. PWCS recommends that the gangway be rigged prior to port entry where (in the assessment of the Master of the Vessel) conditions allow this to be done safely. Rigging must be completed prior to the pilot boarding, as rigging work is not permitted while under pilotage. The decision to rig a gangway prior to port entry is solely the responsibility of the Master of the Vessel
- Utilise a 'secondary support' that can hold the weight of the gangway should the main gangway support fail. The secondary support may utilise the stores crane, a strong wire\rope tied on a secure fixture, a purpose built device or other solution as determined by the vessel (see photos below of acceptable secondary supports).

Note:

- The main gangway support should take the weight of the gangway, not the secondary support.
- The secondary support may be temporarily removed upon the approval of the PWCS Person in Charge (e.g. if the stores crane is required to load provisions). Access between the vessel and shore shall be suspended until the secondary support is reinstalled.
- The vessel is not to place a secondary gangway support where it may collide with the shiploader. If this needs to occur, it must be communicated with the PWCS Person in Charge prior to placement.

Right: Gangways correctly rigged with safety nets and utilising a secondary support.

Gangways and/or accommodation ladders are to be placed to avoid obstructing loading operations. During berthing the pilot can advise on an appropriate landing point location. The gangway must be adequately illuminated throughout its length during hours of darkness and must be so positioned that, so far as is practicable, it is not underneath the path of cargo being loaded on to or unloaded from the vessel. The Master of the Vessel must ensure that gangways are maintained in a good and serviceable condition with gangway wires checked and replaced regularly.

Davit points extending onto the gangway shall be positioned to provide appropriate clearance for persons using the gangway and also be highlighted to identify any hazard. Any apparatus used to support the gangway shall not extend into an area where it could interfere with shiploader clearance unless authorised by the PWCS Person in Charge. Once the gangway is in position and safe for access any apparatus used for the positioning shall be retracted so that it does not extend outside the vessel limits.

9.7.2 SAFE GANGWAY USE

The Master of the Vessel is responsible for the safety of all personnel using and adjusting the vessel's gangway to prevent damage to it and/or the berth structure. The Master of the Vessel shall be held responsible for any damage or loss to the berth structure or supplied brows.

All persons (including vessel crews) using the gangways must wear a lifejacket and utilise 3 points of contact (i.e. hang onto handrails).

9.8 AIR DRAUGHT

Horizontal lines have been marked on each shiploader to indicate the air draught limitation (see Appendix E.7 and Appendix E.8). The top of hatch covers must remain below these marks.

The PWCS Person in Charge will inform the Master of the Vessel before the loading process commences of the Terminal's air draught limits and indicate the lines on the shiploader. If these limits are exceeded prior or during loading the PWCS Person in Charge should be notified immediately, and PWCS will defer or cease loading while the vessel ballasts.

Air draught = 'height from keel to top of hatch covers'
minus 'vessel draught at the hold to be loaded'
plus 'tide'.

If loading is stopped due to the vessel exceeding air draught limits PWCS reserves the right to transfer loading to another vessel until loading can resume on that delayed vessel. Any inquiries concerning the vessel's air draught after berthing should be directed to the PWCS Person in Charge.

Vessel gear and deck fixtures may exceed air draught limitations; in these cases, the shiploader must luff or shuttle to a position where the shiploader boom is not outreached over the vessel deck. It is anticipated that hatch changes on geared vessels will take longer than normal due to this operation.

9.8.1 CARRINGTON TERMINAL AIR DRAUGHT

The maximum air draught to at Carrington Terminal is 18.5 m from chart datum to top of hatch covers.

When within one (1) metre of the air draught limitation (17.5m from chart datum to top of hatch covers or greater) vessels should maintain trim by the stern of at least 1% of LOA to ensure the shiploader can outreach over an aft hatch and travel forward along the vessels centreline.

An 18.5m air draught from chart datum to top of hatch covers is necessary to provide:

Sufficient clearance between the chute and the vessel's main deck.
Sufficient clearance to perform hatch changes.

If this limit is exceeded the shiploader will not be able to enter or withdraw from a hatch and loading must cease.

9.8.2 KOORAGANG TERMINAL AIR DRAUGHT

The maximum air draught at Kooragang Terminal is 20.5 m from chart datum to top of hatch covers.

A 20.5m air draught is necessary to provide sufficient clearance for the shiploader chute at its highest vertical position to outreach over the vessel's hatches to a position above the hatch. The limiting condition is shown in Appendix D.4. If this limit is exceeded the shiploader will not be able to enter or withdraw from a hatch and loading must cease.

9.9 DE-BALLASTING

De-ballasting must not occur whilst the vessel is under pilotage.

If loading is not planned to commence immediately upon berthing vessels should consider using this time to commence de-ballasting provided the vessel remains in a safe condition and remains within air draught limitations (see Section 9.8). Please advise if this time will be used on the Coal Loading Plan. Do not discharge more than one third (33%) of the arrival ballast prior to loading commencing.

Ballast must be discharged so that water does not flow onto berths or mooring equipment, and all vessels undertaking ballast operations must comply with the Australian Ballast Water Guidelines as set out by DAFF.
If de-ballasting is unable to keep up with loading, then loading may cease until the vessel is in a safe condition. PWCS must be notified of any intended de-ballast delays. Please be aware that de-ballast stoppages are included in the performance monitoring for all vessels.

PWCS may transfer loading operations to another vessel if the vessel intends to stop loading to continue de-ballasting.

9.10 DRAUGHT SURVEY

Draught survey is used by Coal Exporters to determine final cargo weight in total. To facilitate the conduct of the draught survey:

Access ladders shall be placed at the location of the draught marks on the outboard side of the vessel (or as directed by the Marine Surveyor)

A safety harness and adequate lighting shall be in place for the Marine Surveyors' use

Draught marks on all vessels must be legible.

Every vessel should possess trim correction tables for all tanks, failing which all ballast tanks should be either full or empty during the draught survey. The Marine Surveyors recommend that tank soundings be taken when the vessel attains at least one (1) metre trim by the stern at completion of de-ballast operations.

9.11 WATER DENSITY AT TERMINAL

During periods of normal to dry weather water density can be expected to be approximately 1023kg/m3 (by draught survey hydrometer calculated in air) or 1025kg/m3 (by loadline hydrometer calculated in a vacuum, Australian Standard AS2026-1994). This will not relieve the Master of the Vessel of his responsibility to constantly check the water density using the appropriate standard practices during the loading process.

During periods of excessive fresh water flow following heavy rains in the catchment area water density has been known to reach 1000 kg/m3. This will largely depend on the tidal movements at the time of surveying.

9.12 CARGO WEIGHT DETERMINATION

The mass of coal loaded into a vessel as a ship consignment shall be the mass determined by a draught survey of the vessel. Belt weightometer readings are available as a guide only due to the dynamic operational environment. Reference to these will not relieve the Master of the Vessel of the responsibility for adequately maintaining draught checks and supervising the loading of the vessel.

PWCS will maintain the belt weightometers using a planned maintenance system that includes comparative belt weightometer variance analysis and calibration checking.

In the event of more than one coal brand being loaded into a vessel, belt weightometers are used to calculate tonnages during loading. The draught survey weight of the vessel will be apportioned for each coal brand in the same proportions as the weights recorded by the belt weightometers owned and operated by PWCS.

Belt weightometer readings may be used for determining total and partial mass of coal pass during loading, however regular draught checks should be performed in accordance with Section 9.14.4. The PWCS Person in Charge at the completion of loading will supply final belt weightometer figures to the Master of the Vessel on the Shiploading Certificate/Mates Receipt and Deviation Advice or other agreed documents as designated by PWCS.

9.13 CARGO MAXIMUMS AND MINIMUMS

Where a Vessel is contracted to carry a cargo maximum or minimum, whether it is individual coal type or total tonnage, it shall remain the responsibility of the Master of the Vessel, in cooperation with the Marine Surveyor, to load in accordance with that agreement and this Handbook.

PWCS will not be accountable for tonnage differences when a vessel is contracted to carry a cargo maximum or minimum.

9.14 LOADING PROCEDURES

9.14.1 RESPONSIBILITY OF MASTER OF THE VESSEL

The Master of the Vessel is accountable for the safe loading of the vessel at all times. Reference should be made to IMO BLU Code and the Master of the Vessel must comply with the terms of the BLU Code.

Vessels will be loaded according to the Master of the Vessel's requirements and in accordance with the Shipment Contract between PWCS and the Coal Exporter (i.e. the Master of the Vessel must take into account the contracted tonnes between PWCS and the Coal Exporter).

It is the responsibility of the Master of the Vessel to ensure that solid bulk cargoes are loaded and trimmed reasonably level, as necessary, to the boundaries of the cargo space so as to minimise the risk of shifting and to ensure that adequate stability will be maintained throughout the voyage.

9.14.2 CONFIRMATION OF TERMINAL PROCEDURES

Immediately after the vessel provides safe access a PWCS Person in Charge will meet with the Master of the Vessel to establish liaison, confirm that the cargo type, hatch number, and quantity of the first pass is in accordance with the previously submitted Coal Loading Plan and to agree upon the Ship\Shore Safety Checklist.

The cargo type to be loaded in the first pass must be the same as on the Coal Loading Plan approved by the terminal, as the terminal may have already sent cargo to the wharf.

The PWCS Person in Charge will provide a copy of this Handbook to the Master of the Vessel and discuss its contents. The Master of the Vessel shall confirm (by signature) that they understand and agree to comply with the content of the Handbook.

No significant changes should be made to the Coal Loading Plan at the confirmation stage, including any change to sequence or cargo type.

9.14.3 COMMENCEMENT TIME

PWCS expects to commence loading no more than twenty (20) minutes after the previously submitted Coal Loading Plan has been confirmed by the vessel and the PWCS Person in Charge. In order to ensure this target is met the Master of the Vessel must comply with the procedures for loading set out in this Handbook.

9.14.4 LOADING

Coal flow will be planned to be maintained at maximum flow rates or rates previously agreed at berthing. Coal is reclaimed from the Terminal stockpiles to the vessel by reclaimers or transferred direct from the rail receival stations at the discretion of PWCS. Vessels are expected to load on a continuous basis at the Terminal's most efficient nominated loading rates.

The Master of the Vessel must conduct and record draught checks against the agreed loading plan regularly throughout loading. Any variances against the Coal Loading Plan must immediately be communicated to the PWCS Person in Charge. As per Section 9.12, terminal weightometer readings are not suitable to monitor loading.

The vessel must be loaded in accordance with the Master of the Vessel's instructions and in line with the Coal Loading Plan agreed to with PWCS prior to loading.

9.14.5 RUNNING AND INTERIM DRAUGHT SURVEY

A running draught survey will be completed by the appointed Marine Surveyor from the commencement of the loading pass immediately prior to the interim survey through to completion of the loading of the vessel. This will assess the condition of the vessel and loading should not stop.

Vessels should plan for a maximum of one interim draught survey requiring a cessation of loading, subject however to the Master of the Vessel's instructions. A weightometer check is also carried out during this survey.

Any problems identified during the draught survey concerning vessel trim are expected to be corrected with a maximum of two passes but will depend on the particular circumstances and will be judged on a case by case basis.

9.14.6 TRIMMING

At the interim draught survey stage, calculation of the final trim tonnage requirement will be determined. This trim tonnage must be loaded in two complete passes into separate hatches, and shall be of a single coal type.

If extra trim passes are requested after delivery of the two complete passes following the interim draught survey, and whether or not these additional passes are supplied by the Terminal, the vessel may be provided with a 'Preliminary Advice of Unsatisfactory Vessel Performance'.

No tonnage under 200 tonnes will be able to be loaded due to equipment constraints.

9.14.7 COMPLETION OF LOADING

Following completion of cargo loading, the vessel will be deemed to have completed loading based on the trim tonnage delivered to the vessel as determined by the Terminal belt weightometers.

Final draught surveys are expected to be completed and the vessel ready for sea prior to the earliest revised sailing time based on the first available Port movement opportunity after completion of loading.

All coal contained on the out-loading conveying system must be run off into the vessel at the completion of loading. The PWCS Person in Charge will provide an estimate of the quantity to be expected.

The Terminal may deliver additional coal requested by the vessel after the completion of loading, provided that it does not interfere with other vessel loading programs and Terminal operations. No tonnage less than 200 tonnes will be supplied. A minimum of twenty (20) minutes is required for the coal to be delivered, based on the location of stockyard machines.

PWCS will not be held responsible for any short shipments as a result of the vessel calling for additional coal that cannot be delivered to the vessel.

9.14.8 SAILING

Port of Newcastle sets sailing times based on available vessel movement opportunities to meet advice from PWCS on the completion of loading times. In addition to the matters set out below, sailing must be in accordance with the Port Authority's Ship Handling Safety Guidelines.

Vessels are required to provide to the Port Authority 12 hours prior to sailing a completed Swell and Under Keel Clearance System (SAUCS) form. This system provides Pilots with greater information with regard to the vessel's condition, Port condition and the prevailing weather. Sailing draught guidelines are set out in Appendix C.

The vessel must sail on the next vessel movement opportunity as defined by Ship Handling Safety Guidelines, where:

- The vessel is laden at or above the maximum draught to sail on the minimum LHW tide (i.e. the high water neap tide)
- The vessel is laden to deadweight, cubic or other capacity
- The maximum contracted cargo quantity has been laden.

PWCS will determine and then advise the vessel of the tide it will depart on. This can occur at any point prior to loading, during sign up and/or during loading.

Vessels are not permitted to wait for a later tide to enable additional cargo to be loaded.

PWCS reserves the right to complete loading at the maximum draught to sail on the minimum LHW tide, particularly where weather or other events could delay a departure beyond the next high tide.

The Master of the Vessel must ensure preparation for sea is completed no later than 1 hour from last coal on board (preferably within 30 minutes from last coal on board) in accordance with good seamanship practice so that the timetable of vessel movements set by Port of Newcastle can be met.

9.15 WEATHER

Where, in the opinion of either PWCS or the Master of the Vessel, weather conditions make loading perilous, PWCS shall cease loading and record the occurrence and period(s) of non-working due to weather in the vessel loading delay statement.

Exceptional conditions caused by adverse weather or excessive fresh water flow in the Port following heavy rains, may occasionally preclude vessel movements in the Port area. Entry and sailing times may be changed (through the Vessel's Agent and in consultation with PWCS) to allow for these conditions.

Typical Weather Conditions	Summer (Dec-Feb)	Autumn (Mar-May)	Winter (Jun-Aug)	Spring (Sept-Nov)
Average Max Temp (°C)	25	22.6	17.9	21.9
Average Minimum Temp (°C)	19.3	15.6	9.6	14.4
Mean Monthly Rainfall (mm)	88.6	120.1	82.7	72.3

9.16 DUAL SHIPLOADER OPERATION AT CARRINGTON TERMINAL

Vessels loading at Carrington Terminal must prepare two Coal Loading Plans in case dual shiploaders are utilised to load the vessel. Unless otherwise advised, a plan for single shiploader operation should be submitted to PWCS. An alternate plan for dual shiploader operation should be prepared and ready if requested by PWCS. Hatch pass tonnages should be equal and paired for dual shiploader operation.

The PWCS Person in Charge will advise vessels of the availability of a second shiploader prior to commencing loading. Consideration will be given to de-ballast rates. Vessels loading multiple brands of coal may be required to load different coal types from each shiploader.

One shiploader will load the last 8,000 tonnes of any coal type depending on operational constraints. Trimming will occur with one shiploader unless otherwise agreed upon.

9.17 BUNKERING

Bunkering via road tanker or drums is prohibited from PWCS berths. At the time of publication, a barge is available to provision drums from the waterside (contact the Port Authority regarding permits); however, a bunker barge is not available.

9.18 STORING

Storing should not interfere with loading operations and should be scheduled not to delay the vessel departure after the completion of loading. The PWCS Person in Charge must be informed before any storing operation is to commence.

Storing will remain the responsibility of the vessel. No PWCS labour shall be supplied.

Any vessel lifting device shall be used for vertical lifts only. Handling practices that could damage PWCS property are prohibited, including the dragging of loads across deck areas, use of guard rails to lower/support loads or the spillage of products.

9.19 VESSEL REPAIRS

Prior to commencement of any vessel repairs that could impact PWCS personnel or operations, authorisation must be given by PWCS and the Port Authority. Such repairs include any works that could extend the vessel's normal time at the berth or otherwise affect loading and/or departure of the vessel.

A Hot Work Permit must be issued by the Port Authority prior to commencement of any hot works.

No vessel repairs shall be carried out whilst alongside a PWCS berth that will immobilise the vessel or involve the turning of the propeller, other than using the turning gear.

PWCS does not authorise or control diving activities for vessel repairs. The Master of the Vessel must make arrangements with the Port Authority via their Diving Notification System to ensure any diving activity is carried out safely and in accordance with any legislative or other requirements. Diving must be compliant with AS2299 and the Work Health and Safety Act 2011 (NSW).

At times PWCS may carry out diving activities on its wharves. On these occasions PWCS will contact the relevant Master of the Vessel and discuss control procedures for this work.

Where PWCS causes damage to a vessel PWCS reserves the right to organise for a third party to inspect, photograph and estimate the cost to repair damages caused by PWCS.

9.20 POTABLE WATER

Potable (fresh) water is available at all PWCS berths and the outlets are provided with male staunch fittings. The PWCS Person in Charge can provide direction on the location of the potable water outlets. Any hoses used for provision of potable water are to be provided by the vessel, and are to be removed prior to the vessel leaving the berth.