COAL TERMINALS INFORMATION HANDBOOK

REVISION 5.4
EFFECTIVE FROM JANUARY 2017

PORT WARATAH COAL SERVICES
Pioneering Through Partnership

A.B.N. 99 001 363 828
EMERGENCY
CONTACT PROCEDURE FOR VESSELS

1) USE VESSEL SATELLITE PHONE OR ANY OPERATING MOBILE PHONE TO CALL:

<table>
<thead>
<tr>
<th>LOCATION OF VESSEL</th>
<th>COUNTRY CODE</th>
<th>AREA CODE</th>
<th>PHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARRINGTON (BERTHS D4, D5)</td>
<td>61</td>
<td>02</td>
<td>4907 3222</td>
</tr>
<tr>
<td>KOORAGANG (BERTHS K4, K5, K6, K7)</td>
<td>61</td>
<td>02</td>
<td>4907 2111</td>
</tr>
</tbody>
</table>

2) STATE:
- VESSEL NAME
- TERMINAL LOCATION & BERTH NUMBER
- TYPE OF EMERGENCY
- TYPE OF ASSISTANCE REQUIRED

3) ALSO NOTIFY ‘NEWCASTLE HARBOUR’ ON:
   VHF CHANNEL 9

4) ADVISE PWCS PERSON IN CHARGE AND CLEAR ALL PERSONNEL FROM AREAS OF DANGER.
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I. PURPOSE

The purpose of this Handbook is to communicate policies, procedures and information relevant to the ship-to-shore interface at PWCS Terminals.

This Handbook should be of use to:

- Vessels calling at the Terminals, to perform operations safely and efficiently;
- Vessel owners (or their agents) and coal exporters, to arrange and facilitate vessels calling at the Terminals;
- Parties who perform a function related to vessels calling at the Terminals, for general reference.

This Handbook shall be supplied to the Master of the Vessel upon berthing at a PWCS Terminal.

Acknowledgement of receipt and compliance of this Handbook shall be completed by the vessel at this time and returned to the PWCS Person in Charge (refer Appendix E.1 Receipt of PWCS Handbook).

The PWCS Person in Charge acts as the primary contact between berthing and completion of loading. The PWCS Person in Charge is also referred to as the Vessel Bulk Loading Officer (VBLO).

The procedures set out in this Handbook must be complied with unless otherwise agreed by PWCS.

PWCS reserves the right to refuse to allow a vessel to berth at either of the PWCS Coal Terminals due to non-compliance with the procedures set out in this Handbook by a Master of the Vessel, owner or Vessel Agent.
2. REFERENCE LISTS

2.1 PRE-ARRIVAL REQUIREMENTS

The lists below reference instructions in this Handbook that should be followed by the Master of the Vessel to ensure the vessel berths and prepares to load as safely and efficiently as possible. These lists reference commonly sought information only – this Handbook contains additional requirements which the Master of the Vessel must be familiar with and comply with.

### 2.1.1 PRIOR TO ENTRY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>PWCS Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vessel is ballasted and trimmed in accordance with the Coal Loading Plan approved by the terminal.</td>
<td>Section 8 Coal Loading Plan</td>
</tr>
<tr>
<td>The terminal’s air draught limit will be met given the tide at the expected time of entry.</td>
<td>Section 9.8 Air Draught</td>
</tr>
<tr>
<td>The vessel has a ‘secondary support’ for the gangway that can hold the weight of the gangway if the main support fails.</td>
<td>Section 9.7.1 Gangway Specification and Position</td>
</tr>
<tr>
<td>If safe to do so, gangways have been rigged with safety nets (at handrail height and on the underside) before the vessel enters port.</td>
<td>Section 9.7.1 Gangway Specification and Position</td>
</tr>
<tr>
<td>All cargo holds are clear of waste material, previous cargo or other foreign objects (other than holds containing ballast).</td>
<td>Section 9.4 Cargo Hold Cleanliness</td>
</tr>
<tr>
<td>All mooring lines on winches have been flaked on deck and spooled correctly onto the drum, with the line tightly packed and correctly layered.</td>
<td>Section 9.6 Mooring</td>
</tr>
<tr>
<td>If wire ropes are to be used for mooring the lines company has been notified (via agent) and fibre tails will be used.</td>
<td>Section 9.6.1 Mooring Operations</td>
</tr>
<tr>
<td>If the vessel is an Oil-Bulk-Ore Carrier (OBO) the terminal has been notified (via agent) as special conditions apply.</td>
<td>Section 10.2 Gas Freeing Vessels</td>
</tr>
<tr>
<td>If the vessel intends to discharge or partially load at another terminal in port prior to berthing at PWCS the required notice has been given.</td>
<td>Section 9.5 Port Entry and Berthing</td>
</tr>
</tbody>
</table>

### 2.1.2 PREPARATIONS FOR BERTHING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>PWCS Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Master of the Vessel is aware of typical mooring arrangements.</td>
<td>Section 9.6 Mooring</td>
</tr>
<tr>
<td>Vessel crew is aware of how communication will occur with the shore mooring party.</td>
<td>Section 9.6.1 Mooring Operations</td>
</tr>
<tr>
<td>All head and stern lines have a 3 metre tail of light rope spliced into the eye.</td>
<td>Section 9.6.1 Mooring Operations</td>
</tr>
<tr>
<td>Monkey’s fists are not excessively weighted, and do not contain any heavy materials.</td>
<td>Section 9.6.1 Mooring Operations</td>
</tr>
<tr>
<td>When running lines ashore a crewman will control how quickly line is paid out. An excessive amount of line is not flaked on deck.</td>
<td>Section 9.6.1 Mooring Operations</td>
</tr>
</tbody>
</table>

### 2.1.3 READINESS TO LOAD

<table>
<thead>
<tr>
<th>Requirement</th>
<th>PWCS Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vessel will provide safe access via the gangway as soon as possible after all lines are fast.</td>
<td>Section 9.7.1 Establishing Safe Access Upon Berthing</td>
</tr>
<tr>
<td>The Master of the Vessel is aware that the PWCS Person in Charge will board as soon as it is safe to access the vessel and meet a vessel representative to perform the Ship/Shore Safety Checklist and confirm the first pass.</td>
<td>Section 9.14.2 Confirmation of Terminal Procedures</td>
</tr>
<tr>
<td>The Master of the Vessel is aware and has told the PWCS Person in Charge that the cargo type to be loaded in the first pass must be the same as on the Coal Loading Plan approved by the terminal.</td>
<td>Section 9.14.2 Confirmation of Terminal Procedures</td>
</tr>
</tbody>
</table>
2.2 ITEMS DISCUSSED ON ARRIVAL BETWEEN PWCS AND THE MASTER OF THE VESSEL

The list below shows critical subjects that the PWCS Person in Charge will discuss with the Master of the Vessel upon arrival using the instructional pages which shall be torn out of Appendix E of this Handbook. The list makes reference to the location of relevant procedures in this Handbook.

<table>
<thead>
<tr>
<th>Subject</th>
<th>PWCS Procedures</th>
<th>Instructional Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>Page 1 Emergency Contact Procedure Section 9.1 Communications</td>
<td>Appendix E.10</td>
</tr>
<tr>
<td>Cargo hold access during loading</td>
<td>Section 5.3 Safety and Section 6.3 Security</td>
<td>Appendix E.9</td>
</tr>
<tr>
<td>Maximum air draught</td>
<td>Section 9.8 Air Draught</td>
<td>Appendix E.7 Appendix E.8</td>
</tr>
<tr>
<td>Personal Protective Equipment</td>
<td>Section 5.2 Personal Protective Equipment</td>
<td>Appendix E.6</td>
</tr>
<tr>
<td>Hydraulic interaction</td>
<td>Section 9.6.2 Hydraulic Interaction</td>
<td>Appendix E.5</td>
</tr>
<tr>
<td>Transport arrangements</td>
<td>Section 6.2 General Access Security and Crew Identification</td>
<td>Appendix E.4</td>
</tr>
<tr>
<td>Safe and secure site access</td>
<td>Section 6 Security</td>
<td>Appendix E.2 Appendix E.3</td>
</tr>
</tbody>
</table>

2.3 PROCEDURES RELATING TO PWCS SHIP/SHORE SAFETY CHECKLIST

The list below references procedures contained in this Handbook that relate to each question asked in the PWCS Ship/Shore Safety Checklist. The list below appears in the order in which the questions are asked.

<table>
<thead>
<tr>
<th>Subject of question</th>
<th>PWCS Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Water depth and air draught at berth</td>
<td>Sections 4.2.2 and 4.3.2 Vessel Restrictions (respectively for Carrington and Kooragang Terminals), Section 9.8 Air Draught</td>
</tr>
<tr>
<td>2. Adequacy of mooring arrangements for local conditions</td>
<td>Section 9.6 Mooring</td>
</tr>
<tr>
<td>3. Emergency departure</td>
<td>Subject to Harbour Master discretion</td>
</tr>
<tr>
<td>4. Personal Protective Equipment</td>
<td>Section 5.2 Personal Protective Equipment</td>
</tr>
<tr>
<td>5. Communication system</td>
<td>Section 9.1 Communications</td>
</tr>
<tr>
<td>6. Liaison contact person</td>
<td>Section 9.14.2 Confirmation of Terminal Procedures</td>
</tr>
<tr>
<td>7. Readiness for emergency</td>
<td>Section 9.1 Communications</td>
</tr>
<tr>
<td>8. Bunkering and Stores</td>
<td>Section 9.17 Bunkering, Section 9.18 Storing</td>
</tr>
<tr>
<td>9. Intended works/repairs alongside</td>
<td>Section 9.19 Vessel Repairs</td>
</tr>
<tr>
<td>10. Reporting/recording damage</td>
<td>Section 10.4 Responsibility for Damage Caused</td>
</tr>
<tr>
<td>11. Vessel provided with details of terminal procedures</td>
<td>Issue of this Handbook is registered by Appendix E.1</td>
</tr>
<tr>
<td>12. Master of the Vessel provided with properties of cargo</td>
<td>Coal Exporter’s responsibility to provide prior to commencement of loading</td>
</tr>
<tr>
<td>13. Safe atmosphere in enclosed spaces</td>
<td>Section 5.3 Cargo Hold Access, Section 10.2 Gas Freeing (PWCS personnel do not enter enclosed spaces)</td>
</tr>
<tr>
<td>14. Cargo handling capacity</td>
<td>Sections 4.2.1 and 4.3.1 Equipment (respectively for Carrington and Kooragang Terminals)</td>
</tr>
<tr>
<td>15. Loading plan</td>
<td>Section 8 Coal Loading Plan</td>
</tr>
<tr>
<td>16. Hatch sequence in loading plan</td>
<td>Section 8.2 Compiling a Coal Load Plan</td>
</tr>
<tr>
<td>17. Trimming of cargo</td>
<td>Section 9.14.6 Trimming</td>
</tr>
<tr>
<td>18. Stops for de-ballasting</td>
<td>Section 9.89 Air Draught</td>
</tr>
<tr>
<td>19. Final trim</td>
<td>Section 9.10 Draught Survey</td>
</tr>
<tr>
<td>20. Time to prepare for sea</td>
<td>Section 9.14.8 Sailing</td>
</tr>
<tr>
<td>21. Safe gangway and brow access</td>
<td>Section 9.7 Gangways</td>
</tr>
</tbody>
</table>
3. INTRODUCTION

All information in this Handbook relates to both Terminals except where specifically mentioned or labelled.

This Handbook is designed to assist the Terminals and vessels loading at the Terminals to operate safely; achieve maximum operational efficiency; and ensure compliance with:

- The IMO Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code)
- All relevant Marine Orders
- The International Ship and Port Facility Security Code (ISPS Code)
- State regulations including the Ports and Marine Administration Act 1995 (NSW) and related regulations, the Work Health and Safety Act 2011 (NSW) and the Protection of the Environment Operations Act 1997 (NSW).

All bulk carriers that visit Australian Ports must comply with the IMSBC Code, relevant Australian Marine Orders and the BLU Code.

This Handbook has been produced with the assistance of the Port Authority of New South Wales (Port Authority), Vessel Agents, Coal Exporters, lines companies and Marine Surveyors. To the best of PWCS’ knowledge the information contained in this Handbook is true and correct at the time of writing. However, PWCS reserves the right to change the information contained in this Handbook at any time and any inquiries regarding this information should be referred to:

Manager Carrington Coal Terminal
Port Waratah Coal Services Limited
PO Box 57
CARRINGTON NSW  2294
AUSTRALIA
Telephone: +61 2 4907 3254
Facsimile: +61 2 4907 3333
E-mail: shipment.contracts@pwcs.com.au

Manager Kooragang Coal Terminal
Port Waratah Coal Services Limited
PO Box 57
CARRINGTON NSW  2294
AUSTRALIA
Telephone: +61 2 4907 2260
Facsimile: +61 2 4907 2210
E-mail: shipment.contracts@pwcs.com.au

The Port Authority, pursuant to the Ports Corporatisation and Waterways Management Act 1995 (NSW) and the Marine Pollution Act 2012 (NSW), administers the port. All matters relating to navigation, maximum Port vessel size, pilotage, towage, vessel handling, vessel safety, marine regulations and marine pollution should be referred to:

The Harbour Master
Port Authority of New South Wales
PO Box 663
NEWCASTLE NSW 2300
AUSTRALIA
Telephone:   +61 2 4985 8222
Facsimile:   +61 2 4926 4596
E-mail: enquiries@portauthoritynsw.com.au
VHF: ‘Newcastle Harbour’ on Channel 9
4. FACILITIES

4.1 PORT OF NEWCASTLE

Chart: AUS 207 & 208
Maximum sailing draught: Promulgated Channel Depth + Tide – 10% UKC
Channel design depth: 15.2 m (subject to promulgation)
Tidal range: 0.1 m to 2.1m
Highest astronomical tide (HAT): 2.1 m
Lowest astronomical tide (LAT): 0 m (Chart Datum)
Minimum Lower High Water (LHW): 1.1 m
Water density: 1023 kg/m³ during typical weather
Up to 1000 kg/m³ following heavy rains in river catchment area.
See Section 9.11 for further information

4.2 CARRINGTON: BERTHS D4 AND D5

Layout: Two berths, two shiploaders
Operating hours: 365 days/year, 24 hours/day
Typical vessel size: 30,000 to 180,000 dwt
Berth alignment: 175° T
Berthing: Starboard side-to
Berth design depth: 16.5 m (subject to promulgation)
Dredged length at berth face: 615 m

4.2.1 EQUIPMENT

Shiploader type: Longitudinal travel, telescoping outreach, luffing type
Shiploaders per vessel: Single or dual head loading
Maximumship loading rate: 2,500 tph per shiploader
Typical gross shipping rate: Single shiploader: 2,000 to 2,300 tph
Dual shiploader: 3,000 to 3,500 tph
Maximum shiploader outreach: 28.2 m from fender face line to spout centre line
31.3 m from fender face line to tip of shuttle
Shiploader travel distances: Shiploader 4: 27.8 m to 472.1 m chainage
Shiploader 5: 63.7 m to 508 m chainage
(Distance along the berth apron measured from boom centre line)
Berth structure: Reinforced concrete/steel piles, open deck layout
Fenders: Bridgestone Super Cell
Mooring system: Quick release hooks and capstan winches

4.2.2 VESSEL RESTRICTIONS

Minimum vessel size (PWCS): 30,000 dwt
Max. vessel LOA: 270 m (combined LOA 510 m)
275 m (with Harbour Master approval)
Max. vessel beam: 47 m
Minimum distance between berthed vessels: 30 m
Maximum air draught: 18.5 m from chart datum to top of hatch cover
When within one metre of the air draught limitation vessels should maintain trim by the stern of at least 1% of LOA. See Section 9.8 and Appendices D.2 and E.7 for further information regarding air draught
4.3 KOORAGANG: BERTHS K4, K5, K6 AND K7

Layout: Four berths operated continuously to accommodate up to five vessels, three shiploaders
Operating hours: 365 days/year, 24 hours/day
Typical vessel size: 70,000 to 210,000 dwt
Berth alignment: 111°T
Berthing: Port side-to (or starboard side-to on berth K4 as required)
Berth design depth: 16.5 m (subject to promulgation)
Dredged length at berth face: 1396 m

4.3.1 EQUIPMENT

Shiploader type: Longitudinal travel, telescoping outreach, luffing type
Shiploaders per vessel: Single head loading
Maximum shiploading rate: 10,500 tph
Typical gross shiploading rate: 5,000 to 7,300 tph
Maximum shiploader outreach: 35 m from fender face line
Maximum shiploader coal throw: 55 m from fender face line
Shiploader travel distances:
- Shiploader 7.08: 19 m to 599 m marks (berths K4 - K5)
- Shiploader 7.09: 81 m to 1068 m marks (berths K4 - K7)
- Shiploader 7.10: 327 m to 1315 m marks (berths K5 - K7)
  (Distance along the wharf measured from boom centre line)

Berth structure: Reinforced concrete/steel piles, open deck layout
Fenders: Seibu TTV (K4 berth)
Bridgestone Super Cell (K5-K7 berths)
Mooring system: Quick release hooks and capstan winches

4.3.2 VESSEL RESTRICTIONS

Maximum vessel LOA: 300 m
Maximum vessel beam: 50 m
Minimum distance between berthed vessels: 30 m
Maximum air draught: 20.5 m from chart datum to top of hatch cover
See Section 9.8 and Appendices D.4 and E.8 for further information regarding air draught.
5. SAFETY AND ENVIRONMENT

All persons entering the wharf area must comply with all PWCS safety and environmental requirements, including any requirements under any Marine Order or other relevant legislation.

A person passing to or from a ship during loading or unloading, if that person is on foot, must use a means of access complying with Marine Order 21 (Safety of Navigation and Emergency Procedures, Appendix 9).

The wharf area is an operational area and only activities pertaining to the Terminal or vessel operations shall be allowed in the wharf area. For example, fishing is not permitted from any PWCS wharf structure. The Master of the Vessel must ensure that all vessel crew and visitors to the vessel comply with this requirement.

5.1 INDUCTION SAFETY TRAINING

Any Vessel Agent, Coal Exporter, contractor, visitor or other person who requires entry into the Terminal, in connection with a vessel, must:

- Prior to entry, undertake and agree in writing to comply with all PWCS safety and security requirements
- Comply with the Contract Management System
- If required by PWCS, attend PWCS Safety Induction Training
- Comply with and obey all lawful instructions which may be issued or given by PWCS.

Any Vessel Agent, Coal Exporter, contractor, visitor or other person refusing to give such an undertaking, enter into such agreement or attend induction training will be refused access to the Terminal.

5.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Persons accessing the wharf (or any terminal area) must wear appropriate personal protective equipment (PPE). This requirement applies to vessel crew accessing the wharf for any purpose or length of time – including when transiting from the gangway to a vehicle.

Minimum PPE to be worn whilst accessing wharf areas is:

- Safety helmet
- Eye protection
- Steel Cap Enclosed footwear
- Long sleeve shirt and long trousers
- High-visibility safety vest or clothing
- Personal flotation devices (lifejackets) - to be worn when accessing the gangway and wharf apron area
- Any other safety equipment that may be required in the area being visited or as directed by a PWCS employee.

See Appendix E.6 for pictorial illustration of PPE requirements.

Vessel crew must use their own PPE – PWCS will not provide PPE. Where a crew member is joining a vessel for the first time, the Vessel Agent shall provide PPE. When leaving PWCS premises on shore leave, vessel crew may store their PPE at the security gate. The Security Officer will register the equipment for pick-up upon re-entry.

All PWCS employees are required to wear appropriate PPE whilst on board a vessel. PWCS recommends that vessel crew also adhere to this policy, including wearing hearing protection equipment when near a shiploading operation.
5.3 PROCEDURE FOR ENTRY TO CARGO HOLDS

It is PWCS preference that where a cargo hold is being loaded, no other work should be carried out in that space. PWCS recognises that vessel crew may be required to enter a cargo hold while a vessel is being loaded, and the following procedures must be complied with to ensure the safety of such crew.

Prior to a vessel berthing PWCS will require the Master of the Vessel to submit, along with the Coal Loading Plan, the following:

- Copy of a procedure identifying action to be taken by vessel crew when entering a hold during cargo operations
- Evidence of training within the last 12 months in the above procedure.

Any procedure submitted must be prepared with a view to preventing dangers that are likely to arise in the cargo hold and must include the following items:

- A notice must be displayed at all cargo hold entrances prohibiting entry without permission;
- The procedure for preparing and securing the space for entry
- Entry into cargo holds during cargo operations must be:
  - Permitted by specific agreement with the Terminal Representative;
  - Authorised by the Master of the Vessel; and
  - Supervised by an officer of the ship.

The enclosed spaces entry procedure from the Vessel Procedures (Manuals) must also be complied with prior to and during any cargo hold access.

PWCS reserves the right to advise the Master of the Vessel of any further obligations.

5.4 PROVISION OF A SMOKE FREE WORKPLACE

All vessels loading at the Terminals must ensure that a non-smoking area on the vessel is supplied to PWCS personnel to allow their duties to be performed in a smoke free environment as required by the Work Health and Safety Act 2011 (NSW).

See Appendix E.12 for No Smoking signage.

5.5 INCIDENT MANAGEMENT

Incidents that occur at the PWCS wharf facilities, including those on board the vessel, are to be reported immediately to PWCS and the relevant statutory authorities. Depending on the nature of the incident, these agencies could include Australian Maritime Safety Authority (AMSA), the Port Authority, Workcover New South Wales or the NSW Office of Environment and Heritage (OEH).

PWCS strongly recommends the use of the Vessel Agent in coordinating any communications with respect to incidents.

Where an incident occurred that resulted in PWCS causing 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.
5.6 ENVIRONMENT

All vessels at PWCS Terminals must comply with MARPOL 73/78 (Annexes I – VI) and Marine Orders Parts 91 – 98 inclusive (“Environmental Legislation”).

A vessel must not discharge any substance that is not permitted to be discharged under the Environmental Legislation. Waste disposal arrangements are available at the wharves through consultation with the Vessel Agent.

The environment is of high importance to PWCS and is managed through extensive improvement and monitoring programs, minimising impact to neighbouring communities and environments. All persons accessing the Terminals are to ensure their activities result in no adverse impacts to air quality, water quality or noise levels. Compliance is strictly enforced to ensure our neighbours are not adversely affected.
6. SECURITY

PWCS Terminals are a security regulated port under the Maritime Transport and Offshore Security Act 2003 (Commonwealth) and accordingly PWCS has a registered and approved Maritime Security Plan (MSP). The scope of this MSP includes, but is not limited to, wharf areas at both Terminals.

The Master of the Vessel and all crew must take reasonable steps to comply with the MSP, which is reflected in PWCS procedures and instructions, and must not hinder or obstruct PWCS from complying with its MSP.

There are three levels of maritime security, which escalate when risks are present. Level 1 is in force at all times and has been incorporated into current PWCS security practices. The Australian Government may declare that maritime security level 2 or maritime security level 3 should apply. If PWCS is directed to implement a higher maritime security level, all relevant vessels will be notified of the change to the maritime security level and of any necessary changes to procedures at PWCS Terminals.

Please be aware that a change in security level may result in a requirement for the Master of the Vessel to enter an agreement with PWCS on the types of security measures and procedures that will be in place upon berthing. PWCS will advise the Master of the Vessel if such agreement is necessary.

Upon request the Master of the Vessel must, at the time of providing the Coal Loading Plan, provide PWCS with copies of the following:
- The ship security plan
- The vessel’s International Ship Security Certificate.

6.1 SECURITY INCIDENT REPORTING

All security incidents must be reported to the Terminal Representative immediately. It is a breach under Australian Law to withhold any information relating to security incidents that affect maritime transport.

6.2 GENERAL ACCESS SECURITY AND CREW IDENTIFICATION

Persons requiring regular access to PWCS facilities in connection with vessels should undertake PWCS Restricted Wharf Access Induction. An Inducted Person can access wharf facilities unescorted.

Non-inducted persons requiring access to PWCS facilities for an operational purpose (including vessel crew) must be escorted by an Inducted Person (e.g. the Vessel Agent). Personal visitors are not permitted - consider meeting personal visitors at the Mission to Seafarers.

The Master of the Vessel must arrange for the Inducted Person (e.g. the Vessel Agent) to meet the person requiring access at the security gatehouse and escort the visitor to the vessel (and vice versa). The accountable Inducted Person must complete the “Approval to Escort Visitor/s onto PWCS Site” form which is available from the PWCS Contractor Portal website.

When entering site from the shore, persons requiring access must present themselves to the wharf security gatehouse to obtain authority to enter the site. Vessel crew entering or exiting PWCS controlled areas will be required to provide satisfactory personal identification on request. This will include a passport, photocopy of that passport or equivalent documents provided by the shipping company. When crew members are leaving the vessel for shore leave it is preferable they use a photocopy of their passport. When off-signing or on-signing the vessel the crew member’s passport is acceptable.

Whilst transiting Terminal sites in vehicles follow the designated directions as outlined in Appendix E.2 and Appendix E.3 – Wharf Access Maps (Carrington and Kooragang).

Only accredited transport providers have access to PWCS wharves. A list of accredited providers is shown in Appendix E.4. No pedestrian access is allowed through PWCS facilities.

Security cameras monitor movements on and near the wharf areas. Random vehicle, personnel and stores inspections may be carried out in accordance with PWCS Policies and Procedures.
6.3 CARGO HOLD ACCESS

The following security provisions relating to access to cargo holds must be complied with in addition to the safety requirements set out in Section 5.3 and shown in Appendix E.9.

PWCS identifies all cargo holds as restricted areas under the ISPS Code. PWCS requires that vessels comply with this within the ship security plan. PWCS requires that all hatch access points are either locked or controlled (e.g. some form of seal) by the vessel crew and that systems are put into place that prevent access to hatch spaces without prior written notification upon berthing and vessel sign up to PWCS. PWCS reserves the right to place additional security/safety measures onto hatch access points to prevent access whilst loading of the vessel takes place.
7. VESSEL SUITABILITY

7.1 VESSEL SUITABILITY REQUIREMENTS

The Terminals are designed to accept single deck, self-trimming bulk carriers. Such vessels are expected to be classed Lloyd’s 100A1 or equivalent, and have a valid ISM Certificate.

PWCS will review all vessels to determine their suitability to safely and efficiently load at the Terminals. In determining whether or not a vessel is suitable, the following will be considered by PWCS but is not limited to:

- Vessel characteristics, such as minimum deadweight capacity, maximum length and beam as outlined in Sections 4.2.2 and 4.3.2
- The requirements stipulated by the Port of Newcastle, Port Authority, RightShip, AMSA, IMO or any other relevant authority
- Information and assessment available and supplied regarding the vessel’s safety, security and operational performance by RightShip or any other relevant sources
- Information supplied by the vessel regarding its safety, security and operational performance via the PWCS Vessel Acceptance Questionnaire, vessel and performance criteria as per 7.2 and any other relevant information
- Previous safety, security and operational performance at PWCS Terminals or any other similar bulk terminals
- Whether the Master of the Vessel has previously failed to provide a Coal Loading Plan or to accede to any request to amend a proposed Coal Loading Plan
- Any actual or potential legal action that may cause the vessel to be arrested or otherwise detained
- Any other vessel suitability requirements that PWCS may reasonably determine from time to time.

In respect to geared vessels, it is expected that the vessel’s gear will be positioned so as to not impede the normal operation of the shiploader and otherwise reduce the loading performance of the Terminals. It is the intention of PWCS to load most geared vessels at the Carrington Terminal.

Owners/Charterers of vessels wishing to load at PWCS for the first time may be required to submit General Arrangement drawings showing the dimensions of their hatches, deck structures and gangway position. Periodically, vessels will be required (via the Vessel Agent) to submit vessel dimension details to assist with planning vessel positions along our berths.

Please be aware that Coal Exporters will request information to permit them to submit a ‘Create Vessel Request Form’ and ‘Vessel Acceptance Questionnaire’ to PWCS.

7.2 VESSEL PERFORMANCE CRITERIA

PWCS is committed to improving the service and value it provides to the Hunter Valley Coal Chain and the loading performance of vessels is an important component of this. PWCS will continually monitor each vessel’s performance to achieve this aim.

The main measure utilised by PWCS in its review is the Vessel Load Rate (VLR) metric as shown in Table 1 Vessel Load Rate (VLR) Performance. However, there are other performance criteria that are reviewed to ensure we continue to safely and efficiently load vessels. PWCS review several items including, but not limited to, the below key performance measures:

- Delays prior to start of loading due to vessel issues such as but not limited to excessive air draught (see Section 9.8), sign up delays, gangway rigging or opening hatches
- Stopping of loading in an unplanned manner due to vessel issues or requests
- Stopping loading due to deballasting. PWCS is mindful that some vessels may be able to achieve suitable load rates and still require a deballast stoppage. PWCS is also mindful that due to shear forces, bending moments and other safety requirements the vessel will require a stoppage
- Excessive delays prior to loading or during loading for standard vessel operations such as for Interim Draught Surveys
- Causing inefficiencies to loading. For example, vessels loading multiple cargoes each cargo must be completed in its entirety before commencing the next cargo
- Moderate or poor loading performance (refer Table 1 Vessel Load Rate (VLR) Performance)
- Ensuring the vessel is ready to sail no later than 1 hour from last coal on board, preferably within 30 minutes from last coal on board
- Any other performance criteria that PWCS may reasonably determine from time to time.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Performance</th>
<th>Moderate</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrington</td>
<td>≥ 2,000 tph</td>
<td>≥ 1,800 tph and &lt; 2,000 tph</td>
<td>&lt; 1,800 tph</td>
</tr>
<tr>
<td>Kooragang</td>
<td>≥ 5,000 tph</td>
<td>≥ 4,500 tph and &lt; 5,000 tph</td>
<td>&lt; 4,500 tph</td>
</tr>
</tbody>
</table>

**Table 1 Vessel Load Rate (VLR) Performance**

7.3 IMPOSITION OF CONDITIONS

If PWCS determines that a vessel does not comply with the requirements stated in Section 7.1 above, it may agree with a Coal Exporter to provide coal handling services to load the vessel on conditions that will allow the vessel to load in a manner which does not detract from the overall efficiency of the Terminals and which minimises disruption to PWCS’ operations.

PWCS will advise the Coal Exporter of any conditions imposed on a vessel and the Coal Exporter will be responsible for providing the details of the conditions to the Master of the Vessel.

7.4 UNSATISFACTORY VESSEL PERFORMANCE

In the event that PWCS determines that there has been unsatisfactory vessel performance having regard to the requirements contained in Section 7, it will advise the Master of the Vessel and the Vessel Owners via the Vessel Agent and the Coal Exporter in writing of relevant particulars of the unsatisfactory performance within five (5) business days of the vessel sailing.

Where there has been unsatisfactory performance by the vessel, as determined by PWCS in its discretion, and the Master of the Vessel and/or the Vessel Owners have been unable to provide acceptable reasons for the unsatisfactory vessel performance, PWCS may determine that the vessel is not suitable to load at the Terminals.

PWCS will keep Coal Exporters, the Master of the Vessel, the Vessel Owners, the Vessel Agent and any other relevant parties informed of all communications in relation to vessel performance.

7.5 VESSEL EQUIPMENT

All vessel equipment including stores cranes, deck cranes and deck machinery shall not at any time extend beyond the extreme breadth of the vessel on the berthed side unless authorised by the PWCS Person in Charge.

For the purpose of storing, the Master of the Vessel must inform the PWCS Person in Charge of the need to use the vessel’s stores crane, the use of which must not delay shiploading operations or cause damage to PWCS property. See Section 9.18 for further information regarding stores crane operation.

7.6 DANGEROUS VESSELS

If in the opinion of PWCS a vessel is in such poor repair or otherwise not suitable to load at the Terminals such that it could endanger the Port of Newcastle, the Terminals or the health and safety of any persons, PWCS may refuse to load that vessel notwithstanding that PWCS may have previously advised that the vessel was suitable to load or request that the vessel leave our berth.
8. COAL LOADING PLAN

The Master of the Vessel has the final decision in determining the Coal Loading Plan.

8. PRE-ARRIVAL REQUIREMENTS / PLANNING

PWCS will distribute to the Master of the Vessel, through the Vessel Agent, a blank copy of the Coal Loading Plan. The Master of the Vessel must, or must cause the Coal Exporter to:

- Submit a Coal Loading Plan no later than ten (10) days prior to the vessel’s ETA and in accordance with the conditions set out below
- Reach agreement with PWCS on the Coal Loading Plan no later than two (2) business days prior to the vessel berthing

PWCS may communicate directly with the Master of the Vessel to confirm the vessel’s ETA, obtain the vessel’s proposed Coal Loading Plan, and to reach agreement with the Master of the Vessel as to any proposed amendments to the Coal Loading Plan.

The order of loading of the vessel may be affected if amendments to a Coal Loading Plan are submitted to PWCS later than two (2) days prior to the vessel berthing.

PWCS requires vessels use the supplied Coal Loading Plan (see Appendix B) to help synchronise the deballasting program with the loading sequence.

8.2 COMPILING A COAL LOADING PLAN

The Coal Loading Plan must set out details of the vessel stowage plan, hatch loading sequence, ballasting/deballasting operations, and any requirement to access cargo holds (in accordance with Section 5.3).

Vessels loading at Carrington Terminal must prepare two Coal Loading Plans in case dual shiploaders are utilised to load the vessel. See Section 9.16 for further information.

In completing the Coal Loading Plan, the Master of the Vessel should be aware of and provide details relating to the following matters:

- Port Authority Port Entry Requirements (see Section 9.5)
- If loading more than one cargo, the cargoes must be loaded to completion before commencing the next cargo
- The number of passes should be minimised. The maximum number of passes is two passes per hatch plus a maximum of two trim passes. If stresses allow vessels should endeavour to completely fill 2 or more holds in single pours for each hold (BM, SF and tank top loadings must be considered)
- Recommended minimum cargo size is 20,000 tonnes
- Trim passes must be of one coal type
- The deballast time is configured so that the minimum load rate for KCT is 5,000 tph or 2,000 tph at CCT. If unable to synchronise the deballasting program with loading operation, please provide an approximate stoppage duration and pass number at which loading will stop
- It is preferable that the Master of the Vessel reduce or eliminate deballast stoppages provided it is safe to do so. If the vessel is not loading to a loadline or does not have a discharge port draft restriction, then stripping should be kept to a minimum therefore reducing deballast time. The appointed Marine Surveyor can be consulted to help with management of the deballasting program
- Vessels that are loading to their summer draft or have a discharge port draft restriction should identify this in the load sequence
- Vessels must meet terminal air draught requirements (see Section 9.8). PWCS recommends allowing sufficient margin in air draught calculations for tide (note highest astronomical tide is 2.1 metres)
- First passes within a hatch should be as large as possible, rounded to the nearest thousand tonnes (‘000) where possible, unless completing the hatch
- The vessel should not be in a negative trim position (down by the head) for a prolonged period
- The Coal Loading Plan should note an interim draught survey prior to the two trim passes, departure draughts, expected departure tide and de-ballast time
• Notice of the Marine Surveyor engaged to perform interim draught survey and to assist in the trimming of the vessel.

The Master of the Vessel must ensure that the PWCS Person in Charge is made aware of the requirements for harmonisation between ballast operations and cargo loading or unloading rates of their ship and the time required for ballasting operation.

At the same time a Coal Loading Plan is initially submitted PWCS must also be notified if the vessel will discharge or partially load in Newcastle prior to berthing at PWCS, as per instruction given in Section 9.5.

8.3 REVIEW OF COAL LOADING PLAN

Following receipt of the Coal Loading Plan PWCS may:
• Confirm agreement of the Coal Loading Plan after reviewing it against the vessel’s previously submitted Coal Loading Plan and this Handbook; or
• Request the Master of the Vessel to amend the Coal Loading Plan. PWCS may at any time prior to loading, request the Master of the Vessel to amend the Coal Loading Plan due to:
  o Sailing times changing (tide)
  o Coal availability
  o Stockyard conflict
  o Breakdown issues
  o Any other reason PWCS considers necessary, including improving the performance of the vessel or Terminal.

The Master of the Vessel has the final decision on the manner in which the vessel is to be loaded and is not obliged to accede to any request by PWCS for amendments to the proposed Coal Loading Plan.

PWCS must receive confirmation of final tonnages, loading sequence and sailing draught at least two (2) days prior to vessel berthing.

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

8.4 VESSEL NOT READY

If a vessel is not ready, PWCS may require the vessel in question to carry out such actions as will allow it to load in a manner which does not detract from the overall efficiency of the Terminals and which minimises disruption to PWCS’ operations and other Coal Exporters. Such actions may include:
• Entering port to a lay-by berth where no further port navigation is required and commencing de-ballasting prior to loading at a PWCS berth or
• Entering port to a lay-by berth or moving from a PWCS berth to a lay-by berth while repairs or other activities are carried out.

PWCS will notify the Coal Exporter where such action is required and will use all reasonable endeavours to maintain the order of loading for the vessel. Please be aware that it is the obligation of the Coal Exporter (not PWCS) to inform the Master of the Vessel of any of the above requirements. PWCS will not be liable on any account whatsoever for any costs associated with the above actions.
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.

<table>
<thead>
<tr>
<th>Terminal</th>
<th>PWCS Person in Charge</th>
<th>Terminal Representative</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrington</td>
<td>Radio &amp; phone advised on berthing</td>
<td>02 4907 3287</td>
<td>02 4907 3222</td>
</tr>
<tr>
<td>Kooragang</td>
<td>Radio &amp; phone advised on berthing</td>
<td>02 4907 2361</td>
<td>02 4907 2111</td>
</tr>
</tbody>
</table>

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.

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.

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

9.16 DUAL SHIPLADER 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.
10. OTHER MATTERS

10.1 AUSTRALIAN MARITIME SAFETY AUTHORITY (AMSA)

All vessels may be subject to Port State Control inspections by AMSA Surveyors. In some instances, the severity of any deficiencies may result in the vessel being Provisionally Detained until repairs are affected. This can at times result in the vessel being delayed from sailing. Depending on the nature of the rectification work required, it may be necessary to cease loading operations until repair work is completed at the berth or to have the vessel moved to a suitable alternate holding berth for the repair work to be completed, at the vessel owner’s cost.

PWCS must receive immediate written notice of any provisional detention and release that occurs whilst alongside at the Terminals. Notices must be forwarded by the Vessel Agent to _ShippingIssues@pwcs.com.au_ (note the underscore must be included in email address).

Contact details for AMSA in the Port of Newcastle are:

**Senior Marine Surveyor**
Australian Maritime Safety Authority
8 Cowper Street
Carrington NSW 2294
AUSTRALIA
Telephone: +61 2 4961 6300
Fax: +61 2 4961 2694
Email: sydney@amsa.gov.au

10.2 GAS FREEING VESSELS

It is expected that in accordance with good seamanship, the Masters of OBO vessels will ensure that prior to presenting for loading at PWCS Terminals their vessel is Gas Free with a valid Gas Free Certificate. The International Safety Guide for Oil Tankers and Terminals (ISGOTT) details the recommended procedures to be followed. The Master of the Vessel is advised they may be required to establish their vessel (OBO) is gas free during an inspection by AMSA.

The Gas Free Certificate must have been issued by an authority acceptable to PWCS prior to presenting the vessel for loading. A Gas Free Certificate signed only by the Master of the Vessel will not be acceptable.

Acceptance of any vessel carrying slops is subject to the approval of PWCS and the Harbour Master. Slop tanks must be fully inerted, positively pressurised and with an oxygen content of not more than 8% by volume in accordance with ISGOTT. Slop tanks shall remain positively pressurised during loading and must not be manually vented whilst the vessel is at, or near the Terminal. Washing and gas freeing of slop tanks at the Terminal is prohibited.

10.3 INDEMNITY AND RELEASE

10.3.1 INDEMNITY

The owner, Master of the Vessel and Vessel Agent, jointly and severally, will indemnify PWCS, its employees, agents, licensees, contractors and sub-contractors against all claims which PWCS, its employees, agents, licensees, contractors and sub-contractors may incur or which may be brought against or made on PWCS, its employees, agents, licensees, contractors and sub-contractors, arising out of or in connection with any claim arising out of or in any way related to:

(a) The breach of any rule contained in this Handbook;
(b) PWCS taking steps to ensure compliance with any rule contained in this Handbook; or
(c) Any injury, death, damage or loss caused by the vessel or a person associated with the vessel, related directly or indirectly to the vessel berthing, unberthing or being, or intending to be, at the Terminal or otherwise arising out of or in any way related to this Handbook and caused by an act or omission of the Owner, Master of the Vessel or Agent or their employees, agents, licensees, contractors and sub-contractors; and
(d) Any wilful, negligent or unlawful act or omission of the Owner, Master of the Vessel, Vessel Agent or their employees, agents, licensees, contractors and sub-contractors, except to the extent that such breach, injury, death, damage, or loss is caused by PWCS’ own negligence.

Subject to the above, it is recognised and agreed that PWCS has responsibilities for routine repair and maintenance of the Terminal, and this may result in it incurring a loss in respect of damage to the Terminal. In any proceedings by PWCS relating to damage or loss in respect of routine repair and maintenance to the Terminal, PWCS will be taken to have incurred the relevant damage or loss itself.

10.3.2 RELEASE

On and from the date of agreement to comply with this Handbook, or any previous version of the Handbook if not resigned, and in return for PWCS allowing a vessel to use the Terminal, each owner, Master of the Vessel and Vessel Agent of the vessel hereby releases PWCS, its employees, agents, licensees, contractors and sub-contractors from all claims whatsoever which the owner, Master of the Vessel or Vessel Agent have or may have had against them, whether arising out of or in connection with this Handbook, to the fullest extent permitted by law, including without limitation claims for any injury, death, damage, or loss arising out of anything which PWCS does or fails to do in relation to a vessel or relating to a vessel berthing, unberthing or being at the Terminal.

10.4 RESPONSIBILITY FOR DAMAGE CAUSED

The parties acknowledge and agree that:

(a) to the extent any damage is caused to a vessel by PWCS equipment (whether before, during or after the berthing process) PWCS will, on request from the owner of that vessel and presentation of valid receipts, reimburse the owner of that vessel the full value of the cost of any repairs to the vessel required as a result of that damage.

(b) to the extent any damage is caused to PWCS berths or associated equipment (including but not limited to wharf fenders, wharf decking, shiploaders, etc.) by a vessel (whether before, during or after the berthing process) the owner of that vessel will, on request from PWCS, immediately reimburse PWCS the full value of the cost of any repairs to the berth required as a result of that damage.
## APPENDIX A: DEFINITIONS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Draught</td>
<td>Height from Chart Datum to the top of hatch covers.</td>
</tr>
<tr>
<td>AMSA</td>
<td>Australian Maritime Safety Authority.</td>
</tr>
<tr>
<td>Australian Ballast Water Guidelines</td>
<td>Guidelines for the control and management of ships' ballast water to minimize the transfer of harmful aquatic organisms and pathogens as applied by DAFF.</td>
</tr>
<tr>
<td>BLU Code</td>
<td>Code of Practice for the Safe Loading and Unloading of Bulk Carriers published in March 2007 and as amended from time to time.</td>
</tr>
<tr>
<td>Bunkering</td>
<td>The act of supplying fuel oils and/or lubricants to a vessel via road tanker, bunker barge or drums.</td>
</tr>
<tr>
<td>Business Day</td>
<td>A day in New South Wales that is not a Saturday, Sunday or public holiday gazetted by either the New South Wales or Federal Governments and on which banks are generally open for business in Newcastle.</td>
</tr>
<tr>
<td>CCT</td>
<td>Carrington Coal Terminal.</td>
</tr>
<tr>
<td>Chart Datum (CD)</td>
<td>The plane or level to which soundings (elevations) or tidal heights are referenced. For Newcastle, this is the Lowest Astronomical Tide, CD = 0.0m.</td>
</tr>
<tr>
<td>Coal Exporter</td>
<td>Any person, partnership, company, trust, co-operative or other association or entity to which PWCS provides coal handling services.</td>
</tr>
<tr>
<td>Coal Loading Plan</td>
<td>Plan submitted by the Master of the Vessel indicating hatch tonnages, coal type(s), pass sequence, de-ballast time and operations, sailing draught and sailing tide and in the form set out in Appendix B.</td>
</tr>
<tr>
<td>Commenced Loading</td>
<td>Time and date when first coal is delivered into a hatch of the vessel.</td>
</tr>
<tr>
<td>Completion Of Loading</td>
<td>Time and date when the vessel has received the coal tonnage requested by the Master of the Vessel as determined by a draught survey.</td>
</tr>
<tr>
<td>Contract Management System</td>
<td>Safety system used by PWCS to manage organisations that perform work on PWCS sites.</td>
</tr>
<tr>
<td>DAFF</td>
<td>Australian Department of Agriculture, Fisheries and Forestry.</td>
</tr>
<tr>
<td>Dwt</td>
<td>Deadweight in metric tonnes.</td>
</tr>
<tr>
<td>ETL</td>
<td>The estimated time of commencement of loading of the vessel at the coal loading facilities.</td>
</tr>
<tr>
<td>Gas Free</td>
<td>When sufficient fresh air has been introduced into the space to lower the level of a flammable, toxic or inert gas to that required for a specific purpose.</td>
</tr>
<tr>
<td>Gas Free Certificate</td>
<td>Certificate issued by an authorised chemist confirming that, at the time of testing a compartment, it was gas free for a specific purpose.</td>
</tr>
<tr>
<td>Harbour Master</td>
<td>The official responsible for enforcing the regulations of the Port of Newcastle in order to ensure the safety of navigation, the security of the harbour and the correct operation of the port facilities.</td>
</tr>
<tr>
<td>Hatch</td>
<td>An opening in a deck of a ship providing access to a hold through which cargo is loaded.</td>
</tr>
<tr>
<td>Hold</td>
<td>The under deck space in which cargo is placed.</td>
</tr>
</tbody>
</table>
### APPENDIX A: DEFINITIONS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydraulic Interaction</strong></td>
<td>Reaction of a vessel’s hull to pressure exerted on its underwater volume caused by a passing vessel.</td>
</tr>
<tr>
<td><strong>IMO</strong></td>
<td>International Maritime Organisation.</td>
</tr>
<tr>
<td><strong>IMSBC Code</strong></td>
<td>International Maritime Solid Bulk Cargo Cargoes Code as amended from time to time (replaces BC Code as of 1st January 2011)</td>
</tr>
<tr>
<td><strong>Inducted Person</strong></td>
<td>Employee or contractor who has successfully completed PWCS Induction training.</td>
</tr>
<tr>
<td><strong>Interim Draught Survey</strong></td>
<td>The draught survey undertaken prior to the trimming of the vessel to ensure the vessel is loaded to the correct trim and agreed tonnage.</td>
</tr>
<tr>
<td><strong>ISPS Code</strong></td>
<td>International Ship and Port Facility Security Code as amended from time to time.</td>
</tr>
<tr>
<td><strong>ISM Certificate</strong></td>
<td>International Safety Management Certificate.</td>
</tr>
<tr>
<td><strong>KCT</strong></td>
<td>Kooragang Coal Terminal.</td>
</tr>
<tr>
<td><strong>LHW</strong></td>
<td>Lowest High Water.</td>
</tr>
<tr>
<td><strong>LOA</strong></td>
<td>Length Overall.</td>
</tr>
<tr>
<td><strong>MARPOL 73/78</strong></td>
<td>International Convention for the Prevention of Pollution from Ships 73/78 with amendments.</td>
</tr>
<tr>
<td><strong>Master of the Vessel</strong></td>
<td>Person accountable for the safe operation of the vessel including loading and unloading. The Master may nominate a Vessel Representative (e.g. Cargo Officer) to interface with PWCS.</td>
</tr>
<tr>
<td><strong>Mates Receipt / Shiploading Certificate</strong></td>
<td>Document of that title provided to the vessel on behalf of and at the request of the Coal Exporter. PWCS is not responsible for the accuracy or the quality of the information stated in any such document.</td>
</tr>
<tr>
<td><strong>Marine Orders</strong></td>
<td>The Marine Orders prepared by the Australian Maritime Safety Authority in accordance with the Navigation Act 2012 and as amended from time to time.</td>
</tr>
<tr>
<td><strong>Marine Surveyor</strong></td>
<td>Any person who is a full member, or their employer includes a full member of the Institute of Marine Surveyors. This person must have proven proficiency in bulk loading of vessels, including hold preparation and cargo draught surveys and must be accredited or is employed by a company that is accredited in the PWCS contractor management system.</td>
</tr>
<tr>
<td><strong>OBO</strong></td>
<td>Oil-Bulk-Ore Carrier.</td>
</tr>
<tr>
<td><strong>Personal Protective Equipment (PPE)</strong></td>
<td>Protective clothing, helmets, goggles, gloves, or other garments designed to protect the wearer’s body from injury.</td>
</tr>
<tr>
<td><strong>Port Authority</strong></td>
<td>Port Authority of New South Wales. The organisation responsible for port safety functions including pilotage, navigation services, dangerous goods, marine pollution and emergency response.</td>
</tr>
<tr>
<td><strong>Port of Newcastle</strong></td>
<td>The port lessee. Responsibilities include vessel scheduling, pricing for navigation services and maintenance of major port assets including the channel.</td>
</tr>
<tr>
<td><strong>Provisionally Detained</strong></td>
<td>Vessel detained as per AMSA’s Port State Control mandates.</td>
</tr>
<tr>
<td><strong>PWCS</strong></td>
<td>Port Waratah Coal Services Limited.</td>
</tr>
</tbody>
</table>
**APPENDIX A: DEFINITIONS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PWCS Services Portal</strong></td>
<td>Website used by PWCS for the management of coal handling services.</td>
</tr>
<tr>
<td><strong>PWCS Person in Charge (VBLO)</strong></td>
<td>PWCS accountable person assisting the Terminal Representative (Operations Supervisor) in the safe loading of cargo into vessels in accordance with the agreed sequence and tonnage stated in the vessel’s Coal Loading Plan and Marine Orders part 32, Clause 10, Loading and Unloading.</td>
</tr>
<tr>
<td><strong>RightShip</strong></td>
<td>Ship vetting system that advises PWCS on vessel suitability based on vessel specifications, history and physical inspections.</td>
</tr>
<tr>
<td><strong>Operations Supervisor</strong></td>
<td>PWCS employee accountable for the safe operation of the Terminal including, but not limited to, rail receival, stockyard and loading cargo into vessels in accordance with the sequence and tonnages stated in the vessel’s Coal Loading Plan.</td>
</tr>
<tr>
<td><strong>Ship Handling Safety Guidelines</strong></td>
<td>The document so titled provided published by the Port Authority, available online: as amended from time to time.</td>
</tr>
<tr>
<td><strong>Ship / Shore Safety Checklist</strong></td>
<td>Checklist that assists with the safe loading of bulk carriers as prescribed in the BLU Code Appendix 3.</td>
</tr>
<tr>
<td><strong>Shiploader</strong></td>
<td>Mechanical device designed to load coal by gravity from conveyors.</td>
</tr>
<tr>
<td><strong>Terminals</strong></td>
<td>PWCS Carrington or PWCS Kooragang.</td>
</tr>
<tr>
<td><strong>Terminal Representative</strong></td>
<td>PWCS Operations Supervisor</td>
</tr>
<tr>
<td><strong>TPH (tph)</strong></td>
<td>Tonnes Per Hour.</td>
</tr>
<tr>
<td><strong>UKC</strong></td>
<td>Under Keel Clearance.</td>
</tr>
<tr>
<td><strong>Vessel Agent</strong></td>
<td>Person or firm authorised by the vessel owner or charterer to act on their behalf.</td>
</tr>
<tr>
<td><strong>Vessel Load Rate (VLR)</strong></td>
<td>Measure used by PWCS to assess vessel performance. Average tonnes per hour loaded in the period of time between commencement and completion of loading less time incurred due to delays not attributable to the vessel (e.g. caused by PWCS).</td>
</tr>
<tr>
<td><strong>Vessel Owner</strong></td>
<td>Relevant organisation listed as the registered owner or the fleet manager of the vessel.</td>
</tr>
<tr>
<td><strong>Vessel Questionnaire</strong></td>
<td>Document completed by the Master of the Vessel that provides information to PWCS that assists PWCS in determining the suitability of loading a vessel.</td>
</tr>
<tr>
<td><strong>Vessel Representative</strong></td>
<td>Master of the Vessel, or a person nominated by the Master of the Vessel, to be the interface between the vessel and PWCS.</td>
</tr>
</tbody>
</table>
Appendix C: Sailing Draught Guidelines

Maximum draughts to or from Carrington and Kooragang Terminals are given in the table below. Current promulgated depths must also be considered.

<table>
<thead>
<tr>
<th>Tide prediction (m)</th>
<th>0.00</th>
<th>0.01</th>
<th>0.02</th>
<th>0.03</th>
<th>0.04</th>
<th>0.05</th>
<th>0.06</th>
<th>0.07</th>
<th>0.08</th>
<th>0.09</th>
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<tbody>
<tr>
<td>0.0</td>
<td>13.82</td>
<td>13.83</td>
<td>13.84</td>
<td>13.85</td>
<td>13.86</td>
<td>13.87</td>
<td>13.88</td>
<td>13.89</td>
<td>13.90</td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>14.00</td>
<td>14.01</td>
<td>14.02</td>
<td>14.03</td>
<td>14.04</td>
<td>14.05</td>
<td>14.06</td>
<td>14.07</td>
<td>14.08</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>15.00</td>
<td>15.01</td>
<td>15.02</td>
<td>15.03</td>
<td>15.04</td>
<td>15.05</td>
<td>15.06</td>
<td>15.07</td>
<td>15.08</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>15.09</td>
<td>15.10</td>
<td>15.11</td>
<td>15.12</td>
<td>15.13</td>
<td>15.14</td>
<td>15.15</td>
<td>15.16</td>
<td>15.17</td>
<td></td>
</tr>
<tr>
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<td>15.25</td>
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<td></td>
</tr>
<tr>
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<td>15.28</td>
<td>15.29</td>
<td>15.30</td>
<td>15.31</td>
<td>15.32</td>
<td>15.33</td>
<td>15.34</td>
<td>15.35</td>
<td></td>
</tr>
<tr>
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<td>15.38</td>
<td>15.39</td>
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<td>15.44</td>
<td></td>
</tr>
<tr>
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<td>15.46</td>
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<td>15.48</td>
<td>15.49</td>
<td>15.50</td>
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</tr>
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<td>15.57</td>
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<td>15.85</td>
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<td>15.87</td>
<td>15.88</td>
<td>15.89</td>
<td>15.90</td>
<td></td>
</tr>
</tbody>
</table>

All vessel draughts are based on a 10% static underkeel allowance, and based on two (2) decimal places.

Whilst at berth the underkeel clearance of the vessel shall not be less than 0.3 of a metre. It is the responsibility of the Master of the Vessel to ensure the required clearance is provided.

Vessels are required to provide to the Port Authority 12 hours prior to sailing their maximum sailing draught so that it can be analysed in the Swell and Under Keel Clearance System (SAUCS). This system provides Pilots with greater information with regard to the vessel's condition, Port condition and the prevailing weather.
APPENDIX D: DRAWINGS

The following drawings are intended to compliment information contained in this Handbook. Refer to the relevant Handbook section for contextual information

<table>
<thead>
<tr>
<th>Item</th>
<th>Title</th>
<th>Drawing No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.1</td>
<td>Newcastle Port Map</td>
<td>N/A</td>
</tr>
<tr>
<td>D.2</td>
<td>Carrington Terminal Air Draught Elevation</td>
<td>281268 Rev 4</td>
</tr>
<tr>
<td>D.3</td>
<td>Carrington Terminal Wharf Plan</td>
<td>281269 Rev 6</td>
</tr>
<tr>
<td>D.4</td>
<td>Kooragang Terminal Air Draught Elevation</td>
<td>281275 Rev 4</td>
</tr>
<tr>
<td>D.5</td>
<td>Kooragang Terminal Wharf Plan</td>
<td>348950 Rev 8</td>
</tr>
<tr>
<td>D.6</td>
<td>Pictures of Common Issues</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Note: Only PWCS terminals shown.
D.2: CARRINGTON TERMINAL AIR DRAUGHT ELEVATION
D.6: PICTURES OF COMMON ISSUES

**Wharf timbers damaged by gangway**
- Adjust gangway regularly to allow for tide and loading.

**Brow damaged or dropped in harbour.**

**Do not access close to shiploader legs**
- Shiploader may move.
APPENDIX E: INSTRUCTIONAL POSTERS

The following items are intended to highlight important terminal policies, procedures and information to vessel crew in a poster format. The PWCS Person in Charge will tear out these pages and discuss with the Master of the Vessel upon berthing. Consider cutting the posters from the Handbook and placing on notice boards or discussing with your crew in briefings.

The Receipt of PWCS Handbook shall be signed and retained by the PWCS Person in Charge.

<table>
<thead>
<tr>
<th>Item</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.1</td>
<td>Receipt of PWCS Handbook</td>
</tr>
<tr>
<td>E.2</td>
<td>Carrington wharf access</td>
</tr>
<tr>
<td>E.3</td>
<td>Kooragang wharf access</td>
</tr>
<tr>
<td>E.4</td>
<td>Transport arrangements at wharf facilities</td>
</tr>
<tr>
<td>E.5</td>
<td>Hydraulic interaction between vessels</td>
</tr>
<tr>
<td>E.6</td>
<td>Personal Protective Equipment (PPE) for vessel crew</td>
</tr>
<tr>
<td>E.7</td>
<td>Air draught limit - CCT</td>
</tr>
<tr>
<td>E.8</td>
<td>Air draught limit - KCT</td>
</tr>
<tr>
<td>E.9</td>
<td>Cargo hold access requirements during loading</td>
</tr>
<tr>
<td>E.10</td>
<td>Communications</td>
</tr>
<tr>
<td>E.11</td>
<td>Access on deck during loading</td>
</tr>
<tr>
<td>E.12</td>
<td>No Smoking Signage</td>
</tr>
<tr>
<td>E.13</td>
<td>Examples of Unacceptable Mooring Line Conditions</td>
</tr>
<tr>
<td>E.14</td>
<td>Emergency Contact Procedure for Vessels</td>
</tr>
</tbody>
</table>
E.I: RECEIPT OF PWCS HANDBOOK

ACKNOWLEDGMENT OF RECEIPT OF THE PORT WARATAH COAL SERVICES LIMITED COAL TERMINAL INFORMATION HANDBOOK

The Coal Terminals Information Handbook, (Revision 5.4) was issued to:

Name: …………………………………………………………………………………………………………………………………………………

Vessel: …………………………………………………………………………………………………………………………………………………

- I am the Master of the Vessel or Vessel Representative.
- I acknowledge receipt of the Port Waratah Coal Services Limited Coal Terminals Information Handbook and understand and agree to comply with its contents (unless otherwise agreed in writing with PWCS).
- I acknowledge that as the Master of the Vessel for each return trip I will be required to understand and agree to comply with the Port Waratah Coal Services Limited Coal Terminals Information Handbook contents (unless otherwise agreed in writing with PWCS). This will be confirmed at vessel sign up.
- I acknowledge that from time to time PWCS may vary or produce addendums to the Port Waratah Coal Services Limited Coal Terminals Information Handbook and that it is a requirement that any addendums be complied with and kept with the Handbook itself.
- It is the responsibility of the Master or Vessel Representative to visibly display the Coal Terminal Information Handbook tear out sheets and to ensure all vessel crew and visitors are informed, understand and comply with the health and safety information provided.
- I acknowledge that I am responsible for the safe loading of the vessel.

Date of Issue:

…………………………………………

Signature:

…………………………………………
E.2: CARRINGTON WHARF ACCESS

FOR SAFE ACCESS TO CARRINGTON WHARF VESSEL CREW MUST:

- Follow all PWCS safety policies
- Wear Personal Protective Equipment (PPE)
- Ride from ship to entry gate by accredited vehicle only – no walking
- Be escorted by PWCS inducted person when accessing areas away from the vessel
- Only access the wharf for operational purposes
- Minimise exposure to tensioned mooring lines
- No access to gangway and lower wharf deck while a vessel is passing
E.3: KOORAGANG WHARF ACCESS

FOR SAFE ACCESS TO KOORAGANG WHARF VESSEL CREW MUST:

- Follow all PWCS safety policies
- Wear Personal Protective Equipment (PPE)
- Ride from ship to entry gate by accredited vehicle only – no walking
- Be escorted by PWCS inducted person when accessing areas away from the vessel
- Only access the wharf for operational purposes
- Minimise exposure to tensioned mooring lines

KOORAGANG WHARF ACCESS

PARK IN DESIGNATED AREAS ONLY
KEEP CLEAR OF ALL MOORING ARRANGEMENTS
THIS PAGE LEFT BLANK INTENTIONALLY
E.4: TRANSPORT ARRANGEMENTS AT WHARF FACILITIES

ONLY ACCREDITED TRANSPORT PROVIDERS CAN ACCESS PWCS WHARF FACILITIES.

At present, they are:

- Pick up and drop off must be from the Vessel
- PPE must be worn when boarding or exiting Vessel
- PPE can be stored at the Wharf Security gate until person(s) return
- PWCS will not provide transport to any person(s) dropped off at the Wharf Security

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 6.2

Newcastle Hire Cars (02) 4960 1800

Mission to Seafarers (02) 4961 5007
E.5: HYDRAULIC INTERACTION BETWEEN VESSELS

INTERACTION WITH PASSING SHIPS

When vessels pass PWCS berths moored vessels can move significantly. Parted mooring lines, disconnection of gangway and damage to the wharf and brow can occur.

It is the Masters responsibility to ensure:

- Lines are tight at all times.
- Winches are in ‘brake’ mode. Auto-tension mode is prohibited.
- At Carrington Terminal (Dyke 4/5) no access to gangway or lower wharf deck while a vessel is passing.

Non-compliance may result in suspension for future visits to PWCS Terminals.

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 9.6.2"
THIS PAGE LEFT BLANK INTENTIONALLY
E.6: PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR VESSEL CREW

MINIMUM PPE REQUIREMENTS FOR VESSEL CREW

- Safety Helmet
- Eye Protection
- Hi-Visibility Clothing or Vest
- Life Vest must be worn on gangway and wharf
- Enclosed Footwear

PPE must be provided for crew boarding and exiting vessel during visits and shore leave.

Equipment can be stored at Wharf Security gates during leave.

PWCS will NOT provide PPE.

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 5.2
E.7: AIR DRAUGHT LIMIT - CCT

CARRINGTON TERMINAL AIR DRAUGHT LIMIT IS 18.5 METRES FROM CHART DATUM TO HATCH COVERS

WHILE AT BERTH THE TIDE MUST BE TAKEN INTO CONSIDERATION

To perform any loading, the top of hatch covers (of the hold to be loaded) must stay below the clearance line marked in white on the Ship Loaders.

When within 1 metre of the air draught limitation vessels should maintain trim by the stern of at least 1% of LOA.

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 9.8
THIS PAGE LEFT BLANK INTENTIONALLY
KOORAGANG TERMINAL AIR DRAUGHT LIMIT IS 20.5 METRES FROM CHART DATUM TO HATCH COVERS

WHILE AT BERTH THE TIDE MUST BE TAKEN INTO CONSIDERATION

To perform any loading, the top of hatch covers (of the hold to be loaded) must stay below the clearance line marked in red on the Ship Loaders.

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 9.8
E.9: CARGO HOLD ACCESS REQUIREMENTS DURING LOADING

NO PERSON IS TO ENTER ANY HATCH ONCE LOADING HAS COMMENCED

Any variation to this requirement must be authorised by agreement between the Terminal Representative and Master of the Vessel.

Entry must be supervised by an Officer of the Vessel.

The hatch must be partially closed prior to entry to indicate crew are working in the hatch.

FOR FURTHER INFORMATION, SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 5.3 & 6.3
E.10: COMMUNICATIONS

TERMINAL CONTACT DETAILS

☐ CARRINGTON TERMINAL
☐ D4 BERTH
☐ D5 BERTH

PWCS PERSON IN CHARGE:  
☐ 0417 271 255
☐ 0437 997 612

TERMINAL REPRESENTATIVE:  
(02) 4907 3287

PWCS RADIO:  
CCT CHANNEL 2

WHARF SECURITY GATE:  
(02) 4907 3352

EMERGENCY:  
(02) 4907 3222

.. or if no answer notify ‘Newcastle Harbour’ on VHF CH.9

☐ KORAGANG TERMINAL
☐ K4 BERTH
☐ K6 BERTH
☐ K5 BERTH
☐ K7 BERTH

PWCS PERSON IN CHARGE:  
☐ 0423 884 136
☐ 0423 884 137

TERMINAL REPRESENTATIVE:  
(02) 4907 2361

PWCS RADIO:  
KCT CHANNEL 2

WHARF SECURITY GATE:  
(02) 4907 2190

EMERGENCY:  
(02) 4907 2111

.. or if no answer notify ‘Newcastle Harbour’ on VHF CH.9

FOR FURTHER INFORMATION SEE ‘COAL TERMINALS INFORMATION HANDBOOK’

- Page 1: Emergency Contact Procedure for Vessels
- Section 9.1: Communication
E.11 ACCESS ON DECK DURING LOADING

NO PERSON TO STAND UNDERNEATH CHUTE DURING MOVEMENT OF SHIPLOADING

No person is to stand underneath the chute during movement of shiploading due to risk of falling hang-up during loading (i.e., during hatch changes).

FOR FURTHER INFORMATION, SEE ‘COAL TERMINALS INFORMATION HANDBOOK’ SECTION 5
All vessels loading at PWCS must ensure that a non-smoking area on the vessel is supplied to PWCS personnel to allow their duties to be performed in a smoke free environment as required by Work Health and Safety Act 2011 (NSW).
E.13: EXAMPLES OF UNACCEPTABLE MOORING LINE CONDITIONS

Fraying/Chafing/Abrasion or Poor Splicing

Cut Strands

Poorly spooled Winch Drums and/or Buried Turns
1) Use vessel satellite phone or any operating mobile phone to call:

<table>
<thead>
<tr>
<th>Location of Vessel</th>
<th>Country Code</th>
<th>Area Code</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrington (Berths D4, D5)</td>
<td>61</td>
<td>02</td>
<td>4907 3222</td>
</tr>
<tr>
<td>Kooragang (Berths K4, K5, K6, K7)</td>
<td>61</td>
<td>02</td>
<td>4907 2111</td>
</tr>
</tbody>
</table>

2) State:
   - Vessel Name
   - Terminal location & berth number
   - Type of emergency
   - Type of assistance required

3) Also notify ‘Newcastle Harbour’ on:
   VHF Channel 9

4) Advise PWCS person in charge and clear all personnel from areas of danger.