



PACIFIC COAST TERMINALS CO. LTD.

Visiting Ship Guidelines

*****VERY IMPORTANT*****

Prior to berthing of a vessel and Berth 1 or 2 at PCT, a vessel representative must sign and return this page to PCT acknowledging receipt and understanding of the entire Visiting Ship Guidelines document. The document must be returned to PCT prior to berthing, failure to do this may result in delay costs to the vessel.

Vessel Representative: _____ Date: _____

Signature: _____

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1. Definitions

BS:	British Standard.
CHS:	Canadian Hydrographic Service with reference to chart datum
CM:	Centre of manifold.
CSA:	Canada Shipping Act.
IGS:	Inert gas system.
ILO:	International Labour Organization.
IMO:	International Maritime Organization.
L/Min.:	Litres per minute.
Loading Foreman:	The person appointed by the Terminal Operator as supervisor of the transfer operation for the facility.
Operator:	The person on duty during the transfer operation.
PCT:	Pacific Coast Terminals Co. Ltd.
POV:	Port of Vancouver.
TCZ-2:	Second Narrows Bridge marine traffic control zone.
Tonnage:	The total weight of the vessel, its stores and its cargo.
Vessel Supervisor:	The certified person in charge of the cargo transfer operation on the vessel.
VFPA:	Vancouver Fraser Port Authority, the federally mandated organization responsible for the administration of the Port of Vancouver and the Fraser Port.



2. General Information

2.1. Location

Pacific Coast Terminals is located in Port Moody, British Columbia and is shown on Canadian Hydrographic Service Chart No. 3495, Vancouver Harbour, Eastern Portion. Its position is: 49° 17.4' N, 122° 52.1' W.

Its location requires vessels to transit through Vancouver Harbour and the Second Narrows Bridge which is a Traffic Control Zone as defined by the Vancouver Fraser Port Authority (VFPA). Procedures for vessels transiting the Second Narrows, referred to as TCZ-2, are published in the Port of Vancouver "Port Information Guide" and the TCZ-2 excerpt is included in these guidelines, **Appendix E**. Masters must operate their vessels in compliance with the TCZ-2 procedures.

2.2. Facility Description

Pacific Coast Terminals has two separate berths along a continuous dock structure. The face of the dock lies along a bearing of approximately 140° - 320° true, and is well to the south of the centre of the navigational approach channel. Refer to **Appendices A and C** showing the berth, turning basin and approach channel general arrangement.

2.2.1. Berth No. 1

Berth No. 1 is the liquids loading facility. It is used for transferring Ethylene Glycol and Canola Oil from the terminal onto tankers.

Berth No. 1 is the western portion of the dock structure extending from dolphin 0 to the west and to dolphin 6 to the east over a distance of approximately 254 m.

2.2.2. Berth No. 2

Berth No. 2 is the bulk solids loading facility. It is used for transferring sulphur and potash from the terminal onto dry bulk carrying vessels.

Berth No. 2 is the eastern portion of the dock structure extending from dolphin 6 to the west and to dolphin 19 to the east over a distance of approximately 300 m.



2.3. Water Depth, Air Draft, Approach Channel and Turning Basin

2.3.1. Water Depth

Water depth at berth is presented in a hydrographic survey dated September 2019, **Appendix B**. The shallowest defining depths tide and chart from the survey are:

- Berth 1: 12.8 m;
- Berth 2: 12.4 m.

The Second Narrows TCZ-2 establishes maximum drafts for vessels that are linked to minimum tidal transit heights, **Appendix E**.

The defining depth of the navigation channel is 13.0m chart datum, soundings are presented in **Appendix D**.

The defining depth of the turning basin is 12.9m chart datum, soundings are presented in **Appendix D**.

2.3.2. Air Draft

Vessels must pass under two bridges and three overhead cables on route to the facility. The maximum air draft allowed is 42 m above higher high water.

There is no limiting air draft alongside the berths.

2.3.3. Approach Channel and Turning Basin

The dredged approach channel from the deeper water of Burrard Inlet to the ship turning basin at Pacific Coast Terminals has parameters noted in **Table 1**.

Table 1: Approach Channel and Turning Basin Parameters

Parameter	Value
Channel Length	Approximately 1700 m
Channel Width	104 m straight, 124 m at bends
Channel Depth (CHS datum)	13.0 m
Channel Side Slopes	Varies 3H:1V to 5H:1V
Channel Bend	20.2° west, 19.8° east
Turning Basin Diameter	320 m
Turning Basin Depth (CHS datum)	12.9 m



Refer to **Appendix D** for soundings of the approach channel and turning basin. Visiting ships are advised that on the eastern margin of the turning basin the bottom shoals rapidly at 2.5H:1V to a depth of 4.5 m at an underwater berm, construction completed in January 2019. Vessel navigation systems not updated may not show this bottom feature.

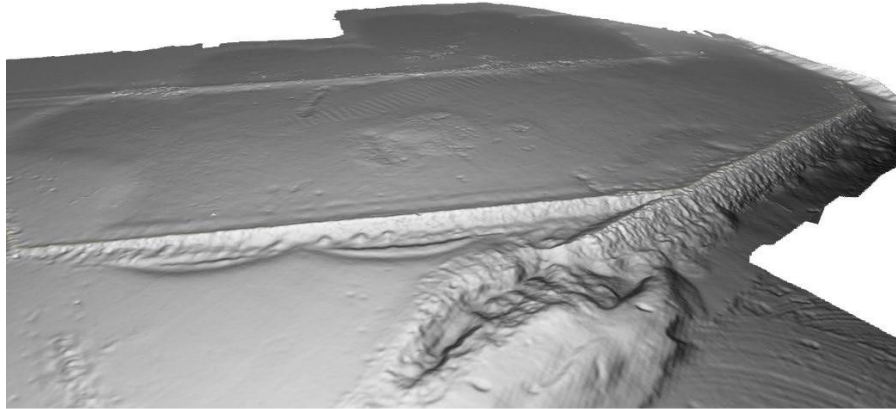


Photo 1: Underwater berm at east end of turning basin.

2.4. Services at the Berth

Minimal services are available at Pacific Coast Terminals berth. Potable water is available, for a charge, at both berths.

Off-loading of slops/hazardous waste/garbage of any kind at berth 1 either on shore or offshore is strictly prohibited. Deliveries of any WHIMS or TDG products must be approved by the terminal before loading to the ship and must follow all applicable handling procedures for these products.

The ship's crew shall ensure that no garbage, dunnage, wood utilized for pallets or crating are left at the terminal.

Services such as garbage scows are available within Vancouver Harbour at commercial rates.

2.5. Security

There is strict 24-hour security at this fenced facility. A guarded gate controls road access.



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Crews are required to use PCT security shuttle, or a pre-authorized transportation service when shuttling between the security gate and the berths. There shall be no pedestrian traffic.

No crew members shall consume, sell, purchase, distribute, or be under the influence of drugs and/or alcohol on the terminal premises.

2.6. Access to Shore

2.6.1. Gangways

Vessel Provided:

Vessels must provide safe gangway access for their crew and PCT personnel. Gangways must have adequate length to reach the dock elevation which is 7.3 m above Chart Datum. Only aft gangways are accepted at Berth 2.

As per Transport Canada gangways must have a safety net installed as per subsections 12(10) and that meets the prescribed standard (ANSI A10.11(1998) as per section 17 of the MOHSR.

Gangways shall be fitted with nets on both sides of an access ladder for a distance of 1.8 m and be draped under the gangway from the side of the ship and attached to the dock below. Gangway nets shall be kept taught at all times and shall have hand lines all the way along the gangway.

or

Where a fully railed ladder or gangway is provided, the safety net shall extend from the top rail under the ladder or gangway.

Terminal Provided:

A gangway is available for rent from PCT. Twenty-four hour notice is required for gangway rental.

2.6.2. Pedestrian and Vehicle Access

The walkways to the docks and connecting Berth No. 1 and Berth No. 2 are narrow and suitable for pedestrian traffic only.



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Limited access for light vehicles, such as delivery vans, is available to each berth via the East Pier and West Pier. The load limit for the West Pier is 7,750 kg/axle and load limit for the East Pier is 8,000 kg/axle. These limits are based on a 6m minimum axle spacing. Any vehicular traffic onto the terminal site must be approved by PCT.

2.7. Weather

Continuous marine forecasts and local weather reports are available from the Canadian Coast Guard on VHF Channels 21B and WX1, WX2, WX3.

2.8. Tides and Currents

At Port Moody tidal level can range about 5.0 m on a large tide and 3.3 m on a mean tide. Due to PCT location near the end of Port Moody Arm, tidal currents off the dock are low with maximum currents approximately 1 to 2 knots.

2.9. Website Reference Information

PCT's website at URL: www.pct.ca/our-operations/vessel-information/ presents the following reference information:

- Vessel Guidelines
- Ballast Water Control & Management Regulations (or **Appendix F**)
- Port Information Guide
- Berth General Arrangement and Soundings (or **Appendices A and B**)
- Gangway Rental Agreement
- Ship Shore Safety Checklist (or **Appendix G**)
- Bulk Terminal Tariff
- Tariff Berthage Gangway and Water
- Tariff Lines



3. Communications

3.1. Estimated Time of Arrival (ETA)

Masters, or their agents, are required to coordinate their arrival in accordance with the terms of the charter party (deep-sea vessels), and local agreements (tug and barge) and to advise the terminal as follows:

Deep-Sea Vessels: 72 hours prior to arrival; 48 hours update; 24 hours update; 12 hours update; 3 hours prior to arrival.

n.b.: Masters should take into account the impact of the requirements of the TCZ-2TCZ on the vessel's ETA at the berth.

3.2. Pre-Arrival Information

In addition to ETA, Masters, or their agents, are required to provide all relevant vessel information prior to arriving at PCT. This includes, but is not limited to:

- Ship particulars
- Security Information, including expected visitors/deliveries
- Detailed loading plan, including initial displacement and expected sailing draught
- Details of any other cargo on board, including relevant documentation (eg. MSDS)
- Mooring requirements
- Bunkering requirements
- Gangway requirements
- Any other information relating to the safe loading at the terminal, per accepted BLU Code and ISGOTT standards

3.3.

- PCT Port Moody Operations: 604-939-7371
Fax: 604-936-6850
- PCT Port Moody Security and 24 hour Contact: 24 Hours: 604-931-9211
(Afterhours - Security can connect with the on duty Operations Manager.) Cell: 604-868-4879
- PCT Port Moody Bulk Solids Loading Foreman: Cell: 604-868-1695

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- PCT Port Moody Bulk Liquids Loading Foreman: 604-931-9212
Cell: 604-868-4567
- Vancouver Harbour Master: 24 Hours: 604-665-9086
Office Hours: 604-665-9000
Fax: 1-866-284-4271
- Pacific Pilotage Authority: 604-666-6771 Fax:604-666-1647
- Western Canada Marine Response Corporation: 604-294-6001
Fax: 604-294-6003
- Police, Fire and Ambulance: 911
- Canadian Coast Guard
(Oil Spills, Fire/Emergencies): 604-666-6011
- Canada Customs: 604-666-0272
- Saam Smit Canada: 24 Hours: 604-253-8881
(Tug support - berthing and emergencies)
- Seaspan: 24 Hours: 604-990-3300
(Tug support - berthing and emergencies)
- Seaforth Marine Group
(Canola Boom Deployment): 604-808-3740



4. Berthing and Mooring

4.1. Vessel Size Restrictions

Canola

Berth No. 1 is designed to accommodate Canola liquid carrying vessels (tankers) ranging in size from 9,000 dwt to 70,000 dwt and within the constraint of the loading arm reach.

- Maximum Length 240 m.
- Minimum Length 133 m.
- Beam 18 m to 33.5 m.

Glycol

Berth No. 1 is designed to accommodate Glycol liquid carrying vessels (tankers) ranging in size from 9,000 dwt to 70,000 dwt and within the constraint of the loading arm reach.

- Maximum Length 240 m.
- Minimum Length 133 m.
- Beam 18 m to 33.5 m.

Sulphur

Berth No. 2 is designed to accommodate Sulphur bulk carrying vessels ranging in size from 12,000 dwt to 70,000 dwt.

- Maximum Length 240 m.
- Minimum Length 142 m.
- Beam 18 m to 33.5 m.
- Larger vessels may be warped if a vessel in Berth No. 1 does not impede movement.

Potash

Berth No. 2 is designed to accommodate Potash bulk carrying vessels ranging in size from 12,000 DWT to Panamax and within the constraint of the ship loader clearances, hatch coverage and the arrival draught noted later in this section.



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- Maximum Length 240 m.
- Minimum Length 142 m.
- Beam 18 m to 32.5 m.
- Larger vessels may be warped if a vessel in Berth No. 1 does not impede movement.

Draught (see Section 2.3.1 and **Appendix B**) and dolphin range of main pull criteria (see the table in Section 4.3 below) shall be met for all vessels. It has been assumed that tanker manifolds are located at the midpoint of fore and aft; should this not be the case the maximum manifold to stern length shall be 120 m.

Partially laden vessels may need to limit arrival draught as noted in the following tables.

Berthing velocity must not exceed 0.1 m/s.

**Arrival Draught Limits for Tankers
Pacific Coast Terminals, Berth 1**

Bulk Carrier Summer Deadweight (tonnes)		Arrival Draught Limit (m)
from	to	
50,000	52,000	12.8
52,000	54,000	12.9
54,000	56,000	13.0
56,000	58,000	12.9
58,000	60,000	12.6
60,000	62,000	12.4
62,000	64,000	12.2
64,000	66,000	12.0
66,000	68,000	11.8
68,000	70,000	11.6
70,000	72,000	11.4
72,000	74,000	11.2
74,000	76,000	11.0
76,000	78,000	10.9
78,000	80,000	10.7
80,000	82,000	10.5
82,000	84,000	10.4
84,000	86,000	10.2
86,000	88,000	10.0
88,000	90,000	9.9
90,000	92,000	9.8



**Arrival Draught Limits for Bulk Carriers
Pacific Coast Terminals, Berth 2**

Bulk Carrier Summer Deadweight (tonnes)		Arrival Draught Limit (m)
from	to	
50,000	52,000	12.2
52,000	54,000	12.0
54,000	56,000	11.9
56,000	58,000	11.8
58,000	60,000	11.6
60,000	62,000	11.5
62,000	64,000	11.4
64,000	66,000	11.3
66,000	68,000	11.2
68,000	70,000	11.0
70,000	72,000	10.9
72,000	74,000	10.8
74,000	76,000	10.7
76,000	78,000	10.6
78,000	80,000	10.5
80,000	82,000	10.3
82,000	84,000	10.2
84,000	86,000	10.1
86,000	88,000	10.0
88,000	90,000	9.9
90,000	92,000	9.8

The vessel size parameters identified above for each commodity comply with Port of Vancouver Traffic Control Zone 3 (TCZ-3) regulations. Size restrictions may be relaxed for an individual vessel subject to a review of the special circumstances by the Port of Vancouver and approval of Special Operating Procedure from the Port. These vessels must also have written approval by PCT Management.

4.2. Berthing

Vessels are berthed port side to the dock. The vessel is turned around on approach the berth. This is done to eliminate turning loaded vessels on departure and to facilitate gangway placement on the wider portions of the dock structure. *Please note that the gangway must be folded tight against the vessel to avoid equipment colliding with dock infrastructure.*

The dock is well situated for a routine approach with way taken off the vessel as it nears
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position and the tugs assisting to achieve near parallel berthing on the dolphins. The forward spring is normally the first line run to shore. The maximum tidal current at the dock is 1 to 2 knots.

The fendering systems for both Berth No. 1 and 2 have the performance criteria in **Table 2**:

Table 2: Fender System Performance Criteria

Vessel Type	Max. Displacement	Max. Approach Angle	Max. Approach Velocity
Bulk Carrier	70,000 tonnes	3 degrees	0.1 m/sec

The dock structure consists of discreet dolphins fitted with fender panels supported on rubber buckling cell fenders. The master must ensure that assist tugs are secured to the vessel and care must be taken to avoid the vessel's bow or stern falling inside the line of the face of the dock, approach angles steeper than 3 degrees could result in insufficient setback clearance between the vessel hull and infrastructure behind the berth line. Water depths decrease rapidly inshore of the berth line and the dock structure between the dolphins is vulnerable to damage on contact with a vessel.

The mooring position is communicated via the on board pilot. PCT's mooring positions are as follows:

Berth No.1: There is light on each loading arm; a green light on will indicate the loading arm to be attached to the vessel manifold. The vessel is positioned such that the vessel's manifold is in line with the indicated loading arm. The area is marked by checkered flag.

Berth No.2: The position of the vessel's loading hatches depends on the vessel size as follows:

- 5 Hatch vessels align with the centre hatch aligned with the sign located at the centre of the quadrant beam, **Photo 1**.



Photo 2: 5 hatch vessel spotting sign at centre of quadrant beam

- 7 Hatch vessels align with the end of the last hatch with the sign located on the East Pier, **photo 2**.

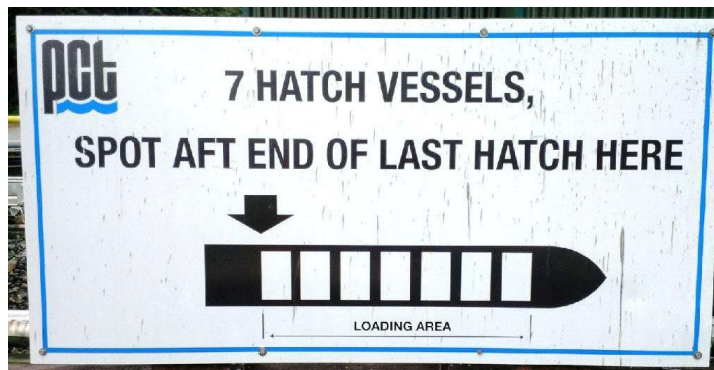


Photo 3: 7 hatch vessel spotting sign at East Pier area

- There is a red/green light that indicates if the berth is clear for berthing. A red light indicates the berth is closed and a green light indicates the berth is clear to berth. The berthing indicator light located on the chute storage tower at the east end of berth 2. A similar light is also located mid-way on the shiploader quadrant beam.



Photo 4: Berthing indicator light located on the chute storage tower at the east end of berth 2.

4.3. Mooring

The facility is generally well protected from the weather and the berths do not have a history of mooring problems.

The mooring bollards have been designed for the following criteria, **Table 3:**

Table 3: PCT Dolphin and Bollard Ratings

Dolphin Designation	Load (Tonnes) Unfactored	Range of Main Pull (Degrees both CW and CCW from perpendicular)
0	74.8	33
1B	74.8	33
1A	74.8	33
2A	74.8	33



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Dolphin Designation	Load (Tonnes) Unfactored	Range of Main Pull (Degrees both CW and CCW from perpendicular)
3A	45.4	33
4A	74.8	33
3	Decommissioned	-
4	Decommissioned	-
6A	74.8	33
6	Decommissioned	-
8A	74.8	33
8	Decommissioned	-
9	Decommissioned	-
10A	74.8	33
11A	74.8	33
13A	74.8	33
14A	74.8	33
16	No bollard	-
17	Decommissioned	-
19A	99.8	33

Vessels must remain well secured at their moorings. Movement of the ship should be prevented by keeping the lines taut. Vessel personnel must frequently monitor and carefully tend the vessels moorings to ensure that the vessel is safely secured having regard to the weather, tide, and current conditions. Mooring lines in the same service (e.g., spring lines), should be of the same material and similar in length.

Masters should ensure that, to the maximum extent possible, breast lines are deployed at right angles to the longitudinal axis of the vessel and spring lines are deployed parallel to the longitudinal axis of the vessel.

Vessels using steel lines must notify the agent, prior to arrival.



4.4. Tug Requirements

Tug requirements are established by the TCZ-2 for the transit of Second Narrows.

The safe handling of the vessel is the responsibility of the Master and his/her Pilot. PCT does expect that effective use of tug assist will be utilized by vessel Masters in certain circumstances. The objective of tug assist is to generally aid in the safe berthing and unberthing of the vessel and in particular to minimize the risk of a hard contact with the berth.

When tugs are required to be utilized, they shall be secured to the vessel by suitable means.

4.5. Linesperson

An adequate number of shore linespersons must be provided to take ship mooring lines and perform dock mooring duties. Linespersons are to be arranged with the vessel agent.

4.6. Environmental Limits

Wind Limits - Berthing

- At the discretion of the pilot authority vessels may not be permitted to berth when wind speeds are 35 knots or greater.

Wind Limits - While Alongside

- Loading operations will be stopped when wind speeds reach 40 mph or 35 knots.

Fog Limits - Berthing

- Berthing may be restricted at Pilot's discretion due to limited visibility.

5. Rules and Regulations

5.1. General Federal Government Requirements

Masters are required to operate their vessels in compliance with Canadian legislation and regulations while in Canadian waters. Many of Canada's marine requirements are based on IMO and ILO standards. Certain requirements are, however, unique to Canada and Masters of non-Canadian vessels should ensure that their vessel's agent informs them of distinct Canadian requirements.



5.2. Vancouver Fraser Port Authority & Transport Canada Regulations

The latest editions of VFPA's "*Operating Regulations*" and "*TCZ-2*" can be obtained from the Harbour Master. Refer to **Appendix E** for a copy of TCZ-2 procedures as of the date of these guidelines.

Included among the operating regulations and the TCZ-2 procedures are requirements affecting deep-sea vessels that include pollution control; prior approval for entry to the port; navigation within the port; mandatory use of tug services; engine readiness; gangways and safety nets; incident reporting; dangerous goods permits; fire prevention and emergency response.

Masters of all vessels should ensure that they are provided with a copy of these regulations and Procedures prior to arrival at the VFPA. Masters of any vessel visiting PCT's Port Moody terminal should be familiar with the VFPA's procedures and operating regulations and comply fully with their requirements. Masters are cautioned that this extract covers only part of the operations regulations applicable to deep-sea vessels.

Per the *Ballast Water Control and Management Regulations*, Transport Canada requires deep-sea vessels to carry out a mid-ocean ballast water exchange prior to arriving in Canadian waters. *The Ballast Water Control and Management Regulations* are shown in **Appendix F**.



5.3. PCT Regulations and Safety Procedures

PCT is committed to safe operations and protection of the environment at its Port Moody terminal. Vessel staff are requested to immediately bring any unsafe condition or pollution risk to the attention of terminal staff and to take appropriate action to remedy the situation, including the suspension of cargo transfer activity.

The following safety regulations have been developed in an effort to reduce the possibility of an incident involving injury, fire, spills or other hazard. Nothing in these rules and procedures will relieve Masters and/or vessel supervisors of their responsibilities in observing normal safety, fire prevention, pollution prevention and security precautions. Terminal staff are authorized to advise and request Masters and/or a vessel supervisor to take additional measures to ensure safe operations should circumstances so require. Terminal staff is also authorized to suspend transfer operations in the event of an infringement of terminal rules and procedures or if any other hazardous situation is encountered.

All vessel incidents alongside PCT berths are to be reported to the PCT on duty manager.

5.3.1. Safety Check List

Berth No. 1, Bulk Liquid Operations: On completion of berthing and prior to the commencement of cargo transfer, the *Pre-Start Ship/Shore Safety Checklist*, **Appendix G**, must be completed following a joint inspection by the terminal operator and a responsible vessel supervisor.

Berth No. 2, Bulk Solids Operations: A ship/shore checklist is to be completed and returned to PCT prior to the commencement of loading, **Appendix G**.

5.3.2. Vessel Tank Entry

Berth No. 1: Vessel tank entry is strictly prohibited once the loading arm is connected to the vessel's manifold.

5.3.3. Pedestrian Traffic

Ship personnel exiting or accessing the PCT site must use taxicabs or pre-arranged vehicle transport only. PCT has many hazardous operations that prohibit pedestrian traffic.



5.3.4. Radar

Operation of ship's radar is prohibited while at berth.

5.3.5. Vessel Hatch and Tank Cleaning

Cleaning of vessel's tank or hatches while at berth is not permitted without the express permission of PCT and must be approved prior to vessel arrival.

All vessels must have tanks/hold inspected and passed by independent inspector to verify tank/hold cleanliness prior to berthing.

5.3.6. Bunkering

Berth #1

Bunkering may be performed while at Berth 1, per the following:

- Prior to the ships arrival the Duty Manager for the Terminal must be notified that the bunkering is planned during loading operations.
- The VFPA Oil Transfer Procedures must be followed.
- The VFPA Oil Transfer Checklist must be completed and a copy of the completed checklist must be returned to Pacific Coast Terminals before bunkering commences.
- The vessel must ensure there are adequate crew assigned to each of the two operations.
- Bunkering is not permitted when the containment boom is around the vessel. Seaforth Marine Group shall install and remove the boom.
- Bunkering outside of operations must be with approval of PCT management.
- Notification of bunkering requirement must be received prior to the vessel's arrival vessel must ensure there are adequate crew assigned to each of the two operations.

Failure to meet any of the items listed above will result in the bunkering operation to cease immediately and no further bunkering will be allowed until all requirements are met. Dry bulk solid loading operations take priority over any bunkering operation.



Berth #2

Bunkering may be performed while at Berth 2, per the following:

- Prior to the ships arrival the Duty Manager for the Terminal must be notified that the bunkering is planned during loading operations.
- The VFPA Oil Transfer Procedures must be followed.
- The VFPA Oil Transfer Checklist must be completed and a copy of the completed checklist must be returned to Pacific Coast Terminals before bunkering commences.
- The vessel must ensure there are adequate crew assigned to each of the two operations.
- Bunkering cannot proceed when the Shiploader is in the hatch adjacent to the loading arm for bunkering.
- All non-loading hatches must remain closed during bunkering. The next loading hatch may be opened 30 minutes prior to loading in that hatch.
- Bunkering outside of operations must be with approval of PCT management.

Failure to meet any of the items listed above will result in the bunkering operation to cease immediately and no further bunkering will be allowed until all requirements are met. Dry bulk solid loading operations take priority over any bunkering operation.

5.3.7. Cutting and Welding or Other Repairs

Because of the nature of the products handled by PCT, Hot Work is not permitted without the express permission of PCT. Hot Work is defined as welding, burning, or any use of an open flame on the vessel that could that could cause a fire hazard.

Any repairs - including chipping, scraping, welding, etc. are not permitted without the expressed permission of PCT and must be approved prior to vessel arrival.

5.3.8. Vessels Decks

Walkways required for accessing cargo systems, deck machinery and emergency equipment shall be kept clear of obstructions and, especially in winter, be kept in safe condition for pedestrians.



5.3.9. Engine Readiness

The vessels main engines, steering machinery and other equipment essential for maneuvering shall be maintained in a state of readiness for vacating the berth under full engine power at short notice.

5.3.10. Staffing

Sufficient qualified crew members shall be provided for safe handling of cargo, for the tending of moorings, for effective firefighting and for moving the vessel in the event of an emergency on the vessel or the dock.

5.3.11. Noise

The City of Port Moody sound level bylaw BL-1399C specifies sound levels not to be exceeded at the point of reception (typically the place where noise is heard and a report originated) as follows for daytime and nighttime operations in activity zones which include PCT’s facility, **Table 4**:

Table 4: Port Moody Sound Bylaw Levels for Activity Zones

Time Period	Continual Sound	Non-Continual Sound
Daytime (07:00 to 22:00 hrs)	65 dB(A)	80 dB(A)
Nighttime (22:00 to 07:00 hrs)	60 dB(A)	75 dB(A)

5.3.12. Emergency Procedures

As required by the Vessel/Terminal Safety Check List, the Supervisor for the vessel and the Supervisor for the terminal should discuss and agree upon the action to be taken in the event of an emergency onboard either the vessel or the terminal. This should include means of communication and emergency procedures.

In the event of an emergency all personnel at the terminal, including those on the docks, are to muster at the mustering points. See **Appendix H** for the primary and secondary muster point locations.

5.3.13. Emergency Stops - Berth No. 1

The terminal will provide to the vessel an emergency stop button. The stop button is to be located as close to the manifold area as possible.

An emergency stop may also be requested via the shore provided radio (Channel 2).



5.3.14. Over-the-Tide Operations

Any over-the-tide operational requirements must be discussed prior the commencement of loading. All special circumstances and procedures relating to such situations must be understood and agreed to by the Terminal Representative (Foreman), and properly represented in the agreed upon Loading Plan.

5.3.15. Movement of Refueling Vessels, Garbage Barge, Tugs, Workboats, Other Craft

During transfer operations no craft shall be allowed alongside the vessel unless approval has been given by the terminal supervisor and agreed to by the Master of the vessel.

No garbage or refuse of any kind shall be dumped overboard from any vessel moored at the facility.

5.3.16. Emergency Escape

Means for emergency escape shall be provided on the offshore side of the vessel. For security reasons, such means is to be stowed at deck level in such a manner as to be ready for expeditious use in an emergency. Such means shall be of adequate length to reach the water at all times. In the event that emergency escape towards land is necessary, egress can be made to the South or North as safety conditions dictate.

5.3.17. Conditions Requiring Immediate Action

Cargo transfer operations shall not be started, or if started, shall be discontinued by either the responsible officer of the vessel or the dock operator when any of the following conditions is noted:

- On the approach of and during periods of high winds.
- If a fire occurs on the terminal, the vessel or any craft in close proximity.
- If there are insufficient competent personnel aboard the vessel to safely handle the operation in progress, and to handle any emergency situation.
- If a spill or leak occurs aboard the vessel or at the terminal.
- If any other emergency situation arises which, in the opinion of the vessel's responsible officer or the dock operator constitutes a potential hazard to either the ship or the terminal.



5.3.18. Avoidance of Spill Pollution

During transfer operations all scuppers shall be effectively plugged, fixed or portable manifold containment shall be in place, and no leakage or spillage of chemical or water, shall be allowed to escape overboard. Manifold containment should be drained before transfer operations commence. Any leakage or spillage must be reported immediately to the dock operator.

No hazardous material shall be thrown overboard, nor shall any other objectionable material, either solid or fluid, be thrown overboard from the vessel.

Vehicle access to Berth 1 is prohibited past the gate when the loading arm is in use.

5.3.19. Vessel List

Excessive listing of the vessel must be avoided. Vessel loading may be stopped at PCT discretion.



6. Cargo Transfer

6.1. Cargo Transfer Communications

Pacific Coast Terminals will appoint a Shiploading Foreman to oversee the cargo transfer operation.

Communication between the terminal and vessel will be through PCT's representative. The vessel's responsible officer and the terminal representative shall confirm with each other that the communication system and signals for controlling the operations are understood by all personnel involved prior to the commencement of the cargo transfer.

In the event of a breakdown of communication between the terminal and the vessel during cargo transfer operations, these operations shall be immediately suspended and not resumed until satisfactory communications are reestablished.

6.1.1. Radio Communications - Berth No. 1

The PCT representative will provide an intrinsically safe radio for the purposes of vessel/shore communication during bulk liquids loading. The radio is set to Channel 2. In addition, a PCT operator is located in the dock office or tank farm, monitoring operations for the duration that the loading arm is connected.

6.2. Conditions to be Observed Onboard Vessels During Transfer Operations

- A qualified vessel's officer, able to communicate effectively with terminal staff, is required to be on deck or in the control room at all times. A continuous deck watch is to be maintained to ensure moorings are carefully tended and cargo transfer operations are under observation at all times.
- Any requirement for movement of Cranes and ships gear must be communicated to the Shiploading Foreman. All Cranes and Ship's gear should otherwise be properly secured.
- Opening and closing of active hatches will not be performed during loading.



Visiting Ship Guidelines

- All doors, portholes and openings leading from or overlooking the main deck to accommodation, machinery spaces (excluding pump room) and forecastle shall be kept closed. Cargo control room doors opening on to or above the main deck may be opened momentarily for access.
- The venting of the vessel's tanks shall take place only through the vessels fixed venting system.
- All cargo, ballast and bunker tank lids and tank washing openings shall be securely closed.
- Sighting and ullage ports when not in use shall be kept closed.
- All unused cargo and bunker connections shall be properly blanked, fitted with a gasket and bolted with at a bolt in every hole at the manifold. Stern cargo pipelines (if fitted) shall be isolated forward of the aft accommodation by blanking.
- Any part of a slop transfer system that extends into machinery spaces shall be securely blanked and isolated on the tank deck.
- The person in charge of the transfer operation on the vessel shall conduct inspections of adjacent water areas around the vessel frequently and at least once each hour to ensure that nothing has spilled or leaked into the water.

6.3. Berth No. 1 – Liquid Bulk Loading

6.3.1. Glycol Marine Loading

Berth No. 1 is used to load Ethylene Glycol onto bulk liquids carrying vessels (tankers). Transfer takes place by way of a counter-weighted loading arm. Reach is limited and Master's should take this into account when planning mooring arrangement. (**Appendix I**).

Loading System Specifications

- Loading Arm Connection: 10 in., 4-jawed Manual Coupler
- Loading Arm Length: 50 ft.



Pumping Specifications

- Minimum Pumping Rate: 250 MT per hour
- Maximum Pumping Rate: 1,000 MT per hour
- Pumps: Four total - two main and two booster (Booster pumps provide the maximum pumping rate)
- Maximum Shore Pressure: 190 psi or 1310 kPa or 13.1 Bar
- Maximum Operating Pressure: 90 psi or 620 kPa or 6.2 Bar
- Maximum Nitrogen Pressure: 125 psi or 860 kPa or 8.6 Bar

Wall Wash Tests

Wall wash tests, when required, are performed by the surveyor prior to the ship's arrival at the PCT Berth No. 1. No shore labour is ordered until after the wall wash tests have passed.

Wall wash tests are performed at the discretion of the customer.

Ship Pipeline Inspection

The purpose of the inspection procedure is to reduce the risk of foot failure, during glycol loading, by reducing the chance of liquid contamination being left in the ship's lines after cleaning.

Normally the inspection is completed alongside Berth No. 1, prior to shift start.

- Ship's crew, using ship's air, is to pressure up their loading line from the manifold to the last tank valves. Pressures achieved approximately 50-60 psi.
- The surveyor opens the low point bleed valve closest to each tank liquid drop line, allowing the pressure to escape, and inspects for any liquid.
- If liquid is found the surveyor stops and notifies the ship's chief officer that the lines are unacceptable for cargo operations.



Glycol Loading Preparation

Vessel Tank Entry is strictly prohibited after the loading arm is connected.

Against a closed ship's manifold, the terminal will pressure test the ship/shore connection using nitrogen.

The terminal has nitrogen available if a brief purge of ship's tanks or lines is required prior to loading.

Ship Line Sampling and Testing Procedure

Line sampling of ship's deck lines is required for all first time carriers of glycol loaded ex PCT. Line sampling may also be performed at the ship's or surveyor's request if line cleanliness is uncertain.

The sampling and testing is completed prior to the loading of first foots.

The ship opens their manifold valve and ensures that all of the drop line valves, to the individual cargo tanks, are closed.

The ship confirms with the shore that they are ready to receive cargo for line testing.

The shore will pressure the ship's lines to the minimum flow pressure.

At the first low point bleed the ship's crew flushes cargo through the sampling point into a drum.

Once sufficient cargo is flushed through the sample point, approximately a quarter to a half drum, the surveyor will collect a sample and return it to the lab for testing.

Each low point bleed is similarly flushed and tested.

After all line samples are passed the loading of first foots will commence.

First Foots

Loading commences with the pumping of one foot of product to each ship tank.

The ship is to notify the terminal whether they require one or two pumps for the loading of foots.



Visiting Ship Guidelines

The ship is to notify the terminal if they require the pumps stopped during loading of foos or if they require a running foot (no pump stop).

After sufficient tanks have passed the first foot test, to allow for maximum pumping rate, the ship may request the starting of the remaining pumps (booster pumps).

Glycol Loading

PCT shall be in charge of loading operations at all times.

The ship is to notify the terminal if they require a reduction in the loading rate.

The terminal will use nitrogen to clear the Loading Arm and deck piping of glycol to the ship.

The terminal will supply the nitrogen for the purpose of blanketing the ship's tanks.

Cargo surveyors will monitor the oxygen levels and deem when a sufficient blanket is achieved.

The nitrogen is supplied via the cargo Loading Arm.

Shore nitrogen pressure is set at 125 psi (860 kPa), caution should be exercised if adding N₂ to tanks over 95% full.

DO NOT under any circumstances close valves on manifold. No valves shall be closed without authorization from PCT.

6.3.2. Canola Oil Marine Loading

Berth No. 1 is used to load Canola Oil onto bulk liquids carrying vessels (tankers). Transfer takes place by way of a counter-weighted loading arm. Reach is limited and Master's should take this into account when planning mooring arrangement. (see *Appendix I*)

Loading System Specifications

- Loading Arm Connection: 10 in., 4-jawed Manual Coupler
- Loading Arm Length: 50 ft.



Pumping Specifications

- Minimum Pumping Rate: 250 MT per hour
- Maximum Pumping Rate: 1,100 MT per hour
- Pumps: Four total - two main and two booster (Booster pumps provide the maximum pumping rate)
- Maximum Shore Pressure: 190 psi or 1310 kPa or 13.1 Bar
- Maximum Operating Pressure: 72 psi or 500 kPa or 5.0 Bar
- Maximum Nitrogen Pressure: 90 psi or 620 kPa or 6.2 Bar

Canola Oil Loading Procedures

Containment boom must be in place before loading operations begin.

Vessel Tank Entry is strictly prohibited after the loading arm is connected.

Against a closed ship's manifold, the terminal will pressure test the ship/shore connection using nitrogen.

The terminal has nitrogen available if a brief purge of ship's tanks or lines is required prior to loading.

The ship is to notify the terminal if they require a reduction in the loading rate.

The terminal will use nitrogen to clear the Loading Arm and deck piping of canola oil to the ship.

6.4. Berth No. 2 – Dry Bulk Solids Loading

Berth No. 2 is used to load sulphur and Potash onto dry bulk carrying vessels. The transfer takes place by a single quadrant shiploader. The shiploader is proportioned to provide full hatch loading coverage for a typical Panamax design bulk carrier provided that the vessel is moored in the correct position. Vessels exceeding these dimensions may require warping along the dock for full coverage loading.

6.4.1. Loading System Specifications

- Design Loading Rate: 5,000 tonnes/hr

This document is updated periodically, for the latest version see URL:

<http://pct.ca/our-operations/vessel-information/>



Visiting Ship Guidelines

- Boom Conveyor Size: 1.8 m
- Range of Shiploader Motion: 44 m foreword carriage travel
88 degrees slew about pivot
-10 to +15 degrees from horizontal vertical boom lift (working)
+35 degrees (maximum)

6.5. Dry Bulk Solids Loading Procedures

The Loading Foreman will board the vessel and request the following:

- Inspection certificates stating hold acceptability.
- Loading plan with hatch rotation and tonnage per run.
- Stowage for hatches - peak, flat or crown.
- Ship to Shore Safety Checklist



7. Emergency Response to Fires, Spills, Leaks

7.1. General

No emergency drills shall be permitted while the vessel is in berth without prior authorization from PCT.

7.2. Fires

CALL 911 FOR ALL FIRE EMERGENCIES.

In the event of a fire onboard a vessel at berth or at the terminal itself, all transfer operations will be stopped. Vessels are required to have onboard adequate equipment for fighting onboard fires and personnel trained to use the equipment.

7.3. Spills or Leaks

NOTIFY SUPERVISING LOADING FOREMAN OF ALL LEAKS AND SPILLS.

7.3.1. Terminal Spills or Leaks

In the event of a spill from the terminal or a leak from the shore cargo piping:

- The transfer operation is to be stopped immediately.
- The terminal's spill response plan is to be implemented as appropriate. This will include informing the proper authorities and initiating containment, recovery and clean up procedures.
- The cause of the spill must be determined and rectified.

7.3.2. Vessel Spill or Leaks

In the event of a spill or leak from the vessel or vessel's cargo piping:

- The transfer operation is to be stopped immediately.
- The vessel spill response plan is to be implemented as appropriate. This will include informing the proper authorities and initiating containment, recovery, and clean up procedures.



Visiting Ship Guidelines

- The cause of the spill must be determined and rectified.
- In the event of a spill or leak PCT is to be notified.

7.4. Restarting Transfer Operations after a Marine Pollution Incident

Transfer operations may only resume once the cause of the spill has been determined and remedied and after it has been clearly determined that restarting transfer operations will not interfere with the immediate, effective and sustained response to the marine pollution incident, and after both the terminal supervisor and the vessel supervisor have authorized a resumption of the transfer operation.



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Visiting Ship Guidelines

APPENDIX A

Berth General Arrangement



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APPENDIX B

Berth Soundings



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APPENDIX C

Approach Channel General Arrangement



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APPENDIX D

Approach Channel and Turning Basin Soundings



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APPENDIX E

Port of Vancouver: TCZ-2 Procedures

TCZ-2 procedures as of the date of these guidelines are provided in this appendix.

Amendments to the traffic control zone procedures may be made from time to time so refer to the latest "Port Information Guide" online for the latest information available, URL:

<http://www.portvancouver.com/marine-operations/port-information-guide/>



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APPENDIX F

Ballast Water Control and Management Regulations



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APPENDIX G

PCT Pre-Start Ship/Shore Safety Checklist



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APPENDIX H

Muster Location Map



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APPENDIX I

Loading Arm Reach General Arrangement



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APPENDIX J

Safety Data Sheets for Commodities Handled

- Ethylene Glycol Polyester Grade
- Crude, Super De-Gummed Canola Oil
- Commercially Formed Solid Elemental Sulphur
- Potassium Chloride