

Attachment 6.5.2



**6100 WESTRIDGE MARINE TERMINAL
OPERATIONS MANUAL**
Marine Terminal Operations Procedures
and Guidelines

1.3 WESTRIDGE MARINE TERMINAL REGULATIONS AND OPERATIONS GUIDE

Revision 2

October 10, 2018

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REVISION RECORD

Date	Version	Comments	Revised By
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WESTRIDGE MARINE TERMINAL CONTACT INFORMATION

Terminal Gate	Westridge Marine Terminal Trans Mountain Corporation 7065 Bayview Drive Burnaby, BC Canada V5A 4T3
Mailing Address	Trans Mountain Corporation 7815 Shellmont St. Burnaby, BC Canada V5A 4S9
Westridge Dock 61 Operations Control Room	Tel: [REDACTED] Fax: [REDACTED]
Supervisor, Westridge Terminal	[REDACTED]
TMC Shipper Services (Calgary)	[REDACTED]
Loading Master	[REDACTED]

TRANSPORTATION TO / FROM WESTRIDGE MARINE TERMINAL

Tymac Launch Service	604.681. 8628	VHF Channel 6 VHF Channel 16 (emergency only)
Bonny's Taxi	604. 435.6655	Arrangements to be confirmed
Marine and Industrial Maritime Couriers	604.985.2738 604.275.6551	Drivers carry port passes and can pick up and drop off crew members from within the terminal (near the dock gate)


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EMERGENCY CONTACT INFORMATION

Contact	Telephone	Other
Incident and Emergency Reporting		
Regional Marine Information Centre (RMIC) pollution line	1.800.889.8852 (toll free)	VHF Channel 12 <i>Call "Victoria Traffic"</i>
<i>RMIC will automatically call the Provincial Emergency Program, CCG-MCTS, and Environment Canada</i>		
Police, Fire or Medical	Dial 911	Inform Westridge
British Columbia Search and Rescue	1.800.567.5111 1.250.413.8933 Cell: dial #727	jrccvictoria@sarnet.dnd.ca
Harbour Master, Port of Vancouver	1.604.665.9086 24-hour emergency contact	Harbour_master@portvancouver.com Report all incidents in harbour
Western Canada Marine Response Corporation	24-hour spill emergency response line, Vancouver area: 1.855.294.9116 (toll free)	Call immediately after informing RMIC or MCTS
Canadian Coast Guard (CCG) Marine Communication and Traffic Services (MCTS)	VTs offshore: 1.250.627.3081	Must be informed of all safety and environmental incidents within Canadian exclusive economic zone; including sightings of a marine mammal in distress.
	Prince Rupert: 1.250.627.3081	
	Victoria: 1.250.363.6333	
	Comox: 1.250.339.3613	

NOTE: THE ABOVE CONTACT INFORMATION MUST BE KEPT AVAILABLE ON THE VESSEL'S BRIDGE AND IN THE CARGO CONTROL ROOM WHILE IN CANADIAN WATERS

IN CASE OF AN OIL SPILL OR THREAT OF AN OIL SPILL INVOLVING A VESSEL BERTHED AT WESTRIDGE MARINE TERMINAL, TMC SHALL ACTIVATE THE WESTRIDGE EMERGENCY RESPONSE PLAN, ACT IN THE CAPACITY OF INCIDENT COMMANDER WITHIN AN ICS RESPONSE STRUCTURE AND LEAD THE RESPONSE.

ANY SUCH ACTIONS ON THE PART OF TMC DOES NOT REMOVE ANY LIABILITY AND RESPONSIBILITIES UNDER LAW FROM THE VESSEL, THE MASTER, OR THE VESSEL OWNER.

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OTHER CONTACT INFORMATION

Contact	Telephone	Other
Pilots and Tugs		
Pacific Pilotage Authority dispatch office, Vancouver	604.666.6776	Fax: 604.666.6093
Pacific Pilotage Authority dispatch office, Victoria	1.250.363.3878	Fax: 1.250.363.3293
BC Coast Pilots		To book pilot, call the PPA dispatch office
Seaspan (Tugs)	Harbour Dispatch: 604.990.3300 Coastal Dispatch: 604.984.1667	dispatch_harbour@seaspan.com
SAAM Smit (Tugs)	Dispatch: 604.253.8881	dispatch.yvr@saamsmit.com
Environmental Services		
Canada Food Inspection Agency	1.800.442.2342 (toll free) 1.613.773.2342	To be informed if necessary, e.g. Asian gypsy moth infestation
BC Cetacean Sightings Network (in case of a whale strike)		http://wildwhales.org/app/

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1.0 INTRODUCTION**1.1 Scope**

- 1.1.1 This Westridge Marine Terminal Regulations and Operations Guide (WMTROG) document applies to all vessels nominated to call at Westridge Marine Terminal (WMT).
- 1.1.2 The information in this guide does not affect or diminish the responsibility of a vessel's Master, owner or operator to ensure the safety of vessel, crew, cargo or environment.

1.2 Purpose

- 1.2.1 The WMTROG has been compiled by Trans Mountain Corporation (TMC). Within TMC's Integrated Safety and Loss Management System (ISLMS), this document is deemed part of the Marine Terminal Operations Program (MTOP) and is updated from time to time by the MTOP Program Manager based on current information received and/or changes in regulations and requirements. All changes are subject to a formal review and approval process.
- 1.2.2 All vessel Masters planning a call at Westridge must review this document prior to the vessel's arrival.
- 1.2.3 The requirements and instructions in the WMTROG are based upon international and local requirements, procedures, best practices and guidance found in:
 - 1.2.3.1 International Safety Guide for Oil Tanker and Terminals
 - 1.2.3.2 Port of Vancouver Port Information Guide
 - 1.2.3.3 Applicable Transport Canada regulations
 - 1.2.3.4 Applicable Notices to Industry issued by the Pacific Pilotage Authority
 - 1.2.3.5 Westridge Marine Terminal Procedures (TMC internal documents)
 - 1.2.3.6 TMC Emergency Response Plan for Westridge Marine Terminal ([Trans Mountain Corporation – Westridge ERP](#))

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1.2.4 Although care has been taken to confirm the accuracy of the information contained in the WMTROG, TMC does not warrant the accuracy of its information and accepts no liability for any damage, delay, or loss resulting from any inaccuracy.

1.2.4.1 Vessels are responsible for reading and complying with the official rules and procedures for navigating the Port of Vancouver.

1.2.5 TMC provides the instructions in this guide for convenience only, and takes no responsibility for their accuracy or currency, as the official rules and procedures may be revised at any time.

1.3 Duty to Report

1.3.1 Any TMC employee (including contractors) who identifies a concern related to a vessel or to the vessel-terminal interface will communicate the concern immediately to the Loading Master, the Supervisor, Westridge Terminal, or a person designated by them.

1.3.2 Any TMC employee who identifies an imminent hazard that is, in their best judgment, likely to result in a release event or damage to property, or that presents immediate danger to the public, is required to report it immediately to the Loading Master, the Supervisor, Westridge Terminal, or a person designated by them.

1.3.3 The Loading Master, the Supervisor, Westridge Terminal, or the person designated by them have the authority to immediately cease product transfer if, in their best judgment, a release event, damage to property, or immediate danger to the public is likely.

1.3.4 The Loading Master, the Supervisor, Westridge Terminal, or a person designated by them is obliged to notify the applicable authorities of a vessel breach of compliance.

1.4 Definitions

Please refer to Marine Terminal Operations Glossary of Terms and Abbreviations

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2.0 REGULATORY JURISDICTION**2.1 Transport Canada**

- 2.1.1 Transport Canada promotes safe, secure, efficient, and environmentally responsible transportation, including marine transportation. The marine dock at Westridge is governed by the laws and regulations of Canada, including the Canada Shipping Act 2001.
- 2.1.2 The moving, mooring, securing, and unmooring of all vessels is governed by rules and regulations of Transport Canada, the Vancouver Fraser Port Authority (i.e., Port of Vancouver), and the Canadian Coast Guard.
- 2.1.3 Regulations under the Marine Liability Act and Marine Transportation Security Act are enforced by Transport Canada.

2.2 Vancouver Fraser Port Authority

- 2.2.1 WMT falls within the jurisdiction of Vancouver Fraser Port Authority (i.e., Port of Vancouver), Canada's largest port authority governed under the Canada Marine Act.

2.3 National Energy Board

- 2.3.1 Shore-side facilities for loading crude oil onto tankers and barges fall under the regulatory oversight of the National Energy Board. These facilities include:
 - 2.3.1.1 Crude oil – NPS 24 Westridge pipeline, including the dock loading lines
 - 2.3.1.2 Jet fuel – Dock unloading line and NPS 12 pipeline connecting to Jet Fuel Tanks 201, 202 and 93

2.4 British Columbia Utilities Commission

- 2.4.1 Jet fuel pipeline that transports jet fuel from Westridge jet fuel tanks to Vancouver International Airport.

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3.0 TERMS AND CONDITIONS OF USE**3.1 General**

- 3.1.1 TMC reserves the right to deny berthing access to any vessel that does not meet the safety and other standards and criteria as set from time to time by Transport Canada, the Port of Vancouver and/or TMC.
- 3.1.2 TMC and its agents and contractors will endeavour to ensure that vessels using WMT neither suffer nor cause damage at any time.
- 3.1.3 TMC reserves the right to deny berth access to any vessel, or suspend operations and demand the removal of any vessel from WMT, because of any of the following conditions:
- 3.1.3.1 The vessel is in breach of, or default under, TMC's requirements, which can be found in:
- This document
 - TMC's Vessel Acceptance Standard
- 3.1.3.2 TMC is ordered to do so by authorities.
- 3.1.3.3 In the reasonable opinion of TMC, defects in the vessel, its equipment, crew, or operations present a hazard to or threaten the safety of WMT, personnel, or the environment, or to other facilities, people, or property in the harbour area.
- 3.1.3.4 In the reasonable opinion of TMC, the vessel fails to satisfactorily use the available WMT facilities and thereby imposes an unacceptable constraint on WMT's operations.
- 3.1.3.5 In the reasonable opinion of TMC, weather conditions impair or may impair the safe conduct of operations.

3.2 Limitation of Liability

- 3.2.1 For the purposes of this section, the terms listed below have the following meanings.
- 3.2.1.1 **Claims** – means any claims, demands, costs, expenses (including, without limitation, legal fees), fines, penalties,

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losses, liabilities, actions or causes of action, whether in law or in equity.

3.2.1.2 Vessel Parties – means any of the following:

- 3.2.1.2.1 The vessel, its Master, its owners, its charterers, its operators, its managers, its agents, its contractors and sub-contractors, or the contractors and sub-contractors of either of them (including without limitation, pilots) and its crew.
- 3.2.1.2.2 Personnel, servants, and any person whatsoever on board such vessel from time to time.
- 3.2.1.2.3 Any other person who enters upon WMT for the purpose (directly or indirectly) of conducting business with, or on behalf of, the vessel and Vessel Party.

3.2.2 IN NO EVENT SHALL TRANS MOUNTAIN PIPELINE ULC, TRANS MOUNTAIN PIPELINE L.P., OR TRANS MOUNTAIN CORPORATION. (TMC), operator of Trans Mountain Pipeline (their employees, servants, contractors, or agents) BE LIABLE for Claims incurred by a Vessel Party, including without limitation, with respect to injury to, or death of, persons or damage to, or destruction of, property due to any cause whatsoever, including without limitation the negligence or gross negligence of TRANS MOUNTAIN PIPELINE ULC, TRANS MOUNTAIN PIPELINE L.P., OR TMC arising directly or indirectly from the use by Vessel Parties of the Terminal, or due to the refusal to load all or part of a nominated shipment, delay to or suspension of loading, or other operations.

3.2.3 In addition, each of the Vessel Parties agrees that it shall indemnify TRANS MOUNTAIN PIPELINE ULC, TRANS MOUNTAIN PIPELINE L.P. AND/OR TMC harmless from and against any claims arising directly or indirectly from the use by the Vessel Parties, or any one of them, of the Terminal, or due to the refusal to load all or part of a nominated shipment, delay to or suspension of loading, or other operations with respect to

3.2.3.1 Any Claims by or in respect of a Vessel Party.

3.2.3.2 Any Claims by or in respect of any other person.

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3.2.4 Each of the Vessel Parties agrees that the obligation to indemnify contained herein is joint and several.

3.3 Vessel Insurance

3.3.1 Vessels must be entered with a protection and indemnity (P&I) club that is a member of the International Group of P&I Clubs and must carry the maximum oil pollution and other third-party coverage normally extended by the P&I club, relevant to their size. This will be verified with a Certificate of Entry. Necessary arrangements must be in place for the vessel to transit waterways jointly managed by Canada and the United States.

3.3.2 Vessels must be flagged under a flag that is a signatory to the Civil Liability Convention (CLC) 1992 and carry a certificate issued under CLC 1992. Vessels flagged in the U.S. must carry the appropriate Certificate of Entry.

3.4 Vessel Acceptance

Vessels are accepted at WMT on the understanding that vessel operations will comply with all applicable legislation and with relevant Codes of Practice – in particular, guidance in the latest edition of the International Safety Guide for Tankers and Terminals (ISGOTT). Vessels that are found deficient on arrival may be subject to refusal to load until the deficiencies have been corrected. In such cases, WMT always retains the right to remove a berthed vessel from berth.

3.4.1 All vessels intending to undertake product transfer at WMT must meet TMC's Vessel Acceptance Standard.

3.4.2 Prior to nominating a vessel, the Shipper is obliged to establish the quality of the vessel as well as the vessel's ability to meet the acceptance criteria for vessels set by TMC by undertaking an industry-recognized vessel vetting process.

3.4.3 The Vessel Acceptance Process is shown in Appendix C.



Refer to the Vessel Acceptance Standard and applicable documents for more information.

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3.5 Vessel Scheduling

- 3.5.1 Accepted vessels are scheduled at WMT based upon their allocated cargo windows and in such a way as to not interfere with another vessel's load or discharge window.
- 3.5.2 Should a vessel impose restrictions on the terminal, for example due to a delay in arrival or by requesting a lower than offered cargo handling rate, there is the potential for it to interfere with or delay the next vessel in the schedule. Such cases will be dealt with either through rescheduling of the first vessel or requesting a substitute vessel that does not pose such restrictions.

4.0 ROLES AND RESPONSIBILITIES

Personnel who have responsibilities within the context of this document include the following:

4.1 Director, Western Region

- 4.1.1 Ensure that WMT is operated in compliance with all applicable rules and regulations and in accordance with the TMC ISLMS.
- 4.1.2 Undertake the duties of Incident Commander in case of an emergency impacting WMT, regardless of the nature or source of the incident.

4.2 Director, Marine Development

- 4.2.1 Ensure that the standards and procedures under which WMT is operated meet with global marine terminal best practices, always in compliance with applicable rules, regulations and TMC ISLMS.
- 4.2.2 Approve vessels for scheduling to call at WMT.
- 4.2.3 Undertake duties as necessary in case of an emergency impacting WMT.

4.3 Supervisor, Westridge Terminal

- 4.3.1 Appoint the Loading Master.

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4.3.2 Designate a member of the Marine Terminal Operations Team to conduct the ship-shore opening meeting and, upon recommendation of the Loading Master, accept a vessel's Notice of Readiness.

4.3.3 Schedule necessary WMT operations personnel and make other internal WMT arrangements as required.

4.3.4 Control access to WMT by third-party service providers to the vessel.

4.4 Loading Master

4.4.1 Undertake the Vessel Acceptance Process and recommend whether a vessel should be accepted or denied for scheduling at WMT.

4.4.2 Conduct required onboard checks and inspections and recommend whether a vessel should be accepted and allowed product transfer privileges at WMT or denied.

4.4.3 Witness, monitor, and provide guidance to vessels prior to and during product transfers to ensure that safety and tanker industry best practices are followed.

4.4.4 Immediately request that transfer operations are stopped if needed to safeguard WMT or the environment.

4.4.5 Provide local knowledge and prompt on-scene guidance to the vessel and WMT during an emergency. The Loading Master's authority does not extend to the vessel or crew.

4.4.6 Update information in WMT's files about the performance of the vessel.

4.5 Marine Terminal Operations Team

4.5.1 Manage the vessel-WMT interface in accordance with TMC operating procedures and relevant global oil tanker industry safe operating best practices.

4.5.2 Upon recommendation of the Loading Master, sign a vessel's Notice of Readiness to indicate that the vessel has been accepted and granted product transfer privileges at WMT.

4.5.3 Report any concerns about the vessel to the Loading Master.

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4.5.4 Undertake product transfer in accordance with TMC ISLMS procedures.

4.6 Shipper Services

4.6.1 Be the single point of contact and liaise with Pipeline Shippers during nomination of vessels at WMT.

4.6.2 Allocate pipeline/tank space.

4.6.3 Schedule vessels to Westridge dock.

4.7 Vessel Master

4.7.1 Operate the vessel with utmost concern for the safety of the personnel on board, the safety of the ship and its cargo, and the protection of the environment.

4.7.2 Comply with all rules and regulations of local, Canadian, and international bodies, the flag state, port states, and classification and insurance societies.

4.7.3 Ensure that personnel operate in compliance with industry best practices and with the vessel operating company's health, safety, environment, and quality policies.

4.7.4 Remain available throughout the loading or unloading process or delegate this responsibility to the Chief Officer.

4.7.5 Interface with the ship's agent.

4.8 Port Agent

4.8.1 Represent the ship owner and Master during a vessel port call.

4.8.2 Make shore-side arrangements for the vessel's provisioning and housekeeping needs.

4.8.3 In close liaison with the Supervisor, Westridge Terminal, schedule the arrival and departure of the vessel.

4.8.4 Arrange for suitable pilots, harbour tugs, or escort tugs as required.

4.8.5 Maintain all port call records.

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- 4.8.6 Process all required vessel manifests, bills of lading, and customs paperwork.
- 4.8.7 In case of a third-party claim against the vessel, liaise with all stakeholders to ensure the matter is suitably addressed.

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5.0 GENERAL CONDITIONS**5.1 General Requirements**

- 5.1.1 All vessels arriving at and departing from WMT (which, in the case of a barge, includes the attending tug) must meet all relevant WMT regulations. If in doubt, the Master should contact the appointed port agent for clarification.
- 5.1.2 The vessel will be constructed, equipped (including mooring systems), and operated in accordance with the vessel's age and size, and with flag/state, class, and industry requirements. (Refer to SOLAS, MARPOL, OCIMF, etc.)
 - 5.1.2.1 A copy of the vessel's Class Certificate will be made available upon request. U.S.-flagged vessels will provide appropriate Certificate of Inspection and Certificate of Documentation issued by the U.S. Coast Guard.
- 5.1.3 The vessel must be operated under a safety and/or quality management system that is structured and adheres to practices identified in standards such as International Safety Management (ISM) Code if applicable, the American Waterways Operators (AWO) "Responsible Carrier Program" (RCP), or similar. A valid certificate is required.
- 5.1.4 The owner/operator of a tug that has been wholly assigned to tow or push a barge for the duration of its voyage will, for all practical purposes, be considered the owner/operator of both the tug and barge.

5.2 Arrival Conditions

- 5.2.1 Vessels are to arrive in a condition ready to start operations.
 - 5.2.1.1 All vessel systems should be duly tested in advance to confirm their operability.
- 5.2.2 Crew must be fully familiar with rules and regulations for operating in Canadian waters and with the information in this document.
- 5.2.3 Vessels must:

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- 5.2.3.1 Be in good mechanical condition with no known propulsion or steering deficiencies.
- 5.2.3.2 Be navigated in compliance with regulations, applying prudent seamanship techniques.
- 5.2.3.3 Be of adequate draft and suitably trimmed to ensure full propeller submersion.
- 5.2.3.4 Have enough air draft to clear the bridges at the Second Narrows.
- 5.2.3.5 At all times, maintain all cargo tanks in inert condition with positive inert gas pressure with oxygen content less than 8% by volume; Note: for vessel's loading crude oil maintain oxygen level in tanks to less than 6% to ensure continuous operability of the terminal's vapour combustion unit.
- 5.2.3.6 Have undergone pre-screening and been accepted for scheduling by WMT.
- 5.2.3.7 Have completed a membership agreement with WCMRC (Western Canada Marine Response Organization) for oil spill response.

5.3 Berthing Conditions

- 5.3.1 Vessels may not dock under any of the following conditions:
 - 5.3.1.1 Sustained wind speed exceeds 25 knots.
 - 5.3.1.2 Visibility is 0.40 km or less.
- 5.3.2 The above criteria do not relieve the Master from the obligation to use best judgment, consistent with good seamanship, and to seek advice from the Loading Master when assessing the suitability of conditions for berthing and remaining at berth.

5.4 Mooring Requirements

- 5.4.1 Vessels must be securely moored alongside with enough ropes and/or wires, in accordance with minimum mooring requirements established by WMT.

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5.4.1.1 Barges must be secured using a minimum of four mooring lines of adequate size and strength and in good condition.

5.4.2 Vessels are to ensure that:

5.4.2.1 Moorings are properly tended throughout the stay to prevent undue vessel movement.

5.4.2.2 Moorings constructed of materials such as high modulus polyethylene (HMPE) that have low extension characteristics are acceptable.

5.4.2.3 Synthetic rope pennants fitted to wire moorings are of enough length and strength and are properly secured to the wire using a shackle approved for this purpose.

5.4.2.4 For Panamax tanker size and above, spring lines should be of wire or materials that have low extension characteristics and are preferably used in conjunction with synthetic rope pennants.

5.4.2.5 Use of mixed mooring (synthetic fiber ropes and steel wire ropes onto the same shore bollard) is avoided. Lines in the same service must be of similar material or having similar extension characteristics. Any special waiver of this requirement must be reviewed with the Loading Master.

5.4.2.6 Mooring lines are secured on board using the storage reel or, on vessels not equipped with reels, on bitts. The practice of securing lines on the warping drums of winches is not permitted.

5.4.2.7 Self-tensioning winches, if fitted, are not used in the automatic mode.

5.4.3 WMT does not require tankers to rig emergency towing wires.

5.4.3.1 However, vessels may, at the discretion of the Master, rig such emergency towing wires of adequate strength that are secured to the offshore bow and quarter bollards with the towing eye maintained at or about the waterline.

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5.5 Communications

- 5.5.1 At all times, vessels must have at least one person on duty who speaks and readily understands the English language. At all times the person in charge of the vessel's cargo transfer must be able to communicate readily in English with the Loading Master.
- 5.5.2 Radio contact will be maintained with WMT operations using the intrinsically safe radio provided by WMT.
- 5.5.3 Transfer operations will be stopped if communications are lost during any stage of the transfer or if the vessel and WMT cannot communicate readily in English.
- 5.5.4 Additional sound signals in case of emergencies will be agreed to prior commencement of cargo transfer.

5.6 Limiting Noise and Light

- 5.6.1 While at anchor or berth, all vessels will make best efforts to minimize noise levels and light usage in consideration of local residents and wildlife. The following is provided for guidance:
 - 5.6.1.1 Generator usage should be closely monitored.
 - 5.6.1.2 External doors and hatches to machinery spaces must be kept closed as often as possible.
 - 5.6.1.3 Use of power tools and chipping hammers must be kept to a minimum and is not permitted on deck between sunset and sunrise.
 - 5.6.1.4 Use of the loud hailer and ship's whistle should be limited, except as required by the Collision Regulations or by an emergency.
 - 5.6.1.5 Deck lights must be kept to a minimum, consistent with the safety and security of the vessel.
 - 5.6.1.6 Lighting glare can be reduced by having deck lights aimed downward, not outward or toward the shore.

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5.7 Oil Spills and Other Incidents

- 5.7.1 The vessel Master accepts that in case of an oil spill or threat of an oil spill involving a vessel berthed at WMT, TMC will act in the capacity of Incident Commander within an ICS response structure and lead the response. In that capacity, WMT will activate and utilize resources as deemed necessary to best respond to the emergency. The Master will always remain responsible for the vessel but will support WMT and aid as needed to mitigate the conditions.
- 5.7.2 If an oil spill occurs while a vessel is docked at WMT and causes a marine pollution incident, whether the incident is sourced from ship or shore, TMC personnel will immediately:
- 5.7.2.1 Suspend cargo operations.
 - 5.7.2.2 Activate anti-pollution and response measures.
 - 5.7.2.3 At their discretion, call on the resources deemed appropriate to undertake necessary cleanup operations.
- 5.7.3 In all such circumstances, the vessel must provide necessary support to TMC, authorities and responders.

5.8 Incident Review

- 5.8.1 TMC will conduct a review of vessel incidents that occur while a vessel is berthed at WMT and may seek information relating to any incident that could potentially impact WMT operations or TMC's business reputation.
- 5.8.2 If the review confirms that a serious breach of safety or environmental rules by the crew has occurred or is likely to occur, TMC reserves the right to prevent use of the vessel until positive confirmation is received that corrective action has been taken to prevent reoccurrence. In the rare case where, repeated breaches are detected involving a single operator, all vessels under the operator's management may be denied berthing access at WMT.
- 5.8.3 In case of a significant incident, such as a fatality on board a vessel, grounding, or collision, the vessel will not be accepted for future

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service until TMC is satisfied that all appropriate issues have been addressed and controls have been implemented.

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6.0 WESTRIDGE MARINE TERMINAL OVERVIEW**6.1 Location**

6.1.1 The WMT oil handling facility is situated at Dock 61 on the southern shoreline of Burrard Inlet, to the east of Second Narrows, within the inner harbour of the Port of Vancouver in the City of Burnaby.

6.1.2 WMT is located adjacent to Barnet Highway in Burnaby, BC.

6.1.2.1 Road access is via Bayview Drive.

6.1.3 Vessels transiting to and from WMT must navigate Burrard Inlet. Immediately west of WMT is Second Narrows, a naturally formed narrows spanned by two bridges:

6.1.3.1 Ironworkers' Memorial Second Narrows Crossing (a highway bridge)

6.1.3.2 CN Rail Bridge (a mechanical lift bridge with a central section that must be raised for most vessels to pass)



For details, refer to relevant Government of Canada marine information sources, including the Canadian Hydrographic Service (CHS) Chart No. 3495 Vancouver Harbour Eastern Portion.

6.1.4 WMT also serves as the entry point and storage facility for jet fuel destined for Vancouver International Airport (YVR).

6.2 Local Time

6.2.1 The Port of Vancouver is in the Pacific Standard Time Zone, which is 8 hours behind Greenwich Mean Time (GMT) (UTC - 8).

6.2.2 During the period from the second Sunday in March to the first Sunday in November, clocks are advanced 1 hour (UTC - 7).

6.3 Petroleum Pipeline System

6.3.1 WMT forms the marine handling terminus of the Trans Mountain Pipeline ULC pipeline system that transports oil from Alberta via the Trans Mountain Burnaby Terminal.

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6.3.2 The Burnaby Terminal stages cargo oil in several breakout storage tanks for subsequent loading onto tankers at WMT.

6.3.3 The buried Westridge petroleum pipeline connecting the Burnaby Terminal with Dock 61 is 610 mm (24") in diameter and approximately 4.1 km long.

6.4 Jet Fuel Pipeline

6.4.1 WMT also serves as the entry point and storage facility for jet fuel destined for Vancouver International Airport (YVR).

6.4.2 The buried Westridge jet fuel pipeline connecting WMT to storage tanks at YVR is 150 mm (6") diameter and approximately 41 km long.

6.5 Westridge Marine Facilities

6.5.1 WMT includes the following facilities:

6.5.1.1 Dock 61, which provides a berth for tankers up to Aframax size and barges during crude oil loading and jet fuel offloading. The geographic location of the dock loading platform is:

N 49° 17' 27.21" W 122° 57' 1.08"

6.5.1.2 Storage tanks and treatment facilities for jet fuel

6.5.1.3 Controls and equipment for transferring oil and jet fuel

6.5.1.4 A vapour collection and destruction system used during the transfer of crude oil to vessels

6.6 Water Depth

6.6.1 Maximum draft of a vessel at all stages of tide or loading is 13.5 metres.

6.6.2 An underkeel clearance (UKC) of 5% of the draft is required at berth. Otherwise, 10% UKC of vessel's static draft is necessary during transit.

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6.6.3 Dock 61 is not subject to the effects of siltation. However, the Vancouver Fraser Port Authority conducts depth assessments regularly (typically once every 3 years) to reassess the available depth of water. Controlling depth of water information is available from the Pacific Pilotage Authority website:

<http://www.ppa.gc.ca/text/mtbcd-e.html>

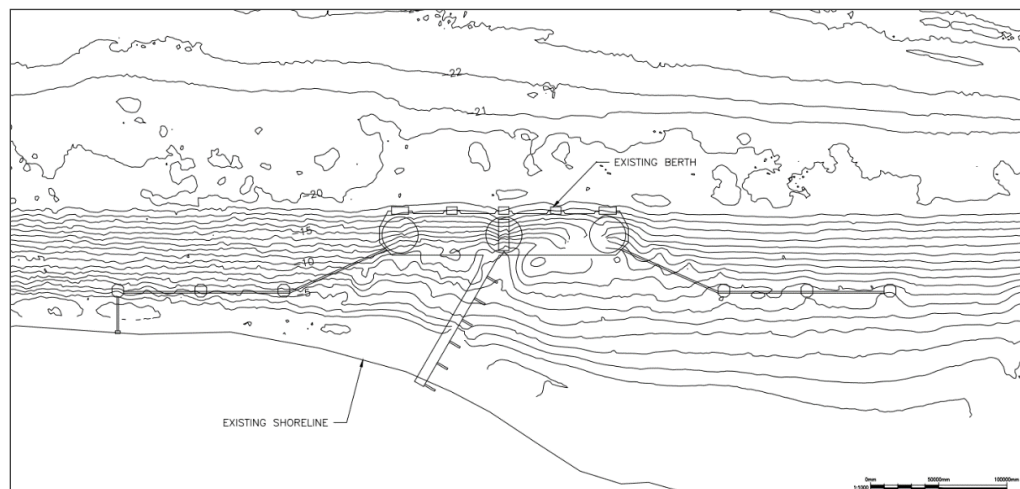


Figure 1: Dock 61 General Arrangement and Depth Contours (geodetic datum)

6.7 Maximum Draft for Departure

- 6.7.1 Vessels must check with their agent to confirm the height of tide forecasted for the vessel's time and date of departure and calculate the day's maximum allowed departure draft.
- 6.7.2 The allowed draft of the day through Second Narrows can be calculated by referring to the *"Second Narrows Controlling Depths and Bridge Heights based on MRA-2 Beam Factor for Channel Width"* table available in the Port of Vancouver Port Information Guide.
- 6.7.3 As an example, using a very typical height of tide of 3.2 m, the following maximum drafts for tankers transiting the Second Narrows could be calculated:

	42	43	44	45
Vessel Moulded Beam (metres)				
Second Narrows Control Depth at Chart	10.7	10.5	9.90	9.70

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Datum (metres)				
Tidal lift (metres)	3.20	3.20	3.20	3.20
Total depth of water (metres)	13.90	13.70	13.10	12.90
Allowable draft with 10% ukc (metres)	12.64	12.45	11.91	11.73

6.8 Firefighting System

6.8.1 The Dock 61 firefighting system consists of two pole-mounted remotely operated fire monitors and four pre-positioned fire monitors at dock level. The pre-positioned fire monitors provide water spray at a regulated pressure of 6.9 bar (100 psig) to the following areas:

6.8.1.1 Gangway

6.8.1.2 Loading arm manifold and control console

6.8.1.3 Dock crane

6.8.1.4 Vessel manifold

6.8.2 The two pole-mounted fire monitors are remotely operated and can deliver water, or a foam/water mixture as required. The position and spray pattern can be controlled electrically from the dock Control Room or hydraulically through a hand-operated backup system (in case of power failure) located just outside the dock motor control centre.

6.8.3 During cargo transfer, the following are placed on the dock:

6.8.3.1 One 159-kg (350-lb) dry-chemical wheel-mounted fire extinguisher

6.8.3.2 Three 13.5-kg (30-lb) dry-chemical handheld extinguishers

6.8.3.3 One handheld carbon dioxide extinguisher (minimum 2 kg) where minor electrical fires could occur.

6.9 Dock 61

6.9.1 Dock 61 includes mooring dolphins, capstans, bollards, a crane, gangways and a firefighting system, as well as the manifolds and equipment needed to transfer petroleum products (Figure 3). It is connected to shore by a causeway for pedestrian and light vehicle access.

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6.9.2 The mooring dolphins consist of reinforced concrete platforms supported by piles with interconnecting metal walkways.

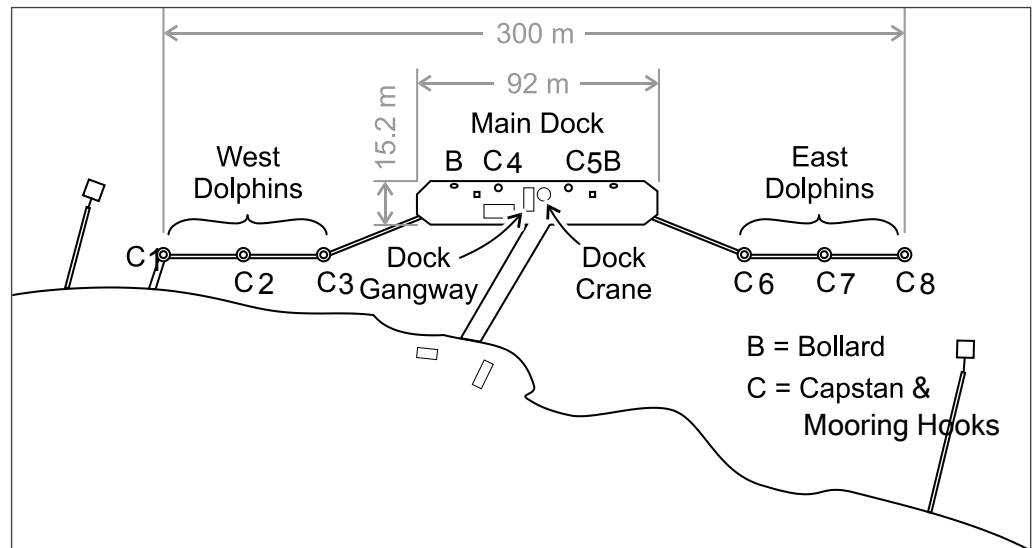


Figure 3: Dock 61 Layout and Infrastructure

6.9.3 A capstan with two or three quick-release mooring hooks is mounted on each dolphin platform.

6.9.4 The Safe Working Load (SWL) of the mooring hooks installed are:

- C1, 2, 3, 6, 7, 8: 71 tonnes each
- C4, 5: 57 tonnes each

6.9.5 Vessels are typically moored port side to the dock using bow and stern lines, breast lines and spring lines.

WARNING

Barges with low freeboard must remain alert to losing contact with berth fenders during low water.



More information on the mooring arrangement for tankers and barges is provided in Appendix B.

6.10 Dock 61 Information Sheet

Feature	Description / Value
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Feature	Description / Value
6.10.1 Minimum depth along side	About 16.0 m (54.1 ft) at chart datum (CD) At zero tide: 16.0 m (52.4 ft) or more adjacent to dock and 15.4 m (50.5 ft) or more in approaches to dock face
6.10.2 Maximum vessel draft at berth	14.0 m (maintain 5% UKC)
6.10.3 Maximum draft (within the Marine Restricted Area)	13.5 m (44.3 ft) even keel; subject to other Second Narrows MRA rule restrictions
6.10.4 Maximum vessel length overall	260 m (853 ft), subject to any applicable VFPA permission required for vessels over 250 m
6.10.5 Maximum vessel beam	45 m (147.6 ft)
6.10.6 Maximum vessel deadweight	120,000 DWT (Aframax size)
6.10.7 Maximum arrival displacement	100,000 metric tonnes
6.10.8 Salinity	Average sea water density at WMT: 1.017, subject to tides
6.10.9 Geodetic datum	3.1 m above C) (see Figure 2) Note: Soundings are based on a 2014 hydrographic survey by Golder Associates.
6.10.10 Causeway	72 m
6.10.11 Length / width of dock	Measures 92 m (302 ft) along the dock face by 15.2 m (50 ft)
6.10.12 Mooring equipment	Three mooring dolphins on either side of the dock, connected by walkways, with 300 m (984 ft) between the furthest dolphins
	Each mooring dolphin equipped with quick-release hooks and powered capstan drive units
	Two mooring points equipped with quick-release hook/capstan drive units
6.10.13 Deck	Reinforced concrete
	Supported by three cylindrical caissons, 38 m (125 ft) apart, 13.4 m (44 ft) in diameter and filled with rock and gravel

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Feature	Description / Value
6.10.14 Marine loading arms	Two 300-mm (12-inch) FMC articulated marine loading arms, each equipped with 12" ASME 150 ANSI flanges
6.10.15 Fenders	Five dock face fenders of hardwood installed on rubber shock absorbers
6.10.16 Containment boom	Versatech Model 36 permanent harbour boom
6.10.17 Boom length	520 m (1,700 ft) Note: The entire length is always deployed around the vessel.
6.10.18 Overall height	0.91 m (36")
6.10.19 Draft / free board	0.56 m (22") / 0.36 m (14")
6.10.20 Weight	14.1 kg/m (9.5 lb/ft)
6.10.21 Dock crane	Pitman Hydra-Lift Model HL-18T85; 4-section fully hydraulic boom
6.10.22 Safe working load	5 tonnes
6.10.23 Sheave height	26 m (85 ft)
6.10.24 Rotation	360° rotation blocked from full rotation by the proximity of a vent stack
6.10.25 Boom extension (centre line of pivot post to load hook)	Fully retracted: 7 m (23 ft) Fully extended: 22.9 m (75 ft)
6.10.26 Maximum boom angle	80° above horizontal
6.10.27 Minimum boom angle	15° below horizontal
6.10.28 Marine loading arms	FMC Loading Systems (France)
6.10.29 Construction	0.3 m x 0.3 m x 0.3 m x 16.8 m (12" x 12" x 12" x 55') fully powered rotary counterweighted marine arm, right-hand configuration, style 80 outlet
6.10.30 Inboard arm length	8.53 m (28.0 ft)
6.10.31 Outboard arm length	8.23 m (27 ft)
6.10.32 Vertical base riser height	9.10 m (29.9 ft)

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Feature	Description / Value
6.10.33 Hydrostatic test pressure	28.1 bar (408 psi)
6.10.34 Working and design pressure	18.7 bar (272 psi)
6.10.35 Maximum loading rates	Light crude: 3,950 m ³ /h (24,845 bbl/h) Heavy crude: 2,860 m ³ /h (23,530 bbl/h)
6.10.36 Cargo hose (jet fuel)	8" flexible hose x 2 (Depending on need)
6.10.37 Working and design pressure	18.7 bar (272 psi)
6.10.38 Maximum rate	Jet fuel: 1,590 m ³ /h (10,000 bbls/h)
6.10.39 Vapour hose	10" flexible hose x 1 (West of cargo loading arms)

6.11 Dock 59

- 6.11.1 Dock 59 is a small craft dock for use by TMC maintenance and WMT marine personnel and by emergency responders. It is situated approximately 350 m (1,150 ft) west of Dock 61.
- 6.11.2 Dock 59 is not open to public access and is NOT to be used for any purpose without prior permission from TMC.


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7.0 CONSTRUCTION SAFETY
7.1 Construction Safety Zone

7.1.1 A construction safety zone has been established in east Burrard Inlet and will remain in effect until all construction activities for the expansion of the WMT dock system has been completed. Appropriate Notices to Shipping (NOTSHIP) should be referred to for updates.

7.1.2 The construction safety zone GPS co-ordinates:

DEGREES	MINUTES		DEGREES	MINUTES	
49	17.2790	N	122	57.542	W
49	17.4930	N	122	57.690	W
49	17.6850	N	122	57.595	W
49	17.7220	N	122	57.282	W
49	17.6700	N	122	56.768	W
49	17.6530	N	122	56.700	W
49	17.6010	N	122	56.672	W
49	17.4090	N	122	56.852	W

7.1.3 Vessels navigating in the construction safety zone should pay close attention to the construction safety boom and be aware of various construction vessels that may be operating in the area.

7.2 Construction Safety Boom

7.2.1 A construction safety boom is deployed on buoys through GPS co-ordinates within the construction safety zone and suitably marked:

BUOY	DEGREES	MINUTES		DEGREES	MINUTES		LIGHT (2 NM RANGE)	RADAR REFLECTOR FITTED
A	49	17.400	N	122	57.514	W		
B	49	17.492	N	122	57.576	W	FL. RED	
C	49	17.512	N	122	57.572	W	FL. RED	
D	49	17.625	N	122	57.516	W	FL. YELLOW	YES
E	49	17.642	N	122	57.374	W		
F	49	17.658	N	122	57.231	W		
G	49	17.675	N	122	57.089	W	FL. YELLOW	YES
H	49	17.632	N	122	56.951	W	FL. RED	YES

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I	49	17.479	N	122	56.871	W	FL. RED	YES
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7.2.2 The construction safety boom is fitted with gates suitable for ship and barge traffic. The gates will be opened and shut by a sub-contractor (boom contractor) in coordination with WMT operations to accommodate arrival and departure of ships and barges scheduled to the WMT during construction.

8.0 WESTRIDGE MARINE TERMINAL ACCESS**8.1 Westridge Marine Terminal Security**

8.1.1 WMT is a designated marine oil handling facility regulated under Canada's Marine Transportation Security Act. The MARSEC level is normally set to Level 1 but may be adjusted at any time depending on security conditions.

8.1.2 All vessels must carry a valid International Ship Security Certificate (ISSC) and provide copies of the following documents in advance:

8.1.2.1 Crew list

8.1.2.2 Passenger list

8.1.2.3 Attendance (visitors) list

8.1.3 One copy of each document will be held at the main gate and the dockside office.

8.1.4 All individuals visiting WMT or transiting through WMT to or from the vessel must carry valid identification and be prepared to show it upon request by a TMC employee or security personnel.

8.1.5 Unauthorized, disorderly, or intoxicated individuals are not allowed through WMT. WMT retains the right to deny access to such individuals. Vessels should contact their agent to ensure the safety of the crew member.

8.1.6 Visitors are only allowed on board a vessel when approved by WMT. Visitors transiting through WMT or visiting a vessel at WMT are required to comply with all WMT regulations in this document.

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Note

Vehicle access to WMT is strictly controlled and is directed by TMC shore personnel. Only approved visitors and vehicles may enter the site.

- 8.1.7 An intrusion within the pre-deployed oil spill containment boom is considered a security violation.

8.2 Safe Access to Vessel

- 8.2.1 Safe access between the vessel and dock is a shared responsibility.

- 8.2.2 The dock gangway is the typical means of access between a vessel and WMT. Other means of access are not permitted without specific authorization.

- 8.2.3 WMT provides the dock gangway. When the vessel's configuration does not permit use of the dock gangway or a dock gangway is not available, in agreement with WMT the vessel's gangway or accommodation ladder may be used if safe to do so.

- 8.2.3.1 All means of access must be properly constructed and have stanchions and handrails. A safety net should be fitted under the gangway and a lifebuoy with line and light should be readily available.

- 8.2.4 WMT operations personnel are responsible for deploying and positioning the dock gangway as necessary. Vessels must provide a clear landing space on deck to accommodate the deployed gangway.

- 8.2.5 The dock gangway is retracted only after all WMT operations personnel have left the vessel and the pilot (in the case of a tanker) has boarded in preparation for departure.

8.3 Crew Fishing

- 8.3.1 Crew are not permitted to fish.

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8.4 Crew Shore Leave

8.4.1 Vancouver is a port of entry with customs facilities operated by the Canada Border Services Agency (CBSA). Shore leave is available to individuals listed on the vessel's crew or passenger list, provided they:

8.4.1.1 Have not been restricted by CBSA

8.4.1.2 Are not considered a safety/security risk

8.4.1.3 Follow instructions and guidance provided by WMT personnel

8.4.1.4 Carry suitable photo identification

8.4.2 Crew members are not allowed to walk between the dock and the WMT main gate. Crew may use VHF radio to request that the WMT operator call for a taxi or arrange with the vessel's agent for an approved pick-up / drop-off service.

8.4.3 In all cases, vessels are requested to inform WMT when any person is either leaving or arriving at the dock, and individuals are reminded to be cautious about their own safety and the possibility of slips, trips, and falls.

8.4.4 The Master or ship's port agent must inform the Loading Master or WMT operator with names and details of any person who has been restricted by the CBSA from landing in Canada.

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9.0 SAFETY**9.1 Protective Clothing and Equipment**

- 9.1.1 Appropriate protective clothing and equipment must be worn on deck and when passing through WMT.
- 9.1.2 Vessel personnel are to comply with the following minimum dress code:
 - 9.1.2.1 Coveralls or trousers and shirt with sleeves
 - 9.1.2.2 Suitable shoes—preferably safety shoes or boots with a steel toe cap (sandals or similar footwear is prohibited)
 - 9.1.2.3 Approved life jacket or buoyant work vest when working on board a barge without safety rails, or when working outboard of any safety rails
- 9.1.3 Personnel involved in vessel operations are encouraged to use personal protective equipment (PPE) to the fullest during transfer, hose handling, and mooring/unmooring operations. This includes hard hats and safety goggles.
- 9.1.4 Additional PPE may be needed when handling certain hazardous materials. Use of the following should be considered, as appropriate:
 - 9.1.4.1 Splash-protective eye wear
 - 9.1.4.2 Face masks
 - 9.1.4.3 Chemical suits
 - 9.1.4.4 Rubber boots and gloves
 - 9.1.4.5 Respirators or fresh air breathing apparatus
 - 9.1.4.6 Personal gas detectors, properly calibrated and tested
- 9.1.5 Visitors to (or travelling through) WMT must wear sensible street clothes and covered shoes with low heels.

9.2 Safety Data Sheets

- 9.2.1 A Safety Data Sheet (SDS) or Cargo Information Card from the supplier of the product should be available on request. Vessels

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loading cargo should receive the information from WMT, and vessels discharging cargo should provide an SDS to WMT if requested.

9.3 No Smoking

- 9.3.1 Smoking is strictly prohibited on vessels alongside except under controlled conditions in specifically designated areas that do not have doors or ports opening directly onto the cargo deck. Designated smoking areas should be conspicuously marked.
- 9.3.2 Smoking is prohibited on board any unmanned barge while at or near WMT.
- 9.3.3 Smoking is not permitted in WMT outside of designated smoking areas.
- 9.3.4 Smoking in an unauthorized area is a violation of tanker industry requirements while alongside an oil terminal (ISGOTT Ship/Shore Safety Checklist).
- 9.3.5 Crew members who are found smoking in an unauthorized area will be escorted off the premises and into the custody of the vessel's agent. They will not be allowed to return to the vessel while it is berthed/ docked at the facility. Vessel management are expected to cooperate to avoid such violations.

9.4 Soot Blowing

- 9.4.1 Soot blowing and excessive stack smoke or sparking is prohibited. Immediate action must be taken to eliminate any of these occurrences.

9.5 Sources of Ignition

- 9.5.1 Matches, lighters, or other sources of ignition, including battery-operated equipment and cameras, must not be carried or used within WMT or on the deck of vessels alongside.
- 9.5.2 Flashlights must be safety-approved by a competent authority.

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- 9.5.3 The use of portable electrical equipment on wandering leads is prohibited in hazardous zones during cargo transfer operations. The equipment should be disconnected from power and preferably removed from the hazardous zone.
- 9.5.4 Only intrinsically safe cellular phones, pagers and cameras may be used on the deck of vessels while alongside.
- 9.5.5 As radio transmissions on medium frequency (MF) and high frequency (HF) are potentially dangerous during transfer operations, they are strictly prohibited while alongside. The main and reserve transmitting antennae must be earthed while at WMT.
- 9.5.5.1 Transmissions on permanently installed VHF/UHF equipment are acceptable if the power output is reduced to 1 W or less.
- 9.5.5.2 Portable VHF/UHF equipment of an approved type may be used for intra-ship and ship/shore communications.
- 9.5.5.3 Satellite communication equipment may be used while alongside.
- 9.5.5.4 Radars should be normally switched off while alongside. The testing of radars while alongside is allowed on large vessels.
- 9.5.5.4.1 On small vessels, including tugs, where the radar scanner could be near the dock, radar may be tested after ensuring that no one is within 10 m of the scanner.
- 9.5.6 The intakes of central air conditioning or mechanical ventilation systems should be adjusted to prevent the entry of petroleum vapours, if possible by re-circulation of air within the accommodation spaces.
- 9.5.7 Window-type air conditioning units that are not certified as safe for use in the presence of flammable gas or that draw in air from outside the accommodation must be electrically disconnected, and any external vents or intakes must be closed.

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9.6 Flammable and Hazardous Material

9.6.1 Flammable and hazardous material must be safely stored.

9.6.1.1 Items such as cargo or bunker samples should be kept in a safe storage location, outside the vessel's accommodation, preferably at a location fitted with quick access to appropriate firefighting.

9.7 Entry into Enclosed Spaces

9.7.1 Personnel entry into enclosed spaces (as defined in ISGOTT) on a vessel alongside WMT, except entry into cargo/ballast pump rooms (for which separate entry procedures will be followed), is prohibited unless necessary for the safety of the vessel and WMT. The Loading Master must be informed prior to anyone making such an entry.

9.7.2 Gas-freeing of cargo tanks will not be carried out during a vessel's stay at WMT.

9.7.3 Cargo pump rooms are to be well ventilated and gas free before arrival at WMT. While alongside, the pump room must be kept free of cargo vapours. Pump room entry procedures must be established and must include testing of the atmosphere prior to entry.

9.8 Benzene

9.8.1 Vessel owners, operators, and personnel on board must be familiar with and comply with all applicable regulations on handling benzene or hydrocarbon mixtures containing more than 0.5% of benzene by volume. Cargoes containing benzene should be handled using closed operation procedures, which is always the case at WMT.

9.8.2 Although unlikely for operations at WMT, if it has been determined that airborne concentrations of benzene are likely to exceed accepted exposure limits (PEL of 1 ppm and STEL of 5 ppm) within any area, the area should be designated a "regulated" area. Vessels are to establish and clearly mark regulated areas with warning signs and limit access to authorized personnel only.

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9.9 Hydrogen Sulphide

- 9.9.1 Vessels should be aware of the potential presence of H₂S and adopt appropriate monitoring procedures. Exposure to any concentration above 10 ppm should not be permitted without proper respiratory protection in the form of a supplied-air respirator or self-contained breathing apparatus. Closed loading must be in effect.
- 9.9.2 Information on the presence of H₂S must be exchanged during the pre-transfer conference. The vessel owner/operator or person in charge (PIC) must inform the Loading Master if the previous cargo contained or was suspected to contain H₂S.

9.10 Use of Respirators

- 9.10.1 An approved respirator or breathing apparatus must be used always when exposure limits are likely to be exceeded, such as during the following:
- 9.10.1.1 Sampling cargo
 - 9.10.1.2 Making or breaking cargo connections
 - 9.10.1.3 Opening a cargo tank
 - 9.10.1.4 Transferring cargo when tanks are vented at less than 12 ft above the working deck
- 9.10.2 Impervious gloves and tight-fitting goggles or a face mask are to be worn when sampling, making, or breaking a cargo connection, or gauging a tank through a restricted gauging tube.

9.11 Inert Gas Operations

- 9.11.1 As a general policy, cargo tanks must remain inerted always. The Loading Master will carry out random checks to verify the oxygen content in cargo tanks before starting product transfer operations and during product transfer, at the Loading Master's discretion. If tanks display oxygen content more than 6% by volume, crude oil loading could be interrupted due to vapour combustion unit operability issues.

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9.12 System Alarms

- 9.12.1 If system alarms sound during operations, they must be investigated and properly dealt with.
- 9.12.2 As repeated and random system alarms may pose distractions, the Loading Master may request to temporarily stop cargo transfer until the matter has been resolved.
- 9.12.3 Silencing alarms without rectifying the fault is not acceptable practice.

9.13 Vessel Firefighting Equipment

- 9.13.1 Vessel firefighting equipment must be ready for immediate use.
- 9.13.2 Tankers should have the following:
 - 9.13.2.1 Fire hoses, with jet/spray nozzles attached, connected to the main and running out forward and aft of, and adjacent to, the cargo manifold in use.
 - 9.13.2.2 Portable dry chemical extinguisher with a capacity of at least 4 kg (10 lb) near the manifold.
- 9.13.3 Barges should have a portable extinguisher available at the manifold, preferably of the dry chemical type, with a capacity of at least 4 kg (10 lb).
- 9.13.4 Vessels are to ensure that:
 - 9.13.4.1 Foam and/or dry chemical monitors are ready for immediate use.
 - 9.13.4.2 The international ship/shore fire connection is kept ready for immediate use.
- 9.13.5 A copy of the vessel's safety and firefighting plan is located outside the accommodation in a watertight container.

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9.14 Accommodation Doors and Ports

- 9.14.1 All external doors and portholes must be closed during operations. Accommodation boundary doors should be fitted with self-closing or other control devices but should not be locked at any time.

9.15 Flame Screens / Deck Openings

- 9.15.1 All deck openings, tank hatches, butterworth plates, sounding pipes, etc. are to be kept closed while alongside.
- 9.15.2 During cargo transfer, the cargo tank venting system must be set as per design and the vessel's cargo transfer procedure. If necessary, ullage ports or other gauge points may be opened for short periods to carry out ullaging or sampling. This will be discussed and agreed with the Loading Master during the pre-transfer conference.

9.16 Insulation between Ship and Shore

- 9.16.1 To provide effective electrical isolation between the ship and shore, WMT systems are provided with insulating flanges. The use of bonding cables is not permitted.
- 9.16.1.1 With the protection provided by insulating flanges, the use of cathodic protection systems for vessel and jetty structures may be continued while alongside.

10.0 ENVIRONMENTAL CONTROLS**10.1 Spill Containment Boom**

- 10.1.1 Vessels transferring product at WMT are surrounded by a spill containment boom during loading and unloading operations to protect against a potential spill spreading to the rest of the harbour.

10.2 Vessel Discharges

- 10.2.1 Port of Vancouver regulations control the discharge of bilge and ballast for all vessels operating within the port. Port authorities periodically test ballast water to ensure that any discharges during

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product transfer operations will not contaminate the local environment.

10.2.1.1 Masters are responsible under the Vessel Acceptance Standard to ensure that the vessel's bilge overboard discharge valve is shut and kept locked (with lock and key) during the entire time the vessel is within Canadian territorial seas.

10.2.2 The Loading Master and WMT operations personnel will note any discharges that do not appear to meet regulations and are required to notify the appropriate authorities.

10.3 Scuppers / Drains

10.3.1 Before any transfer of cargo, ballast, slops, or bunkers, deck scuppers and drain holes in savealls and drip trays must be plugged. Accumulated water may be drained off (provided it is clean) as required and scupper plugs replaced immediately after the water has been run off.

10.3.2 Oily water should be transferred to a slop tank or other suitable containment using a portable pump that is rigged for this purpose. Air-operated pumps such as Wilden pumps must be securely grounded to the vessel's structure to prevent generation of electrostatic charges.

10.4 Discharge Containment / Drip Pans

10.4.1 Metal drip pans, manifold drip trays and other containment must be kept empty while alongside. Plugs and valves must be properly secured.

10.5 Vessel Garbage

10.5.1 Garbage or refuse of any kind must not be dumped overboard. Vessel-generated domestic garbage should be collected in suitable containers. The vessel's agent should be contacted to arrange for garbage and hazardous waste disposal.

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10.6 Asian Gypsy Moth Infestation

10.6.1 All vessels entering Canada must be free from all life stages of Asian gypsy moth (AGM) and are subject to inspection at any time of year to verify freedom from AGM.

10.6.2 Agents are responsible for ensuring that vessels notify the applicable Canada Food Inspection Agency (CFIA) officer at least 96 hours before arriving in Canadian waters if vessels have visited a port in a regulated area during the specified risk period of the current year, or in the year immediately preceding the current year.

Note

If WMT becomes aware of AGM infestation on a vessel, the matter will be reported to CFIA, who will advise on next steps. Any delays or costs resulting from this will be charged to the vessel's account.

10.7 Bird Strikes

10.7.1 The region is inhabited by many migratory and resident bird species. Any bird strikes to a vessel are to be reported to Marine Communications and Traffic Services.

10.7.2 As many bird species are attracted by light at night, light control measures on board will reduce the chances of bird strikes.

10.8 Hull and Propeller Fouling

10.8.1 Vessels with excessive hull and propeller fouling may be refused berthing and cargo transfer privileges.

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11.0 REPAIRS AND SERVICES**11.1 State of Readiness**

- 11.1.1 While alongside, except to undertake permitted maintenance that has been agreed with WMT, a vessel must always be able to move under its own power at short notice. If the vessel cannot comply with this requirement for any reason, WMT must be advised immediately.
- 11.1.2 For barges, the tow boat assigned to a barge will stand by in the immediate vicinity of the barge and will keep its engines ready for manoeuvring at short notice.

11.2 Available Services

- 11.2.1 Vessels should check with their agent about the many services available in Vancouver.
- 11.2.2 Limited transfer of stores and other materials to or from a vessel, including waste disposal and recycling using authorized service providers, is permitted during cargo transfer only if authorized by WMT.

11.3 Repair Plans

- 11.3.1 Major planned repair work is not permitted while alongside WMT.
- 11.3.2 Essential emergency repairs needed to rectify malfunctioning equipment and to prevent hazardous or unsafe conditions will be permitted on a case-by-case basis and may only begin once approved by WMT in writing.
 - 11.3.2.1 The vessel Master may contact the Loading Master directly or submit a request through the agent.
 - 11.3.2.2 The Supervisor, Westridge Marine Terminal (or designate) will review the request and, if approved, detail the specific work to be done in writing.
 - 11.3.2.3 If additional control measures are deemed necessary, such as having a standby tug boat in attendance during

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the repair, the vessel will bear the cost of these measures.

11.4 Prohibited and Restricted Activities

11.4.1 The following repair and maintenance activities are prohibited in the cargo area, cargo tanks, fuel tanks, cargo pump rooms, or enclosed spaces immediately above or adjacent to cargo tanks, such as cofferdams:

11.4.1.1 Hot work repairs, including welding, cutting, burning, abrasive blasting and other heat-producing operations.

11.4.1.2 Use of power-driven or manually operated devices capable of producing sparks.

11.4.2 Cleaning of cargo tanks, including crude oil washing, is not permitted.

11.4.3 Gas freeing of cargo or bunker tanks is not permitted.

11.4.4 The following repair and maintenance activities are restricted but may be allowed upon request by the vessel or a competent authority, provided they are considered safe by the Loading Master or Supervisor, Westridge Terminal:

11.4.4.1 Repair works, including boiler tube cleaning, light chipping and scraping, touching up hull painting, and testing or servicing of electrical equipment. Soot blowing not permitted at berth.

11.4.4.2 Repair activities or other work that may immobilize the vessel or render propulsion and/or steering systems inoperative

11.4.4.3 Activities that may either disrupt cargo operations or render them less efficient.

11.4.4.4 Tasks that require entry into an enclosed space.

11.4.4.5 Lifeboat servicing or lowering.

11.4.4.6 Underwater diving operations.

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11.4.4.7 Lowering of one or both anchors while secured to the berth.

11.4.4.8 Turning of the propeller, whether by turning gear or air/fuel.

11.5 Craft Alongside

11.5.1 No craft is permitted to come alongside or remain alongside a vessel without prior permission from WMT.

11.5.1.1 If a craft is given permission to come alongside, personnel on board must be instructed on safety regulations.

11.6 Vessel Bunkering

11.6.1 Bunker barge operations are not permitted while vessels are alongside.

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12.0 VESSEL OPERATIONS AT WESTRIDGE MARINE TERMINAL**12.1 Responsibility for Own Operations**

- 12.1.1 Each party (vessel and WMT) is responsible for the safe conduct of its own operations – for managing its own personnel and operating its own equipment.
- 12.1.2 Under no circumstances will either party operate any valves, switches or alarms within the other's area of control.

12.2 Vessel Crew

- 12.2.1 **Watch schedules** – Watch schedules for vessel personnel should be prepared in advance and arranged to minimize fatigue and comply with the maximum working hours established by the vessel's flag.
 - 12.2.1.1 The schedule must meet the Standards of Training, Certification and Watchkeeping for Seafarers (STCW).
 - 12.2.1.2 Watch handovers involving the person in charge should be scheduled so they do not take place during critical phases of the transfer, such as within 30 minutes of final topping off.
- 12.2.2 **Duties** – Vessel personnel will control and monitor all vessel systems during product transfer and will report any issues or safety concerns to the Loading Master.
 - 12.2.2.1 A manifold/gangway watch must be kept always. On barges, the Loading Master may accept this watch being kept from the Cargo Control Room (CCR) if the manifold is visible from the CCR.
 - 12.2.2.2 At all times during product transfer, the vessel will remain enclosed within WMT's oil spill containment boom. The deck watch should observe the deployed boom during regular rounds and immediately bring any defects to the attention of the Loading Master.

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12.2.2.3 Accumulations of water on deck will be carefully drained, making sure always that no pollutants are discharged from the vessel.

12.2.2.4 In case of an emergency:

12.2.2.4.1 Sound the alarm.

12.2.2.4.2 Arrange to stop cargo transfer.

12.2.2.4.3 Activate the relevant vessel response plan.

12.2.3 Drug and Alcohol Policy – Vessels must have an onboard Drug and Alcohol Policy (D&A Policy) that, at a minimum, meets OCIMF-recommended practices.

12.2.3.1 Crew members should not be impaired by alcohol when performing scheduled duties.

12.2.3.2 The use of prescription or non-prescription drugs must not adversely affect a crew member's ability to safely perform his or her duties.

12.2.3.3 TMC reserves the right to cease or terminate cargo operations if deviations are observed on board.

12.3 Pre-Transfer Conference

12.3.1 The person in charge (PIC) of cargo operations on the transferring vessel and the Terminal Representative are required to hold a pre-transfer conference.

12.3.1.1 At minimum, the scope of the conference must comply with the requirements of the ISGOTT Ship/Shore Safety Checklist.

12.3.1.2 A checklist combining ISGOTT pre-transfer requirements with other specific WMT requirements is used at WMT.

12.4 Vessel Notice of Readiness

12.4.1 The Vessel Notice of Readiness is accepted only after the pre-transfer conference is held and the Ship/Shore Safety Checklist has been completed.

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12.5 Cargo Loading Arms (or Hoses)

- 12.5.1 The vessel will identify the cargo manifolds to use. During berthing of the vessel, these manifolds will be appropriately lined up with the WMT marine loading arms used for oil or vapour service.
- 12.5.2 WMT will identify (or mark) in advance the location to which the vessel's manifolds must line up.
- 12.5.3 Manifold drains must be of suitable size to allow easy draining of the type of oil to be loaded. Narrow bore manifold drain lines could be problematic, especially during cold temperatures.
 - 12.5.3.1 The manifold drain line must be checked before arrival to ensure it is completely clear of clogs or restrictions.
 - 12.5.3.2 If an air operated pump is to be used, then it must be properly integrated to the manifold draining system; use of temporary couplings are not allowed.
 - 12.5.3.3 Instructions from the Loading Master on draining the loading arms must be carried out efficiently to avoid vessel delays.
- 12.5.4 Manifold connections not in use are to be kept fully blanked with blind flanges, gaskets and a bolt in every hole.
- 12.5.5 **Connection of marine loading arms** (or hoses) will be carried out by WMT operations personnel.
 - 12.5.5.1 In all cases, the points of connection between the vessel's manifold and the cargo transfer arm or hose must be completely over the manifold containment or drip tray.
 - 12.5.5.2 All flanged connections must be fully bolted with a bolt in every hole and must be tight.
 - 12.5.5.3 Vessel manifold valves will be kept shut and the manifolds must be cargo free prior to and during connection of the loading arms (or hoses).
 - 12.5.5.4 All manifolds not in use must be covered by a suitable blank flange. All nuts and bolts of the flanges must be tight.

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12.5.5.5 All manifold flange surfaces must be smooth and free of dirt and rust.

12.5.5.6 The vapour connection manifold must be suitably marked.

12.5.5.7 Loading arms (or hoses) must be suitably supported to ensure that flange connections are not subjected to undue strain before commencing cargo transfer.

12.5.6 Cargo and vapour manifold valves will only be opened when requested by the Loading Master.

12.5.7 Cargo and vapour manifold valves will only be closed when instructed by the Loading Master.

12.5.8 **Disconnection of marine loading arms** (or hoses) will be carried out by WMT operations personnel.

12.5.8.1 Loading arms (or hoses) and the vessel manifold must be drained of cargo before commencing disconnection.

12.5.8.2 The vessel's vapour manifold will be disconnected when instructed by the Loading Master.

12.5.8.3 All manifold blanks must be put back in place and fully tightened after the loading arms (or hoses) have been disconnected.

12.6 Cargo Transfer

12.6.1 Cargo transfer will only commence after the Ship/Shore Safety Checklist has been completed to the satisfaction of the vessel and WMT.

12.6.1.1 During cargo transfer, all requirements of the Ship/Shore Safety Checklist will be met always.

12.6.2 The line-up will be checked by the person in charge of the vessel's cargo transfer and confirmed satisfactory.

12.6.2.1 Manifold and dropline valves (for loading only) once open must not be shut unless requested by the terminal or Loading Master.

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12.6.3 In all cases, the precautionary oil spill boom will be kept deployed for the entire time that cargo transfer is ongoing.

12.6.4 **Crude oil loading** – Crude oil loading to a vessel will commence at the low rate that was agreed during the pre-transfer conference.

12.6.4.1 At all times during loading cargo flow must be directed to more than a single cargo tank.

12.6.4.1.1 It is acceptable to direct the initial flow to a single tank only if there is more than one tank valve, e.g. the tank has main and stripping valves, and both are kept open.

12.6.4.2 Initially the cargo will be directed to a single tank or to one set of receiving tanks on the vessel, until system checks have been carried out and confirmed as normal.

12.6.4.3 The vessel and WMT will communicate and mutually confirm that initial system checks have been completed and confirmed as normal.

12.6.4.4 **Bulk transfer** – Based upon the cargo stowage plan, additional receiving tanks will be placed online, and the transfer rate increased to reach the agreed maximum rate.

12.6.4.5 Loading into vessel cargo tanks may be adjusted according to the stowage plan, ballast handling, to maintain stability, and vessel trim or list requirements.

12.6.4.6 **Topping off vessel cargo tanks** – When loading to multiple cargo tanks, it may be possible to shut off loading to each cargo tank once the planned cargo amount has been loaded. The following precautions must be taken:

12.6.4.6.1 Cargo loading rate will be reduced progressively as loading progresses and cargo tanks are completed.

12.6.4.6.2 Vessel will always inform WMT prior to shutting cargo tank valves.

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12.6.4.6.3 Vessel will inform WMT when only two cargo tanks remain to be completed.

12.6.4.6.4 Loading will be reduced to the agreed topping-off rate as the final tank is approaching its planned topping-off level.

12.6.4.6.5 Terminal will cease cargo loading upon request from the vessel indicating that the agreed loading quantity has been reached.

12.6.4.6.6 Manifold valves will only be shut after receiving Loading Master's clearance to do so.

12.6.4.6.7 Cargo tank valve of the final tank must never be shut against the flow of cargo and will be left open till manifold valves have been shut.

12.6.4.7 **Departure draft** – No facility is available for WMT to offload already loaded crude oil from a vessel.

12.6.4.7.1 Vessels must be extremely mindful of the vessel draft in relation to the draft allowed for transiting the Second Narrows. The pilot will confirm this before getting underway.

12.6.4.7.2 An overdraft vessel could face extensive delays in port.

12.7 Stopping Cargo Transfer

12.7.1 The vessel may ask for suspension or stopping of cargo transfer by communicating a request over the radio to WMT operations.

12.7.1.1 Cargo valves on board must not be shut until cargo flow has completely stopped and this has been verified with WMT operations and the onboard Loading Master.

12.7.2 Cargo transfer will stop if WMT determines that unsafe or hazardous vessel operating conditions are developing.

12.7.2.1 Under certain exceptional conditions, WMT may require the vessel to vacate the berth.

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- 12.7.3 Cargo transfer may also be stopped under the following conditions (these conditions do not relieve the Master or Loading Master from the obligation to use best judgment when assessing the suitability of conditions for undertaking product transfer):
- 12.7.3.1 Any pre-arranged criteria have been met; e.g., vessel draft.
 - 12.7.3.2 Crude oil delivery or vapour recovery system stops functioning properly.
 - 12.7.3.3 Jet fuel offloading system stops functioning properly.
 - 12.7.3.4 Cargo vapours accumulate either on deck or ashore.
 - 12.7.3.5 Sustained wind speed reaches 30 knots.
 - 12.7.3.6 Vessel's moorings have been jeopardized by more than 10%.
 - 12.7.3.7 Excessive movement of the vessel at berth.
 - 12.7.3.8 Pre-deployed oil spill boom is displaced.
 - 12.7.3.9 Lightning or severe weather threatens the vessel.
 - 12.7.3.9.1 If an electrical storm is approaching, regardless of whether an inert gas system and/or vapour control system is fitted and in use, transfer operations will be stopped, and the cargo system secured.
 - 12.7.3.9.2 The crude oil loading arms or the jet fuel transfer hoses need to be drained during lightning storms.
 - 12.7.3.10 General power or communication failure occurs.
 - 12.7.3.11 Crude oil or jet fuel leak or spill occurs (see Spill Response).
 - 12.7.3.12 Fire occurs on board the vessel or at WMT (see Dock Fire and Vessel Fire).
 - 12.7.3.13 Security intrusion occurs either from shore or water.
 - 12.7.3.14 Another emergency condition arises.
 - 12.7.3.15 Emergency Shutdown system has been activated.

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12.8 Resumption of Cargo Transfer

- 12.8.1 Cargo transfer may resume once normal conditions have been restored, except when the stoppage was due to an emergency on board the vessel or at WMT.
- 12.8.2 Resumption of cargo transfer following an emergency, activation of Emergency Shutdown, or security intrusion will only take place after receiving authorization from the Director, Western Region.

12.9 Jet Fuel Handling

- 12.9.1 Vessels are expected to carry jet fuel in cargo tanks in which the prior cargo was either clean or had previously been used for carriage of a middle distillate such as gas oil, premium diesel or kerosene, which limits the risk of contamination with water.
- 12.9.2 The cargo receiver will appoint a cargo surveyor to test samples of jet fuel cargo. The Vessel Notice of Readiness will only be accepted once the sample has cleared. The sample is likely to fail under the following conditions:
 - 12.9.2.1 Failure to ensure that prior to loading, all lines, hoses, and pumps were drained of water and any product other than pure middle distillates.
 - 12.9.2.2 The jet fuel contains contaminated water (water contaminated with persistent oils or other impurities).
 - 12.9.2.3 The jet fuel was carried in tanks that had previously contained sour (H₂S positive) products such as 'sour' naphtha or dirty products such as blended marine diesel oil or intermediate fuel oil.

12.10 Vapour Control Operations

- 12.10.1 Vapour control operations will be conducted during crude oil loading in accordance with applicable regulations. Some of the WMT requirements for vessel systems and procedures are highlighted below.

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12.10.2 **Vessel tightness** – Cargo tanks and cargo tank access points must be maintained in a vapour-tight condition.

12.10.2.1 They must be proven vapour-tight at 600 mm water gauge minimum, at intervals not exceeding 24 months, and upon completion of related maintenance, repairs or modifications.

12.10.2.2 Documentation of the most recent test must be kept on board. Soap testing, pressure drop test or EPA Test Method 21 is acceptable.

12.10.3 **Vapour collection manifolds** – Vapour manifold arrangements, flanges, and markings must conform to OCIMF recommendations.

12.10.3.1 A 10-inch reducer is required to connect with the shore vapour line.

12.10.3.2 Vapour manifolds fitted above cargo liquid loading manifolds (piggy-backing) are not permitted.

12.10.4 **Overfill protection** – Vessels must be fitted with an overfill control system that conforms to applicable regulations and has been certified by the vessel's classification society or flag state.

12.10.4.1 Overfill control system sensors should be located near the geometric centre of each cargo tank with a set point not less than 75 mm (3 inches) below the deck.

12.10.5 **Cargo tank gauging** – This will only be carried out using the appropriate vapour lock.

12.10.5.1 Health and safety precautions must be taken to ensure that personnel involved in the activity are not harmed.

12.10.6 **Split loading** – Vessels that split-load dissimilar cargoes must have a vapour collection system that allows segregation of cargo vapours. This must be discussed during the pre-transfer conference.

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12.11 Closed Loading

- 12.11.1 Closed loading practices as described in ISGOTT must be followed always. Vessels operating with inert gas must be capable of closed loading. Also see requirements for Vapour Control Operations.

12.12 Tank Gauging

- 12.12.1 The fitted remote tank gauging system must be checked for accuracy and records may be requested for review by the Loading Master. This system is an important component of the vessel's closed loading system.
- 12.12.2 Tanks that are to be loaded to more than 93% capacity will be checked manually during topping off using the designated gauge points.

12.13 Manual Gauging or Dipping

- 12.13.1 Equipment used for manual gauging or dipping of cargo tanks must be capable of use under closed loading conditions. The Loading Master may ask to sight equipment certificates to verify this.
- 12.13.2 The use of manual tank gauging or dipping equipment may be restricted depending on condition of the equipment, environmental conditions, tank pressure and based upon the judgment of the attending Loading Master.

12.14 Gauge Points

- 12.14.1 The appropriate tank opening or fitting to be used for custody transfer measurement should be identified as the gauge point. The corresponding reference height (the total height between the rim of the ullage port and the striking plate at the bottom of the tank) must be clearly marked on deck.

12.15 Cargo Transfer Rates

- 12.15.1 The maximum allowable loading rates must be established and agreed with the Loading Master during the pre-transfer

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conference. Rates must be established for initial loading and will consider the need for precautions when handling grades defined as static accumulators. Procedures for final topping off will also be agreed.

- 12.15.2 Cargoes defined as static accumulators must be handled as per ISGOTT requirements.

12.16 Maximum Cargo Tank Filling Level

- 12.16.1 The maximum cargo tank filling level must not exceed 98% of tank capacity or 75 mm (3 inches) below the set point of the overfill control system of a vessel being loaded.

12.17 Checks on Quantities Transferred

- 12.17.1 Preferably every hour and at least every two hours, the vessel is to provide WMT operations with information on the amount of cargo that has been discharged or loaded.
- 12.17.1.1 WMT will provide comparable shore figures to the vessel.
- 12.17.2 If there is a sudden or significant difference between WMT and vessel figures on quantities transferred, the Loading Master must be informed, and the difference investigated.
- 12.17.3 If required, operations will be stopped until a satisfactory explanation is found.

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13.0 EMERGENCY PLANNING**13.1 Emergency Shutdown System**

13.1.1 The crude oil loading system and vapour recovery system have manually operated Emergency Shutdown (ESD) systems. If the ESD systems are activated:

13.1.1.1 The delivery line booster pumps are automatically shut down.

13.1.1.2 All valves at Dock 61 are automatically closed or set to a safe state.

13.1.2 The jet fuel unloading system has separate manually activated ESD systems and procedures in case the unloading process needs to be stopped due to an abnormal operating condition.

13.1.3 If cargo loading to a vessel is stopped for any reason, the cargo tank, line and manifold valves must be left open until the Loading Master instructs they be shut after consulting with the WMT operator.

13.2 Security Intrusion

13.2.1 Product transfer will stop in case of a security intrusion, whether from shore or water. Transfer will remain stopped until the matter has been investigated and resolved.

13.3 Dock Fire

13.3.1 In case of a fire on the dock or on a vessel berthed at the dock, WMT personnel can deploy firefighting equipment to:

13.3.1.1 Suppress fires on the dock and protect dock equipment.

13.3.1.2 Cool the dock area to facilitate personnel evacuation.

13.3.1.3 Provide boundary cooling for the vessel and apply water spray or foam near the vessel's manifolds.

13.3.2 Immediately upon being informed of a fire within the terminal area, WMT will inform the vessel and Loading Master and commence

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shutting down of all non-essential operations, including cargo transfer operations.

13.3.3 As required, WMT operations personnel will:

13.3.3.1 Operate the dockside firefighting system as required.

13.3.3.2 Make necessary notifications.

13.3.3.3 Contact emergency responders and internal TMC personnel as required.

13.3.3.4 Prepare to drain and disconnect the cargo arms (hoses).

13.3.3.5 Order and lead evacuation of the dock (or vessel) as deemed necessary.

13.3.4 Upon being notified of a fire at WMT, the vessel's crew should:

13.3.4.1 Follow the vessel's fire and emergency plan.

13.3.4.2 Inform the agent and place tugs and pilots on standby to leave the dock.

13.3.4.3 Liaise closely with the Loading Master.

13.3.4.4 Stand by to assist upon request by WMT.

13.4 Vessel Fire

13.4.1 Vessels have their own established emergency response plan and are fully equipped with onboard firefighting equipment.

13.4.2 In the event of a fire on the vessel, the crew will:

13.4.2.1 Immediately inform the Loading Master and prepare to shut down product transfer in a safe manner.

13.4.2.2 Notify the appropriate parties.

13.4.2.3 Implement the vessel's emergency response plan under the master's direction.

13.4.2.4 Operate the onboard firefighting system as required.

13.4.2.5 Evacuate the vessel if required.

13.4.2.6 Seek assistance as required.

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13.4.3 As required, WMT operations personnel will:

13.4.3.1 Shut down cargo operations.

13.4.3.2 Operate the dockside firefighting system as required.

13.4.3.3 Make necessary notifications.

13.4.3.4 Contact emergency responders and internal TMC personnel as required.

13.4.3.5 Assist with evacuation of the vessel if deemed necessary by the Master.

13.4.3.6 Prepare to drain and disconnect the loading arms.

13.4.4 Product transfer will not be resumed until all conditions have reverted to normal and this is confirmed by the vessel Master and Loading Master.

13.4.4.1 Depending on the reason for the fire, the Loading Master will conduct an on-the-spot inquiry and determine if future operations will be carried out safely by the vessel's crew.

13.5 Emergency Evacuation from Dock or Vessel

13.5.1 The dock and vessel will be evacuated if an emergency poses immediate and serious risk of injury or death.

13.5.2 If the Master requires that the vessel be evacuated, the following actions will be taken:

13.5.2.1 Immediately inform the Loading Master.

13.5.2.2 After assessing conditions on board, select the appropriate evacuation route (by the gangway to the shore or using the vessel's lifeboat).

13.5.2.3 Upon orders from the Master, evacuate the vessel by the selected means.

13.5.3 If it is necessary to evacuate the dock, WMT operators will:

13.5.3.1 Inform the Loading Master and shut down cargo operations.

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13.5.3.2 Follow the TMC Emergency Response Plan and Westridge Emergency Response Plan Manual.

13.6 Oil Spill

13.6.1 All vessels berthed at WMT must have an agreement in place with Western Canada Marine Response Corporation (WCMRC). Inform the Loading Master and shut down cargo operations.

13.6.2 In the event of an oil spill, the following actions will be taken:

13.6.2.1 Stop cargo transfer.

13.6.2.2 Notify the Loading Master, the authorities and WMT.

13.6.2.3 The vessel will activate onboard oil spill response plans and if possible, try to prevent spilled oil from entering the water.

13.6.2.4 If the spill is not contained on the vessel, WMT will activate the WMT Emergency Response Plan and lead the response, including:

13.6.2.4.1 Appropriately deploy a second oil spill boom.

13.6.2.4.2 Assist with spill containment and recovery.

13.6.2.4.3 Immediately call WCMRC to undertake on-water response.

13.7 Excessive Movement of Vessel at Berth

13.7.1 The vessel crew is responsible for ensuring that the vessel is safely moored with minimum movement.

13.7.2 A vessel may move during loading or unloading due to any of the following:

13.7.2.1 Changes to weights on board (cargo and ballast).

13.7.2.2 Tide-induced water level changes.

13.7.2.3 Wind.

13.7.2.4 Waves and surges caused by passing vessels.

13.7.2.5 Poorly tended moorings.

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- 13.7.3 To avoid excessive movement at berth, the crew must:
- 13.7.3.1 Regularly check moorings.
 - 13.7.3.2 Be aware of the tide times and range.
 - 13.7.3.3 Monitor the position of the vessel relative to the dock face and the loading equipment during product transfer.
- 13.7.4 If high winds are forecast, in consultation with the Loading Master, mooring arrangements will be reviewed, and supplement moorings will be deployed if necessary.
- 13.7.4.1 An assist tug may be placed on standby.
 - 13.7.4.2 Whenever possible, cargo hoses should be disconnected prior to high wind conditions being reached.
- 13.7.5 The Loading Master, vessel Master, or WMT operator may independently decide to shut down product transfer due to ship movement if at any time they feel that continued operation poses a safety or environmental risk.
- 13.7.6 If mooring lines slacken excessively or break, and the vessel becomes significantly out of position or the manifolds become significantly misaligned with the loading arms, the vessel will:
- 13.7.6.1 Inform the Loading Master.
 - 13.7.6.2 Prepare to shut down loading operations.
 - 13.7.6.3 Prepare to reposition and secure the vessel's mooring.
- 13.7.7 In severe situations, with assistance from the vessel's crew as required, it may be deemed necessary to drain and disconnect the crude oil loading arms or jet fuel transfer hoses after shutting down product transfer and before repositioning the vessel.

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14.0 NAVIGATION**14.1 Overview**

- 14.1.1 This section summarizes meteorological and navigational information that applies to vessels transiting through Canadian waters and the Port of Vancouver.
- 14.1.2 Vessels transiting to and from WMT must meet the prevailing port and harbour regulations. If in doubt, they may contact their agent for clarification.

14.2 Annual Notices to Mariners

- 14.2.1 Vessel Masters must obtain a copy of the current Annual Notices to Mariners issued by the Canadian Coast Guard, which may be downloaded from <http://www.notmar.gc.ca>. The document should be reviewed on board and relevant information shared with all those engaged in watchkeeping or in charge of the vessel's navigation in Canadian waters.

14.3 Notices to Shipping (NOTSHIP)

- 14.3.1 The Canadian Coast Guard issues Notices to Shipping to advise the marine public of hazards to navigation, defective aids to navigation and other important navigational information in the local area. Active NOTSHIPS can be accessed at <http://www.vtos.pac.dfo-mpo.gc.ca/notship/ntsactive.htm>

14.4 Meteorological Conditions

WMT is situated in the City of Burnaby, BC, one of Canada's warmest cities. The relatively high amount of precipitation during the winter months also makes it one of Canada's wettest cities. Vancouver Harbour, which includes WMT, generally experiences an oceanic or marine west coast climate, and remains ice-free year-round.

- 14.4.1 Colder days in winter may result in frosty surfaces.
- 14.4.2 In winter months, vessel personnel should exercise caution on outdoor surfaces due to slipping hazards.

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14.4.3 Temperature and Precipitation

14.4.3.1 Summer (July and August)	Average high temperature: 22°C (72 F).
	Daytime maximum temperatures rarely reach 30°C (86°F).
	Average monthly summer precipitation (June through August): 80 mm (3.1").
14.4.3.2 Winter (December through February)	Daily average temperature rarely drops below freezing.
	Daily mean temperature: 4°C (39°F).
	Average daily low temperature: 1–2°C (33–35°F).
	Average monthly winter precipitation: 244 mm (9.6").

14.4.4 Wind

14.4.4.1 Summer	Westerlies are common, as northwesterly winds over the Strait of Georgia are enhanced and drawn east near the mouth of Burrard Inlet when combined with the onshore sea breeze.
14.4.4.2 Winter	Winter easterlies through the inlet are typically southeasterly winds that are steered in advance of approaching frontal systems, and on occasion can result from the northern extension of outflows from the Fraser Valley or from Indian Arm. These outflow winds are not as frequent or as strong as the outflows through Howe Sound, which spill into Georgia Strait and the western portion of the outer harbour of Burrard Inlet.
	Winter winds at Vancouver Harbour exceed 6 m/s (12 knots) approximately 5% of the time.
14.4.4.3 Thunderstorms	Infrequent in the Vancouver Harbour area. When they occur, they form with strong winds and dissipate quickly.

14.4.5 Visibility

14.4.5.1 Fog	May form in Burrard Inlet when cold air draining from the neighbouring valleys settles into the inlet under light winds or calm conditions and reaches saturation over water.
	Occurs in this area more often in the fall and winter, especially in high-pressure or inversion conditions.

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14.4.6 Waves, Tides, and Currents**14.4.6.1 Waves**

Local winds generally do not generate waves of any significance within Burrard Inlet due to limited fetch for wave development.

In Vancouver Harbour, waves generated by moving vessels and floatplanes can be of similar or greater height than wind-generated waves. Long-period swell-like waves sometimes propagate through First Narrows, but these waves dissipate rapidly to the east in the inner harbour.

Nearby and to seaward of First Narrows, waves can develop when combined with strong westerlies during ebb tides. These waves may be of concern to small craft.

14.4.6.2 Water level in Vancouver Harbour

Mean water level: 3.1 m (10.2 ft) above local CD.

Higher high water: 5.0 m (16.4 ft) above local CD.

Lower low water: 0.1 m (0.3 ft) below local CD.

14.4.6.3 Typical tidal range

Varies from 3.3 m (10.8 ft) for mean tides to 5.1 m (16.7 ft) for large tides.

14.4.6.4 Currents

Surface currents in the area are primarily tidally driven, modulated by storm winds.

Depending on the stage of the tide, funnelling effects can lead to very swift currents at First and Second Narrows that can attain a speed of 3.0 m/s (9.8 ft/s) during flood and ebb tides.

The location of maximum current at Second Narrows, because of adjustment to the pressure gradient at different tide stages, does not remain stationary. It typically shifts to the seaward side of the Second Narrows Bridge during ebb tide and to the inland side of the bridge during flood tide.

14.5 North American Emissions Control Area (ECA)

14.5.1 The International Maritime Organization has officially designated waters off North American coasts as an area in which stringent international emission standards will apply for ships. It extends up to 200 NM from the coasts of Canada and the United States.

14.5.2 All vessels must operate using the appropriate fuel grade.

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14.6 Tanker Exclusion Zone

- 14.6.1 A Voluntary Tanker Exclusion Zone (TEZ) has been in existence off the west coast of Vancouver Island since 1985. It was established through joint discussions between the Canadian Coast Guard, the United States Coast Guard, and the American Institute of Merchant Shipping.
- 14.6.2 Its purpose is to keep tankers west of the zone boundary to protect the shoreline and coastal waters from a potential risk of pollution.
- 14.6.3 The Master of any vessel passing the west coast of Vancouver Island must respect and remain west of the TEZ, both while laden and in ballast (Figure 4).

*Figure 4: Tanker Exclusion Zone***14.7 Tug Escort of Tankers in-Product**

- 14.7.1 The Pacific Pilotage Authority has published through Notice to Industry specific tug escort requirements for in-product (carrying

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cargo) tankers over 40,000 DWT when passing through Boundary Pass and Haro Strait. To safely comply with tanker escort requirements, all vessels to which additional tug escort is applicable must review and confirm the compatibility and availability of appropriate mooring bitts.

14.7.2 Note that while all tankers are fitted with an Emergency Towing Apparatus (ETA), typically of 200 tonne SWL, not all these systems are designed for routine (non-emergency) tethered escort tug services. In case of any doubt, the master must seek clarification from the PPA through the appointed port agent by forwarding copies of the vessel's official mooring arrangement plans and a photograph of the stern deck.

14.8 Marine Mammals

- 14.8.1 The region is inhabited by a variety of marine mammals. Much of the southern coast of British Columbia is designated critical habitat of endangered southern resident killer whales and is known to be of importance to other at-risk whales.
- 14.8.2 The Enhancing Cetacean Habitat and Observation (ECHO) Program is a Vancouver Fraser Port Authority–led initiative aimed at better understanding and managing the impact of shipping activities on at-risk whales.
- 14.8.3 Vessels must participate in any navigation initiatives sponsored by ECHO such as voluntary vessel slowdown in Haro Strait; please check with the port agent on this matter.
- 14.8.4 If a vessel sights a marine mammal in distress for any reason, the matter must be reported to MCTS. This includes any low-likelihood incident whereby a vessel makes physical contact with or strikes a whale.



Reporting details can be found in the Annual Notices to Mariners. More information on the ECHO Program can be found in the Port of Vancouver Port Information Guide and on the Port's website.

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14.9 Underwater Noise Effects

- 14.9.1 It has been determined that underwater noise from vessels interfere with marine mammals to navigate, communicate, and locate prey. To mitigate underwater noise, the IMO's Marine Environment Protection Committee (MEPC) has issued non-mandatory Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, which are intended to provide general advice about reduction of underwater noise. The MEPC notes that propeller polishing done properly removes marine fouling and vastly reduces surface roughness, helping to reduce propeller cavitation. In addition, maintaining a smooth underwater hull surface and smooth paintwork may also improve a vessel's energy efficiency by reducing the vessel's resistance and propeller load. Both measures will help to reduce underwater noise emanating from the vessel.
- 14.9.2 All vessels are requested to take note of these recommendations and endeavour to ensure that the underwater portions of the vessel, including its hull and propeller, are clean and well maintained.
- 14.9.3 When transiting in ballast, vessels should ensure full propeller immersion; this is a requirement under international regulation, which besides ensuring navigation safety will prevent propeller ventilation that could be a contributing factor to increased underwater noise radiation.
- 14.9.4 TMC reserves the right to refuse acceptance to vessels that have been identified as having a heavily fouled hull or propeller.
- 14.9.5 The Port of Vancouver ECHO Program can assess and provide reports on a vessel's underwater noise radiation level. Masters and ship operators are encouraged to utilise this service in order to become aware of their vessel's underwater noise radiation levels and also as a means to support decisions on due hull or propeller cleaning.

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14.10 Testing of Marine Propulsion and Steering

- 14.10.1 Masters must ensure that main propulsion and steering are operating with normal efficiency and response time in both directions prior to entering Canada's Territorial Sea, and the vessel must be fully ready to maneuver freely while underway. Masters are reminded that the regulations of SOLAS Chapter V Regulation 26 or 33 CFR Chapter 1 164.25 "Tests before entering or getting underway" must be complied with.
- 14.10.2 The tests are typically carried out prior to entering the Traffic Separation Scheme (TSS) from sea and 1 hour before getting underway from anchorage or berth.
- 14.10.3 A second vessel auxiliary engine generator must be kept running while the vessel is navigating in near coastal waters to provide redundancy and mitigate the effects of failure of a single auxiliary engine.

14.11 Vessel Traffic Services

- 14.11.1 The area between Buoy Juliet and the Port of Vancouver is covered by VTS that are jointly managed by the Canadian Coast Guard and United States Coast Guard. Masters must familiarize themselves with VTS operating conditions before entering this area.
- 14.11.2 Vessels must only navigate within the appropriate boundaries and lane of the TSS, unless forced to deviate for safety reasons.
- 14.11.2.1 As much as practically possible and when safe to do so, vessels in Juan de Fuca Strait should remain close to the separation zone of the TSS, near mid-channel.
- 14.11.3 Marine Communications and Traffic Services (MCTS) of the Canadian Coast Guard can communicate with and monitor the movement of vessels in the VTS under their jurisdiction.
- 14.11.3.1 The VTS operator may be contacted by VHF on the channel allocated to the location of the vessel and on Channel 16.

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14.12 Departure Route

- 14.12.1 As noted in the Master's Declaration, whenever a vessel laden with oil from WMT is departing for an overseas destination, after passing Buoy Juliet the vessel must not steer a true course greater than 270° until it has passed beyond Canada's EEZ (exclusive economic zone).
- 14.12.2 Stay further away from key marine mammal foraging grounds within shipping lanes of the Strait of Juan de Fuca by remaining closer to the traffic separation zone.

14.13 Call-in Points

- 14.13.1 Laden tankers must:
- 14.13.1.1 Call in to VTS on the appropriate VHF channel and provide the requisite information at the normal call-in locations.
 - 14.13.1.2 Make a safety call ("SÉCURITÉ") at additional times while transiting through Juan de Fuca Strait: off Race Rocks, Sheringham Point, and Port Renfrew.
- 14.13.2 A call must also be made immediately in case of loss of propulsion or steering failure while within Canada's EEZ.

14.14 Pilots

- 14.14.1 Under Canadian regulations, every foreign vessel over 350 GRT is required to use the services of a marine pilot when it enters BC waters. Pilotage services are provided by the British Columbia Coast Pilots Ltd. (BCCP), and the Pacific Pilotage Authority (PPA) regulates the pilotage service.
- 14.14.2 See Appendix E for references to the PPA's industry publications and notices.

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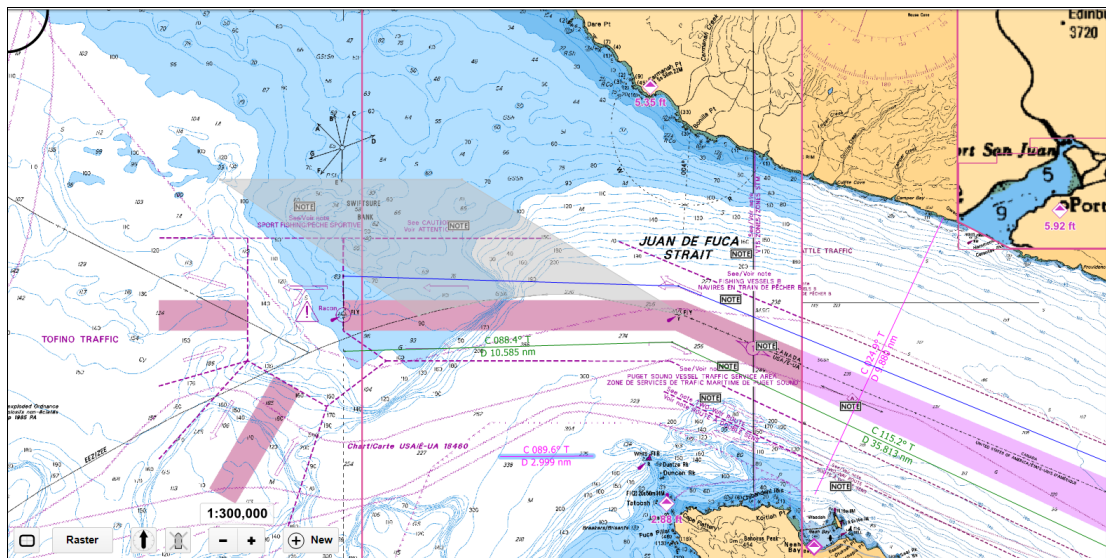
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14.15 Swiftsure Bank

- 14.15.1 Commercial fishing boats, sports anglers and other small craft are known to congregate in large numbers, both underway and at anchor, near Swiftsure Bank, which is located near the western entrance of Juan de Fuca Strait (Figure 5).
- 14.15.2 When navigating in the area, Masters are requested to exercise special caution and set the bridge team strength to an appropriate level. Small boats are typically not fitted with an Automatic Identification System (AIS) and may not be able to detect other vessels in a timely manner.

*Figure 5: Swiftsure Bank***14.16 Traffic control Zone**

- 14.16.1 MCTS provides clear narrows broadcasts for Traffic control Zone (TCZ) as defined by the Port of Vancouver (Figure 6). These broadcasts aim to ensure that transit through First and Second Narrows is unimpeded and that vessels are not met, overtaken or crossed ahead by other vessels.
- 14.16.2 When navigating in TCZ, all vessels with drafts greater than 15 m require a clear narrows authorization.



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14.16.3 MCTS provides clearance to all tankers and barges transporting dangerous goods that transit the Second Narrows TCZ, after determining the vessel's schedule and considering tidal windows.

14.16.3.1 MCTS coordinates the movement of other vessels through the Second Narrows TCZ, which may delay clearances for vessels departing or transiting the Second Narrows Bridge.

14.16.4 When enroute and prior to entering Vancouver Harbour, vessels must communicate their intention to transit the harbour to CCG-MCTS via VHF Channel 12.

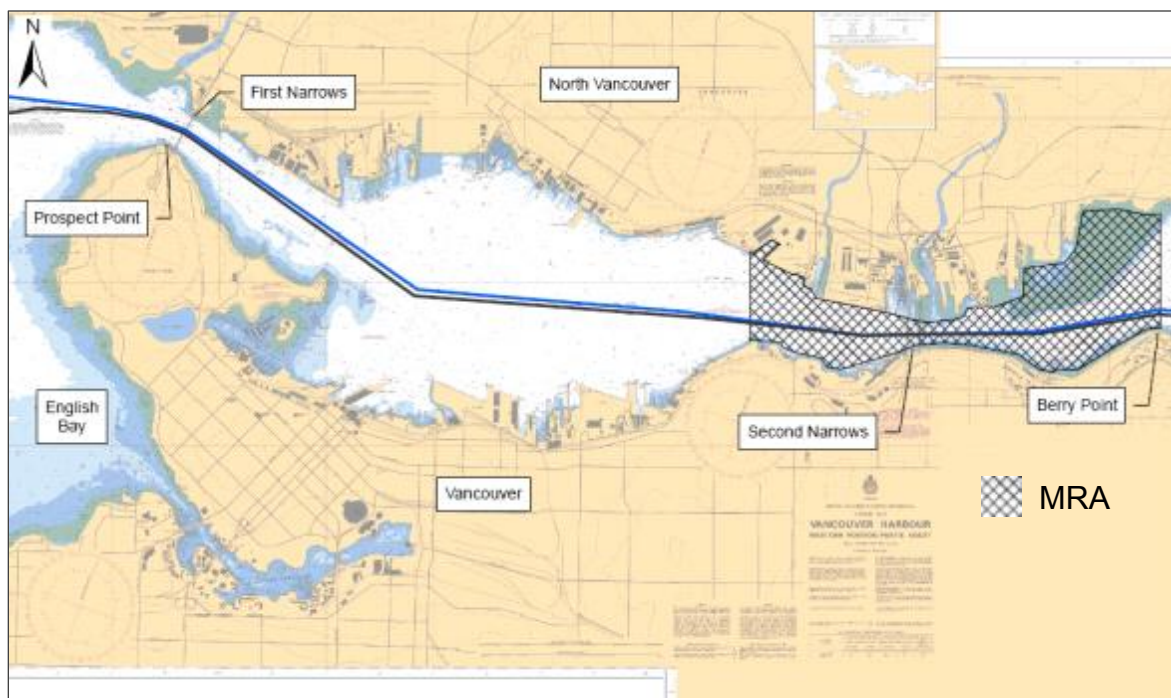


Figure 6: Vancouver Harbour Movement Restriction Area (cross-hatched area)

14.17 Tug Escort for Tankers

14.17.1 Laden (loaded) tankers transiting the Second Narrows TCZ require a minimum of two tug boats, both inbound and outbound. They must comply with Port of Vancouver Port Information Guide, Vessels Tug Matching Matrix, which summarizes requirements for bollard pull and tug configuration.

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14.17.2 When a loaded tanker is inbound, at the pilot's discretion, the tug boats tether directly to the vessel at a suitable location on the west side of Second Narrows and escorts the vessel through to the east side of Second Narrows.

14.17.3 When a tanker is outbound, at least two tug boats must stay tethered to the vessel through the First Narrows transit to English Bay.

14.17.3.1 One tug remains tethered to the vessel until it passes Point Grey.

14.17.4 Empty tankers in ballast require an escort of at least two tugs only within the TCZ at Second Narrows.



For additional tanker escort rules that apply through the Strait of Georgia, Boundary Pass and Haro Strait, review the relevant Notice to Industry issued by the Pacific Pilotage Authority.

14.18 Tug Escorts for Barges

14.18.1 Barges moving within the Second Narrows TCZ must comply with Port of Vancouver Port Information Guide, Table 1: Barges-Tug Requirements, which summarizes bollard pull requirements and number of tugs required to transit through the TCZ.

14.19 Attending Tug (Applicable to Barges)

14.19.1 The owner/operator of a tug that has been wholly assigned to tow or push a barge for the duration of its voyage will, for all practical purposes, be considered the owner/operator of both the tug and barge.

14.19.2 Both the tug and the barge must meet and follow all relevant port and WMT guidelines and will undergo a screening process before acceptance.

14.19.3 Those tugs operating under a pilot waiver must be completely familiar with the PPA's pilot waiver program.

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- 14.19.4 Non-compliance may cause serious delays to the voyage, for which the tug's owner/operator will be held responsible and liable.

14.20 Anchorage Use

- 14.20.1 If the berth at WMT is not available, the Port of Vancouver will assign anchorage upon request via the pilot, ship's agent, or MCTS.
- 14.20.2 Partly loaded vessels must ensure minimum trim and propeller immersion criteria are met at all times; sufficient ballast should be retained if required for this purpose.
- 14.20.3 Noise levels and light usage should be minimized in consideration of local residents and wildlife.
- 14.20.4 MCTS will broadcast a wind warning advisory on VHF 12 to all vessels at anchor in the port when winds from any direction reach or exceed 25 knots. The wind warning advisory will be cancelled when winds have abated below 25 knots for more than one hour.
- 14.20.5 A prudent Master will ensure that:
- 14.20.5.1 The anchor is properly and firmly set prior to the pilot departing the vessel.
 - 14.20.5.2 The latest edition of the largest-scale chart is used for taking vessel positions.
 - 14.20.5.3 A continuous navigational watch is always maintained.
 - 14.20.5.4 The vessel is prepared to take early and effective action, including: letting out more chain, use of engines to maintain position and calling for a pilot if repositioning of the vessel is required.
- 14.20.6 Extra caution should be exercised when exposed to winds over 20 knots from any direction by:
- 14.20.6.1 Closely monitoring distances to shore and to adjacent vessel at anchor, to ensure they are being maintained.

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14.20.6.2 Having the main engines and propulsion gear immediately available for use.

14.20.6.3 Having the windlass arrangement and anchoring equipment prepared and in good working condition.

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15.0 DOCUMENTATION**15.1 Agreement to Limit Liability**

15.1.1 Complete the Agreement in Appendix A.

15.2 Arrival

15.2.1 Prior to arrival alongside, vessels are to:

15.2.1.1 Verify the status of all vessel equipment necessary for safe and efficient operations, preferably using a Pre-Arrival Checklist.

15.2.1.2 Advise WMT of any defects or deficiencies.

Note

Use of a Pre-Arrival Checklist does not replace the requirement to complete a Ship/Shore Safety Checklist before starting transfer activities.

15.3 Vessel Documents

15.3.1 The vessel's trading certificates and various other documents must be available for review by the Loading Master. The following is a list of documents that are more frequently requested:

15.3.1.1 Vessel Crew and Passenger Lists

15.3.1.2 Vessel's logbooks

15.3.1.3 Class Certificate and Record of Survey

15.3.1.4 IOPP (International Oil Pollution Prevention Certificate)

15.3.1.5 SOPEP (Ship Oil Pollution Emergency Plan)

15.3.1.6 International Air Pollution Certificate

15.3.1.7 International Sewage Pollution Prevention Certificate

15.3.1.8 Garbage record book

15.3.1.9 Oil record book Parts I and II

15.3.1.10 Bunker delivery receipt

15.3.1.11 Ballast Water Management Plan

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- 15.3.1.12 Updated charts for the intended routes
- 15.3.1.13 Ship Energy Efficiency Management Plan (SEEMP)
- 15.3.1.14 Hull and propeller maintenance logs
- 15.3.1.15 Ship Membership Agreement with Western Canada Marine Response Corporation
- 15.3.1.16 Phytosanitary Certificate for Asian Gypsy Moth
- 15.3.1.17 Safety Data Sheets
- 15.3.1.18 Bills of Lading
- 15.3.1.19 Shipping documents for bulk liquid cargoes
- 15.3.1.20 Cargo stowage plans and records
- 15.3.1.21 Vessel Experience Factor
- 15.3.1.22 Vessel gas tightness certificate

15.4 Cargo Transfer

- 15.4.1 To facilitate pre-transfer formalities, vessels should have the following documentation readily available on arrival at WMT:
 - 15.4.1.1 Cargo stowage plan: identities of cargoes, quantities and tanks stowed in, or to be stowed in, as applicable.
 - 15.4.1.2 Ballast stowage plan: quantities and tanks stowed in, or to be stowed in, as applicable.
 - 15.4.1.3 Oil transfer procedure for the operations at WMT.
 - 15.4.1.4 Other relevant information, such as tank cleaning records, list of previous cargoes carried, and Vessel Experience Factor calculations.

15.5 Cargo Documents

- 15.5.1 The vessel's transit through the Second Narrows depends on acceptable tidal conditions being met. Subject to Early Departure Procedures (EDP) being completed prior to loading completion, the vessel will be allowed to sail from the berth in a timely manner and thereby avoid delays and further waiting at anchor.

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15.5.1.1 The port agent for the vessel should be authorized for this purpose.

15.5.2 Bills of Lading will be prepared by the appointed port agent for the vessel. The Master is responsible for verifying the cargo figures inserted to Bills of Lading.

15.5.2.1 WMT does not accept any responsibility or liability for discrepancy between the vessel's figures and those inserted to Bills of Lading.

15.6 Statement of Facts

15.6.1 The Master and the port agent of the vessel will cooperate in preparing a Statement of Fact (SOF) covering the entire time the vessel remains within Canada's EEZ.

15.6.1.1 A running SOF will be shared with WMT upon acceptance of the Notice of Readiness, upon completion of loading, upon sailing from WMT, and finally upon leaving Canada's EEZ.



Refer to Appendix E for details.

15.7 Record Keeping

15.7.1 Records pertaining to all tasks undertaken and information gathered to comply with this procedure will be maintained as per the Document Record Keeping Standard.

15.7.2 For each vessel, the records will include the following:

15.7.2.1 Vessel Name.

15.7.2.2 Port Call ID (issued by TMC).

15.7.2.3 Comprehensive Statement of Facts for the entire time the vessel operated in Canadian waters.

15.7.2.4 Confirmation of the validity of certificates noted in the Vessel Proposal Form.

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- 15.7.2.5 Confirmation that appropriate public and industry database records have been reviewed, including SIRE, Equasis, Port State Control, and U.S Coast Guard.
- 15.7.2.6 Verification of mariners' qualifications and that experience of officers are suitable, reflected in a current Officer Matrix.
- 15.7.2.7 Whether any special operating requirements or instructions were issued.
- 15.7.2.8 Any deficiencies noted or incidents during the port call.
- 15.7.2.9 Any followup requirements.
- 15.7.2.10 Cargo details, including available quality and quantity certificates.


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16.0 REFERENCES

No.	Document Name	Remarks
1	Port of Vancouver: Port Information Guide http://www.portofvancouver.com/portusers/marineoperations/manualsandregulations.aspx	Provides instructions on navigating the Port of Vancouver.
2	TMC Vessel Acceptance Standard and associated procedures and documents	Agent to provide to Master prior to vessel's arrival.
3	Pacific Pilotage Authority industry publications and notices http://www.ppa.gc.ca/text/notice_to_industry-e.html	Provides instructions on the use of pilots and escort tugs pertaining to the west coast of Canada.
4	BC Chamber of Shipping: Advisory to Ship Masters and Agents: Anchorage Guidelines	Provides instructions on anchoring in the Port of Vancouver. Agent to provide copy to Master prior to vessel's arrival.
5	International Safety Guide for Oil Tankers and Terminals (ISGOTT) http://www.isgott.co.uk/	Provides general safety guidelines for oil tankers and terminals
6	Oil Company International Marine Forum Ship Inspection Report Programme (SIRE) http://www.ocimf.com/SIRE/introduction	Provides information on required vessel inspections
7	International Convention for the Safety of Life at Sea (SOLAS 74) http://www.imo.org/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS).-1974.aspx	An international treaty that concerns the safety of merchant ships.
8	Canadian Coast Guard (CCG) Notice to Mariners http://www.notmar.gc.ca/ Annual Notices to Mariners https://www.notmar.gc.ca/publications/annual-annuel/annual-notices-to-mariners-eng.pdf	Informs mariners of important navigational safety matters affecting Canadian waters.


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No.	Document Name	Remarks
9	Canadian Hydrographic Service (CHS) Chart No.3495 Vancouver Harbour Eastern Portion (or equivalent)	Vessel to carry Chart No.3495 for accessing WMT. Vessel to carry other charts as required. All navigation charts must be corrected and up to date with recent Notices to Mariners.
10	WCMRC Membership Agreement http://www.cosbc.ca/index.php/our-services/oil-spill-response/registration-process	To be completed prior to entering Canadian waters.
11	Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life http://www.intertanko.com/upload/98595/Guidelines%20For%20The%20Reduction%20Of%20Underwater%20Noise.pdf	Provides information on impact of underwater noise from vessels and means to minimize it.
12	ECHO Program Noise Infographic, April 2016 https://www.portvancouver.com/wp-content/uploads/2016/04/ECHO-Program-Underwater-Noise-Infographic-April-2016.pdf	Provides information on impact of underwater noise from vessels.
13	Mariner's Guide to Whales, Dolphins and Porpoises of Western Canada http://wildwhales.org/conservation/marinersguide/	Useful reference guide on marine mammals on the BC coast.
14	TMC Integrated Safety and Loss Management System (ISLMS)	Operating Standards, Procedures, and Guidelines. These are internal documents.

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17.0 APPENDIX A**17.1 Agreement****AGREEMENT**

THE UNDERSIGNED understands and agrees that the use by a vessel of the Trans Mountain Pipeline L.P. Westridge Marine Terminal at Burnaby, British Columbia (the Terminal) is conditional upon the acknowledgement and acceptance of the Terminal Regulations by the owner, operator, manager and/or charterer of that vessel. The use by a vessel of the Terminal or Terminal facilities shall constitute acceptance by the owner, operator, manager and/or charterer of the vessel of the Terminal Regulations. In particular:

1. The undersigned warrants that the undersigned has due authority to execute this Acknowledgement and Agreement and to bind the owner, operator, manager and/or charterer of the vessel as applicable.
2. The undersigned has been provided with and has reviewed a copy of these *Terms and Conditions of Use*, which includes *TMC's Vessel Acceptance Standard* in effect as at date hereof, but understands and agrees that Trans Mountain Pipeline ULC, Trans Mountain Pipeline L.P. (collectively referred to as Trans Mountain), and TMC as operator of the Terminal, do not guarantee the accuracy of the information contained therein, and Trans Mountain Pipeline ULC, Trans Mountain Pipeline L.P. and TMC accept no liability for any damage, delay or loss resulting from any such inaccuracy.
3. The undersigned understands and agrees that Trans Mountain and TMC may revise *Terms and Conditions of Use*, which includes *TMC's Vessel Acceptance Standard*, from time to time, on notice to the undersigned and on receipt of such notice; the "Acknowledgement and Agreement" shall apply in all respects to the terms and conditions of use of the Terminal, as amended from time to time.
4. The undersigned has reviewed relevant *TMC's Vessel Acceptance Standard* and has confirmed that the vessel is in no manner deficient or incapable of meeting the said standards and the Master and crew shall endeavour to meet all physical and operating requirements as described in the said *TMC's Vessel Acceptance Standard*.
5. The undersigned further acknowledges that failure to knowingly circumvent or avoid meeting these *Terms and Conditions of Use* and the vessel's physical and operating requirements as described in the said *TMC's Vessel Acceptance Standard* will jeopardise future acceptance of the vessel to berth or carry out operations at Westridge Marine Terminal.

Name	
Designation	
Signature	
Date	

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18.0 APPENDIX B**18.1 Mooring Arrangements****TANKERS (PANAMAX & AFRAMAX)**

Tankers are typically moored with their port side to the dock face. Spring lines, breast lines, and bow and stern lines are used to moor them to the dock. All lines attach to the quick-release hooks on the dolphins and dock. The bollards are not used unless the spring lines are too long or at the wrong angle to reach the capstans. It normally takes 16 mooring lines (8 fore and 8 aft), configured in a “3-3-2” or “4-2-2” arrangement as shown in Figure 7 and Figure 8.

When deciding on the mooring configuration, consideration is given to the weather forecast and the vessel deadweight.

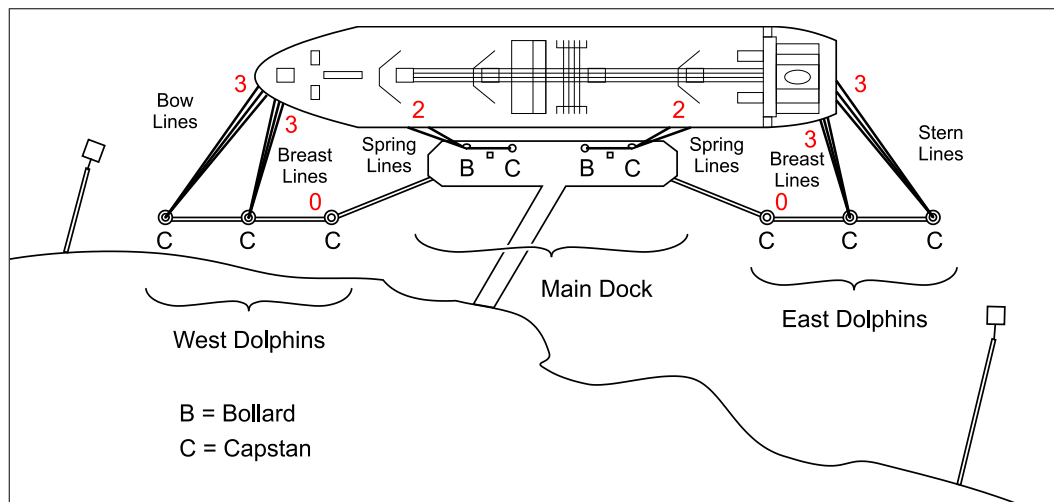


Figure 7: Tanker Mooring Configuration; 3-3-0-2 arrangement



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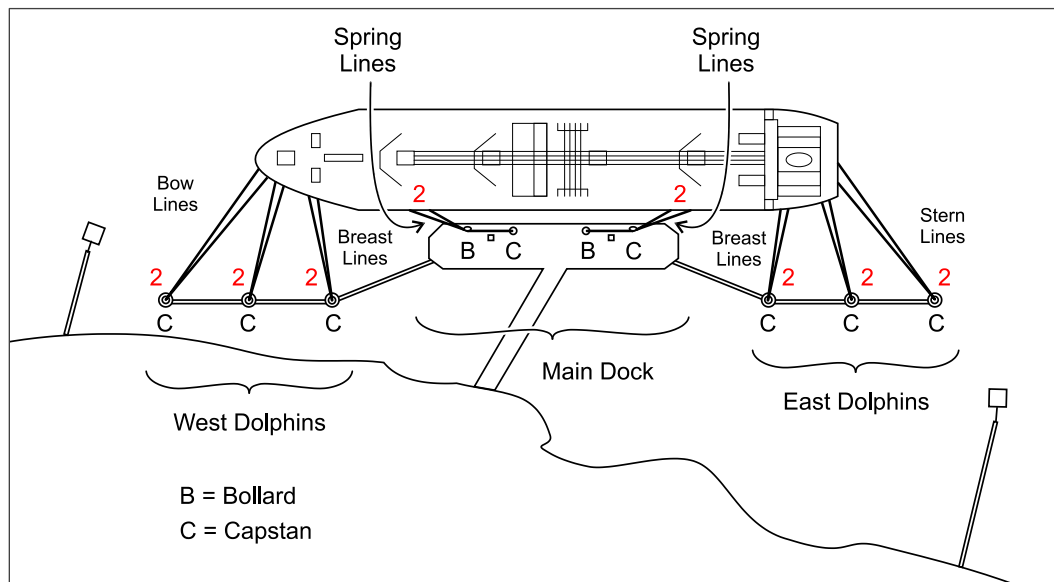


Figure 8: Tanker Mooring Configuration: 2-2-2-2 arrangement

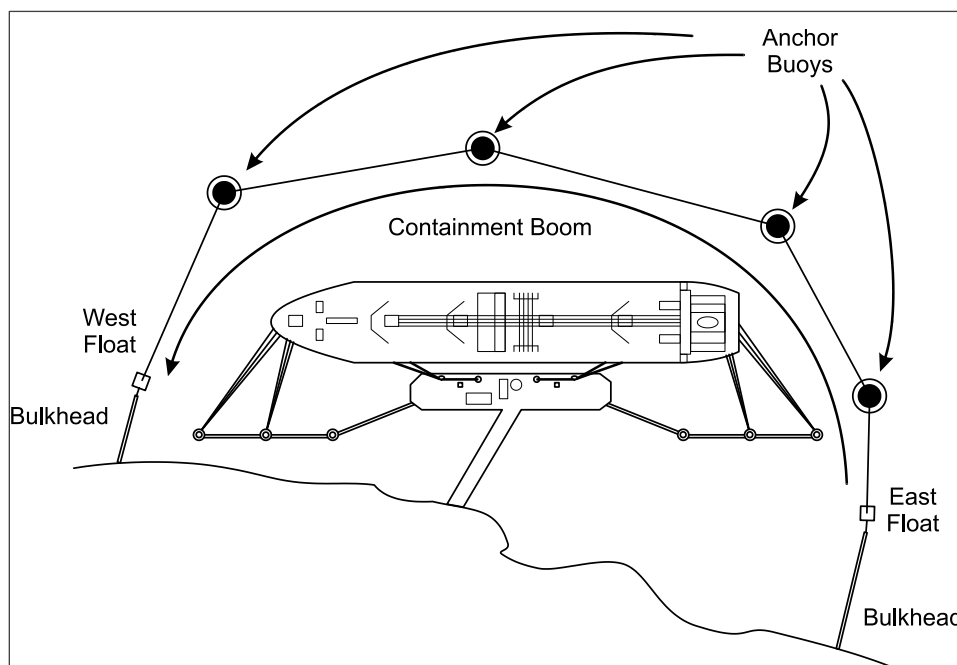


Figure 9: Containment Boom Deployment Around Tanker

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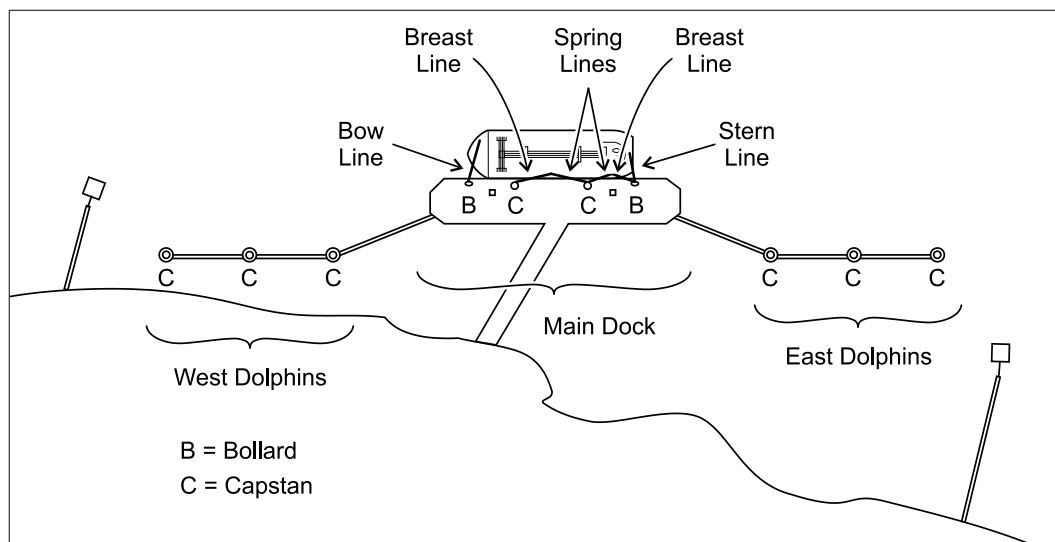
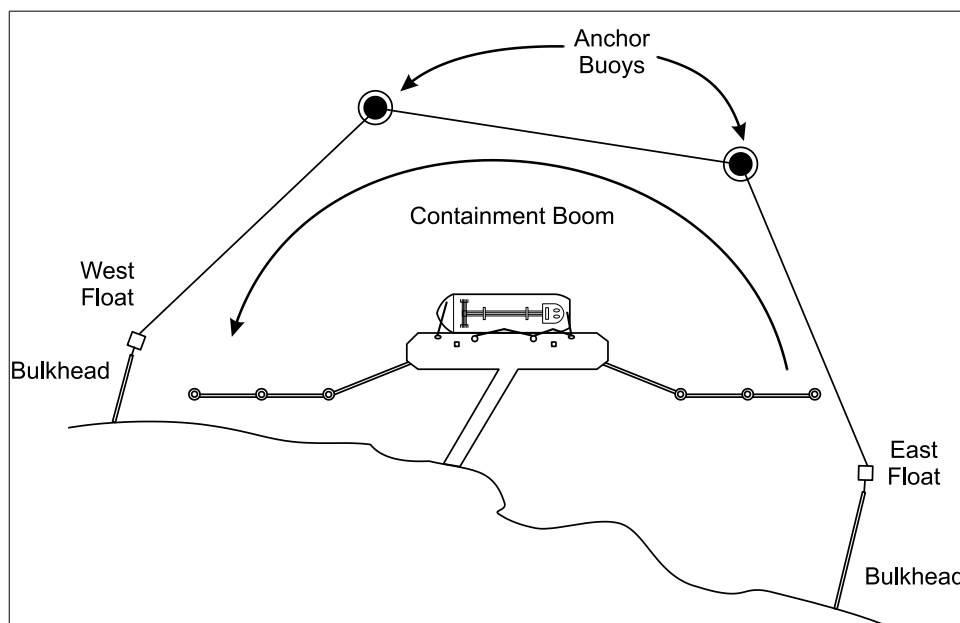
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BARGES AND ATBS

Barges are moored with their port side to the dock face. Spring lines, breast lines, and bow and stern lines are used to moor them to the dock. All lines attach to the quick-release hooks on the dolphins and dock. The dock bollards are not used unless the spring lines are too long or at the wrong angle to reach the capstans. It normally takes a minimum of 6 single mooring lines (Figure 10), each made of synthetic rope.

*Figure 10: Barge Mooring Configuration**Figure 11: Containment Boom Deployment Around Barge*

 TRANSMOUNTAIN	6100 WESTRIDGE TERMINAL MARINE OPERATIONS MANUAL Marine Terminal Operations Procedures and Guidelines		
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19.0 APPENDIX C

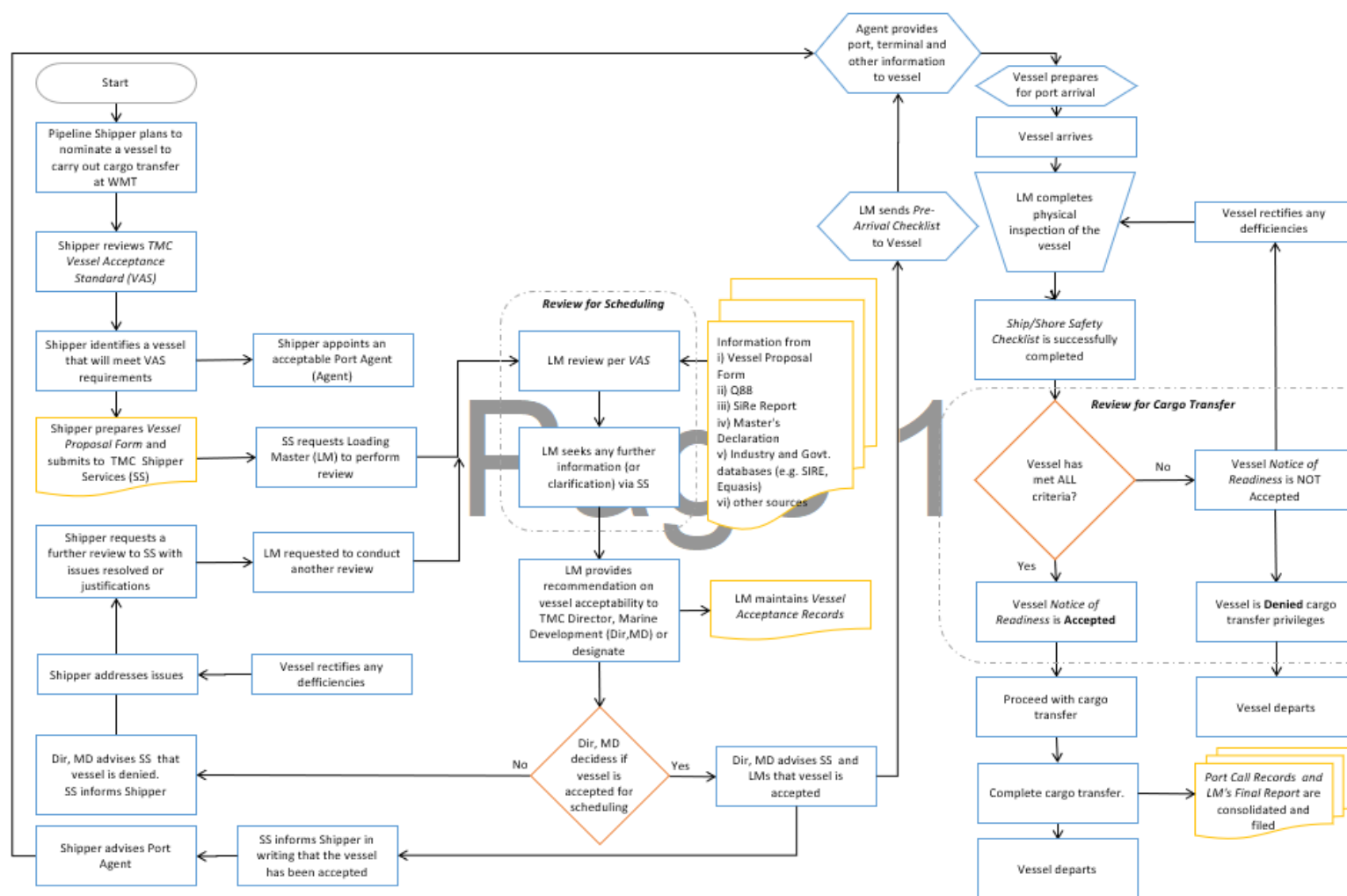
19.1 Vessel Acceptance Flowchart

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Vessel Acceptance Process Flowchart
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