



# Vessel Tie-up and Let-go Procedure

## Operations Procedures

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## 1.0 Purpose

This document provides a procedure for safely tying up/securing/letting go a vessel to and from the berths at Squamish Terminals.

## 2.0 Overview

Squamish Terminals loads and discharges multiple different commodities from vessels. The Tie-up/Let-go Procedure must be followed because of the potential for severe injury and damage during the tie up and let go of a vessel. Following the appropriate procedures regarding vessel tie-up and let-go, ensures a low risk of injury to workers and that the vessel and berth remain free from damage.

Tie-up/Let-go Procedures must:

1. Clearly outline the method of communication and procedures for handling lines that will be used during vessel movement activities, and to safely secure or release a vessel to or from a berth.
2. Ensure established methods of communication are followed.
3. Clearly outline radio or communication procedures which include positive communication and the establishment of standards for brief, to-the-point conversations for instructions and information between ship, dock and tugs where applicable.

## 3.0 Legislation and Literature

COSH regulations, Part XIX, (Hazard Prevention Programs) require employers to implement and monitor a program to prevent hazards. This document defines the Squamish Terminals safe work procedures for Tie-ups and Let-goes.

## 4.0 General Safety Precautions

When performing tie-ups/let-goes at Squamish Terminals the following General Safety Procedures apply:

- All lines crew should collect a PFD from the locker, inspect it, ensure a whistle is attached and correctly fit it;
- Lines crew signs the sign in sheet to confirm attendance and they have taken a PFD;
- Designated, radio trained linesman signs out the radio and ensures it is in working condition;
- If any safety hazard exists on the berth, do not dock vessel until hazard is clear;
- Always be aware of additional safety hazards in the immediate area which may result in slips, trips and falls;
- Lead hand linesman must ensure all tie-up/let-go procedures are followed.

## 5.0 Procedures

### 5.1 Accessing Terminal and Berth

- Accesses the site, sign in with valid port pass;
- Collect PFD, inspect and correctly fit;
- Designated, radio trained linesman signs out the radio and ensures it is in working condition;
- Access designated berth.

### 5.2 Tie-up Procedure

#### 5.2.1 Preparation

- Head linesman ensures that all lines crew are present with correct PFD, ensures that radios have been assigned to qualified lines crew, assigns crew to each end of the vessel (typical tie-up for SQT is six employees, three forward, three aft);
- Linesmen should ensure that berth area is free of slips/trips/fall hazards;
- In winter, salt bins and shovels should be used to clear dock of ice and snow;
- Lines crew standby and wait for vessel to come alongside berth.

#### 5.2.2 Receiving the Line

- As vessel comes alongside, lines crew prepare to receive the tag line with monkey fist;
- Head linesman must record time of first line tie up on the sign in sheet (Appendix A);
- Vessel crew member throws the monkey fist and tag line to the dock;
- Lines crew stand clear of monkey fist, and retrieve tag line from dock;
- Lines crew pull up the tag line which is attached to the heaving line, the heaving line is attached to the tie-up line which is taken to the assigned bollard;
- As ship crew lets line out, lines crew pulls line in and once the tie-up line is received places the loop over the appropriate bollard;
- The first lines attached are the fore and aft spring lines, then a stern line and a bow line are attached;
- Continue this procedure until all lines are in place (number of lines dependent on ship requirements).

#### 5.2.3 Tensioning the Line

- Lines may be tensioned once they are put on the bollard but not before;
- Tensioning may be done once all lines are in place; or may be done in a sequence as certain lines are in place (example two off shore lines and then two in shore lines);
- Linesmen must move to a safe position out of the snap back zone during tensioning.

## 5.2.4 Safety Note – Breaking Lines/Sudden Tension

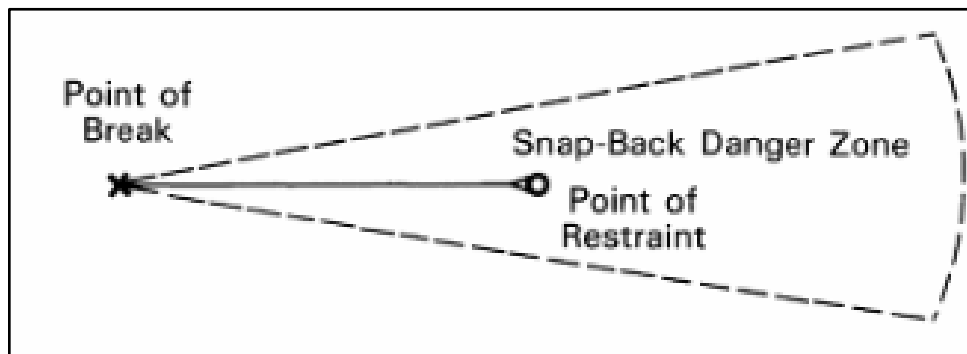
### **Danger of Breaking Lines**

When a line is stretched to its breaking point, stored energy is suddenly released and the ends of the line snap back, striking anything in their path with significant force. When a line snaps with a 'bang!' it means that the ends are travelling faster than the speed of sound.

Linespersons must treat every line under load with extreme care, and stay clear of the potential paths of snap back whenever possible. Synthetic lines will break suddenly, without audible warning. Synthetic line snap back is typically along the length of the line, rather than a snaking manner, but it is impossible to predict all potential danger zones.

- Once a line has been placed on the bollard, move well (20-30 ft.) away from the bollard whether the strain has been taken on the line by the vessel or not
- Do not sit on a bollard or dock edge
- Inspect lines for severe damage or knots. A knot in a mooring line can reduce the breaking strength by 50%.

*Danger: Linespersons should stand aside and well way from any lines under tension.*



### **Sudden Tension**

Sudden tension applied to a line either by ship's winches, or movement of the vessel by surging or listing, can cause the line to snake without parting. Anyone in the near vicinity, i.e. putting another line on the same bollard, can be dealt a severe blow. To avoid being caught or hit by the line:

- never stand in a loop or 'bight', or eye of a mooring line
- never walk over a slack line. If the vessel heaves the line will become taught rapidly never stand astride, stand on or walk over taught mooring lines
- never try to hold a line in position by standing on it never stand between the dock edge and a mooring line.

## 5.2.5 Landing the Ship Gangway

- Once the ship is secure. Lines crew access the gangway area;
- Ship's crew lowers gangway towards the dock;
- Lines crew safely pull the gangway over the bull rail onto the dock using a sling (already attached to gangway);
- At times of high tide, a bolster or pallets are used to enable the gangway to sit securely on the dock;
- The vessel crew are responsible for the rest of the gangway set up (save all, handrails).

## 5.2.5 Portable Gangway

- Please see Procedure #PRO-017 Portable Gangway Procedure for full details of positioning the portable gangway;
- In the event that the ship gangway cannot be used, a SQT portable gangway is used;
- A lines man with driver capable uses a forklift to retrieve the portable gangway and move into position;
- The portable gangway is lifted into place and the ship's crew secures it to the vessel;
- The vessel crew are responsible for the rest of the gangway set up (save all, handrails).

## 5.3 Let-go Procedure

### 5.3.1 Preparation

- Head linesman ensures that all lines crew are present with correct PFD, ensures that radios have been assigned to qualified lines crew, assigns crew to each end of the vessel (typical let go for SQT is four employees, two forward, two aft);
- Linesmen should ensure that berth area is free of slips/trips/fall hazards;
- In winter, salt bins and shovels should be used to clear dock of ice and snow;

### 5.3.2 Releasing the Lines

- The lines crew waits for the vessel crew to slacken the lines;
- Once the lines touch the water, the lines crew lifts the lines one at a time off the bollards dropping them into the water, starting with the fore and aft lines, and finishing with the spring lines.
- Head linesman must record time of last line let go on the sign in sheet (Appendix A);

## 5.4 Radio Procedure

The following radio protocol was developed in consultation with the BC Coast Pilots.

Pilots typically standby on Chan. VHF 17 and the appropriate Vessel Traffic channel. VHF #17 is the main channel Pilots standby on for movement and safety.

NOTE: Channel 17 is typically very busy, so should only be used for initial contact. Do not carry on any long conversations on this channel.

The Pilot will make initial contact with the tugs and arrange to switch to a working frequency. Linespersons should switch over at the same time and can contact the pilot after he has contacted the tugs.

Typical working channels for berthing and un-berthing are 15a, 19a, 75, 77 & 78a. However, if all channels are being utilized, the Pilot may find an alternate free channel. Sometimes channels are crowded.

The protocol for VHF radio operations should be as follows:

- Initial contact should be made at the same time as the tugs are contacted. The appropriate channel should be settled on and everyone switches over;
- At times the Pilot may switch over to the working channel earlier than planned due to traffic and other ship moves;
- If initial contact with the Linesperson is missed, the Pilot will call on #17 when approaching and advise the Linesmen what channel they are working;
- **Radio silence is critical** while the Pilot is discussing tug lines, bollard strengths and positions with the tugs;
- After arrangements have been made with the tugs, the Linesmen may contact the Pilot for any special directions that may be required;
- Radio silence must be observed until the ship is alongside **unless there is a serious safety concern or emergency**. The radio channel must be kept clear for tug orders to make sure there is clear and concise understanding and implementation of all the orders;
- Once the ship is alongside and being held in by the tugs, further instructions can be discussed, such as position of the ship, lines, gangway etc.

### In summary

- 1) Contact on VHF #17
- 2) Appropriate working channel confirmed
- 3) Working channel established. Radio silence until tugs are organized and secure
- 4) When tugs are done, Linesmen may call with any special considerations or safety concerns
- 5) Radio silence until ship is alongside and being held in unless there is an emergency or safety concern
- 6) Linepersons may now communicate with the pilot as to ship position, gangway positioning, line handling etc.

Note: Maintain radio silence during the approach until the vessel is alongside the berth

## 6.0 Emergency Procedures

In an emergency situation (person in the water), the following communication procedures should be followed:

- Vessel personnel – call on radio
- Emergency Responders – 911 or \*16 from cell to call coastguard
- Management – 604-696-9907 / 604-328-0286
- Security Guard – 604-892-3511 local 316

**EMERGENCY NUMBERS**

**On-Call Ops Super:** 604-696-9907 / 604-328-0286

**RCMP:** 911

**Security Guard:** 604-892-3511 local 316

**COASTGUARD Emergency Numbers (24 hrs/day)**

**TELEPHONE:** 1-800-567-5111

**FROM CELL:** #727

**VHF RADIO:** CHANNEL 16

## 7.0 Hazards

As outlined in the Squamish Terminals (SQT) Health and Safety Policy, SQT is committed to providing a safe place of work for all employees, visitors and contractors. SQT is committed to the development, implementations and maintenance of a hazard prevention program (HPP) and methodology for managing hazards related to all activities at SQT.

As such, a Hazard and Risk Analysis has been completed for the Tie-up and Let-go Procedure. Hazards are detailed below:


Activity and Hazard
<ul style="list-style-type: none"> <li>• Slips, Trips, Falls on slippery / uneven surfaces</li> <li>• Slipping and falling into water</li> <li>• Pedestrians exposure to being struck by site traffic</li> <li>• Site vehicles / materials handling equipment striking other vehicles or stationary obstacles / equipment</li> <li>• Being struck by lines</li> <li>• Poor ergonomics while working with lines - lifting, pulling – overexertion, musculoskeletal injuries</li> <li>• Pinch Points</li> <li>• Exposure to elements (wind, sunburn, heat index, cold)</li> <li>• Dust</li> </ul>

## 8.0 Appendices

- Appendix A – Vessel Lines Calls Sign-In Sheet



## Appendix A – Vessel Lines Calls Sign-In Sheet



**SQUAMISH  
TERMINALS**

**VESSEL LINES CALLS**

BERTH - \_\_\_\_\_  
VESSEL - \_\_\_\_\_  
DATE - \_\_\_\_\_

TIE UP FIRST LINE  
  
 DATE \_\_\_\_\_  
 TIME \_\_\_\_\_

LET GO LAST LINE  
  
 DATE \_\_\_\_\_  
 TIME \_\_\_\_\_

LIFE JACKETS

I have received one (1) Life Jacket and agree to return this Life Jacket at the end of my shift. I further agree that if I fail to return this Life Jacket for any reason, I will reimburse Squamish Terminals Ltd. for the replacement cost.

HEAD LINESMAN			
NAME	MAN #	SIGNATURE	RADIO
			<input type="checkbox"/>
LINESMEN			
NAME	MAN #	SIGNATURE	RADIO
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Ops-002 Rev 2 (2019-02-28)

## Revision Record

Document	Rev	Date	Originator	Details of Change
PRO-024	1.0	2019-03-12	SQT	Original draft