PORT INFORMATION

WATERWAY TERMINAL OF SANTOS

PETROBRAS TRANSPORTE S.A.

TRANSPETRO

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1. Introduction

This **"Port Information"** is produced by Petrobras Transportation S.A. (TRANSPETRO) which operates the Waterway Terminal of Santos (Alemoa Terminal) in the Porto de Santos. It provides essential information for the Ships that operate in the Terminal. This document is also distributed internally in the organization, to the interested parties of the Port Authorities, national and local.

The **"Port Information"** has versions in Portuguese and English.

The information contained in this publication are intended to supplement, never replace or change any kind of legislation, instructions, guidelines or official national or international publications. Therefore, should not be taken into consideration that counteract any item of the aforementioned documents.

The Terminal reserves the right to change any of their operational characteristics presented here, without prior notice.
If found wrong information that needs to be updated, please contact:

- Manages the Waterway Terminal of Santos-SP
- Tel: (13) 3014-6491
- Address: Rue Albert Schweitzer, 197-Santos-SP
- ZIP CODE: 11.095-520
- TRANSPETRO
- Tel: (21) 3211-9000
- Adress: AV. Presidente Vargas, 328-Rio de Janeiro-RJ

The latest version of this **"Port Information"** and other TRANSPETRO terminals can be obtained at the following address:
(www.transpetro.com.br)

2. Definitions

AIS- "Automatic Identification System" – Automatic Identification System for ships.
BP -"Bollard Pull"-Static Traction.
FREEBOARD- "Free Board - vertical distance from the surface of the water to the deck of the ship.
COW – Crude Oil Washing. Cleaning the cargo tanks with crude oil.
CRE- Emergency response center.
DISPLACEMENT- Is the total weight of the ship with cargo, fuel, food, spare parts, etc.
SQUAT EFFECT- Is the draught increases caused by movement of the Ship.
SQUAT EFFECT OR INTERACTION SIDE- Is the force of attraction between two ships when intersect. The force of attraction generated depends on the distance, size and speed,
GIAONT- Inspection and monitoring Operational Group of ships and terminals.
IMO- "International Marine Organization". The International Maritime Organization.
ISGOTT -"International Safety Guide for Oil Tankers and Terminals". International Safety Guide for ships and Tanks.
ISM CODE – " International Safety Management Code ". International Safety Management Code.
ISPS CODE – " International Ship and Port Facilities Security's Code "– International Code for the protection of ships and port facilities.

SPRING TIDE (SYZYGIAN TIDE) - Tides of new moon and Full, in which case the amplitude between low sea and morning tide is expressive.
NEAP TIDE -Tides of Crescent Moon and last quarter, in which the amplitude between low sea and morning tide is less pronounced.
MARPOL-" Marine Pollution Convention ". International Convention for the prevention of pollution of the marine environment.
NPCP- Standard and procedure of the captaincy of the ports.
PCL- Local Contingency Plan.
COLREG- IRPCS **"** International Regulations for Preventing Collisions at Sea **"-** International regulations for preventing collisions at sea.
SOLAS- "Safety of Life at Sea". International Convention for safety of life at sea.
SOPEP – " Shipboard Oil Pollution Emergency Plan ". Emergency Plan to Ship oil pollution.
SPA – Santos Port Authority
TPB- Deadweight tonnage. Is the weight of the cargo ship plus fuel, food, water, lubricants, etc.
UTC- "Universal Time Control". Universal Standard Time.
UN-BUNKER- PETROBRAS ' Department that sells the bunker stocked TRANSPETRO's terminals.
VEC – Vapor Emission Control
VTS- "Vessel Traffic Service" – Vessel traffic service.

3. Charts & Reference Documents

Information about the Terminal can be found in the publications listed below.

Charts

Area		
	Brazil (DHN)	**British Admiralty Chart**
Anchor & port Approach	1700 1711 1712 1713	BA 3980 BA29 BA 191
Entrance to the port and canals	1712 1713	BA 29
Terminal and approach Area	1713	BA 29

Other Publications

Type/Subject		
	Brazil (DHN)	**International**
Book/Pilotage or navigation instructions	South Coast Script	Pilot Books Sailing Directions for South America- **British Admiralty Publication**
Guide/Port Information	**X**	***Guide to Port Entry-Shipping Guide Ltd***
Standards and procedures	NPCP	X

4. Documents and Information Exchange

The items listed below must be provided by the Terminal or by ship, as indicated in the table.

Information	**Prepared by:**			**Delivered to:**			**Comments**
	Terminal	**Ship**	**Both**	**Term.**	**NAV.**	**Both**	
Prior to arrival							
List of ship/shore safety check.			X			X	As Appendix A of ISGOTT.
During the transfer of the cargo or Bunker							
Repeat the list of ship/shore safety check.			X			X	As Appendix A of ISGOTT

5. Description of the PORT and ANCHORAGE

5.1 General description

Terminal of Santos is situated in the port of Santos, located on the coast of the State of São Paulo, is public and managed by Santos Port Authority (SPA). It is Brazil's largest port and moves a year more than 146,6 million tons (2020) of various loads. The port has 17,2 km of Pier distributed on both sides of the estuary of Santos.

The port of Santos interacts with the urban areas of two cities: Santos, on the right margin and Guarujá in the left margin. In Santos, especially in its older sections, there is no physical segregation, road or otherwise, between the community and the port.

On the other side, housing disorganized cores deployed in lowlands with no infrastructure and sanitation, are very close.

In these circumstances, it appears that the spill of oil or other harmful substances occurring deliberately, negligently or accidentally, you can generate a serious source of pollution harmful to an immense population dependent on the port activities. In other words, pollution should be avoided at all costs.

5.2 Location

5.2.1 Coordinates

The coordinates of the terminal are the following: Latitude: 23º 55,3'S
Longitude: 046º 21,9' W

5.2.2 General geographic location

The port of Santos, on the right bank of the Canal of Piaçaguera, northern coast of São Paulo State, southeastern coast of Brazil.

5.3 Approximations of the Terminal

5.3.1 General Description

The bay of Santos, where the access channel to the port of Santos begins, is formed by the estuary of several rivers in which two large islands are located, São Vicente and Santo Amaro, both separated from the continent and from each other by narrow channels. Its eastern limit is Ponta Munduba and its western limit is Ponta Itaipu. On the island of São Vicente are located the cities of Santos and São Vicente and the port of Santos, one of the most important in Brazil. On the island of Santo Amaro is the city of Guarujá and some specialized terminals of the port of Santos. Between the two islands runs the channel in front of the port and its terminals.

5.3.2 Recognition and demand

The navigator coming from East should recognize the Alcatrazes island after the Laje of Santos and the Moela Island, having attention to possible difficulty to identify the latter Island, which is intertwined with the coast when viewed from certain sectors. Coming from the South, the first points to recognize are the Queimada Grande Island and the Laje of Santos. Identified the landing points, positioning of the ship is facilitated by lighthouse that exist in all the Islands, and the demand of the Bay can be made with easily, avoiding only the navigation in the vicinity of the Alcatrazes Island, Santos, of parcel of Reis and of the Laje of Pedro II. Attention should be given also to the large number of fishing boats operating in the area, in particular between the Queimada Grande Island and the Laje of Conceição and between the Moela Island and Laje of Santos.

The elevations of the tips Munduba, to the East, and Itaipu, the West, and the sinuous contour of the Bay, in addition to the nearby islands also facilitate

landing by the radar. Coming from the high seas, the Moela beacon is an important aid and the DGPS reference station which uses the bearer of this beacon increases the accuracy of landing, who navigates by GPS.

The demand of the anchorages and the external loading of practical difficulties not respected the rules of traffic and permanence in the port and given special attention to the large number of ships on the move and at anchor.

Access to the port of Santos and its terminals is made by a channel where there are dredged, snippets named sections I, II, III, IV, whose main characteristics are the following:

Section I – of the bar until the fishing Warehouse the parallel Munduba tip until the end of the beach, with 4.85 miles in length, minimum width of 150 meters and dredged the 13.50 meters **(01/28/2025 - REVISION NO. 257).** The axis of this section is defined by 3 bright alignments A, B and C; in the passage between the island of palms and the end of the beach its banks are buoyed by light buoys, starboard and port, numbered.

Section II – of the fishing Warehouse to the big Tower in Barnabé Island terminal to Terminal of Alemoa (Piaçaguera channel), with 2-mile-long, 100 meters wide and dredged of 13.50 meters **(01/28/2025 - REVISION NO. 257).** Is marked by light buoys, starboard and port, numbered.

Section III -The big Tower until 06 Warehouse in front of the terminal of Alemoa and North of Section B, dragado 13,50 metros (**28/01/2025 - REVISÃO Nº 257**). Its northern edge is marked by light-buoy, starboard numbered. 13.50 meters (**28/01/2025 - REVISÃO Nº 257**).

Section IV- From the Alemoa Terminal to the end of section IV, dredged to 12.70 meters **(01/28/2025 - REVISION Nº 257).** It's marked in all its extension by starboard and port side light buoys numbered, not represented in the letter and whose changes are not disclosed by notices to Mariners.

5.3.3 Hazards

In Santos Bay, navigation hazards are located at distances of less than 0.3 miles from the bay shores, with numerous submerged or uncovered slabs and rocks. Along the access channel to the port and terminals, special attention should be paid to:

- The Teffe rock, with two bollards at depths of 10.0 m and 13.9 m, close to the port pier, between warehouses 25 and 26, marked by a portside light buoy.
- The sunken hull Ais Giorgis, at position 23º 56.54'S – 046º 18.59'W, marked by a west cardinal light buoy; and the depths of the banks of the dredged Piaçaguera channel, which are less than 2 m;

- The sunken hull, which poses a danger to navigation, at position 23°57.06 South and 046°18.43 West, next to the right bank of the canal.
- The Itapema rock, at an unknown depth, at position 23°56.32 South and 046°18.63 West, marked by a luminous buoy on the starboard side, and,
- At depths near the banks of the dredged Piaçaguera canal, which are below 2.0 meters.

5.3.4 Anchorages Areas

The anchorage is separated depending on the programming and the situation of the ship, being numbered from 1 to 8 and delimited in the cards for area boundary line of anchors.

5.3.4.1 External Anchorages:

Anchorage Nr. 1 – for the warships and their area between the following geographical coordinates.

a) Lat. 23º 59' 24" S – Long. 46º 20' 12" W
b) Lat. 23º 59' 24" S – Long. 46º 20' 48" W
c) Lat. 24º 00' 00" S – Long. 46º 20' 48" W
d) Lat. 24º 00' 00" S – Long. 46º 20' 24" W

Anchorage Nr. 2 – intended for ships that need to make health inspection or clearance (landing and embarkation of crew, and workshop services material handling), with residence not exceeding 3:0.

a) Lat. 24º 00' 45" S – Long. 46º 20' 10" W
b) Lat. 24º 00' 45" S – Long. 46º 19' 42" W
c) Lat. 24º 01' 30" S – Long. 46º 20' 30" W
d) Lat. 24º 01' 30" S – Long. 46º 19' 42" W

Nr. 3 – anchorage for ships with programming set of mooring for the next 12:0 am.

a) Lat. 24º 03' 00" S – Long. 46º 20' 48" W
b) Lat. 24º 06' 00" S – Long. 46º 22' 09" W
c) Lat. 24º 06' 00" S – Long. 46º 18' 36" W
d) Lat. 24º 05' 18" S – Long. 46º 18' 36" W

Nr. 4 – anchorage for ships with programming of mooring, but without definition of day and time.

a) Lat. 24º 06' 00" S – Long. 46º 22' 06" W
b) Lat. 24º 06' 00" S – Long. 46º 18' 36" W
c) Lat. 24º 10' 00" S – Long. 46º 19'24" W
d) Lat. 24º 05' 18" S – Long. 46º 18' 36" W
e) Lat. 24º 05' 18" S – Long. 46º 15' 00" W

f) Lat. 24º 10’ 00” S – Long. 46º 15’ 00” W

Anchorage Nr. 5 - for ships still without programming of mooring.

a) Lat. 24º 10’ 00” S – Long. 46º 19’ 24” W
b) Lat. 24º 15’ 00” S – Long. 46º 20’ 00” W
c) Lat. 24º 10’ 00” S – Long. 46º 15’ 00” W
d) Lat. 24º 15’ 00” S – Long. 46º 00’ 00” W
e) Lat. 24º 15’ 00” S – Long. 46º 19’ 24” W

Anchorage Nr. 6 - to quarantine ships and vessels with suspected malfunction in the packed and/or leakage of radioactive material.

a) Lat. 24º05’ 00” S – Long. 46º 24’ 27” W
b) Lat. 24º 05’ 00” S – Long. 46º 22’ 45” W
c) Lat. 24º 07’ 12” S – Long. 46º 23’ 42” W
d) Lat. 24º 07’ 12” S – Long. 46º 25’ 27” W

Comments:

- The coordinates above refer at nautical charts. 1701 and 1711.
- The ships arriving at the port of Santos or to move for any reason, should contact the control center of the Pilotage service, via VHF channel 11, and 16, stating the position and time of anchor.

5.3.4.2 Internal Anchorage:

Anchorage number 7- the internal anchorage is designed for ships with maximum draught of 9 meters, only in case of emergency:

a) Lat. 23° 55 ' 48 "S-Long. 046° 19 ' 00 "W
b) Lat. 23° 55 ' 40 "S-Long. 046° 19 ' 00 "W
c) Lat. 23° 55 ' 39 "S-Long. 046° 19 ' 24 "W
d) Lat. 23° 55 ' 34 "S-Long. 046° 19 ' 24 "W

Anchorage Nr 8 – Intended for small and recreational boats.

5.3.4.3 Anchoring prohibited:

Anchorage is prohibited:

- ships outside the demarcated areas in the Charter without the prior authorization of the port authority and the ports of the captaincy.
- of any vessel, in the areas of submarine pipelines and cables in the Chart enclosed; at distances less than 100 m and 200 m at night, around the slopes of the Munduba tips and Itaipu, where are located the forts of Andradas and Itaipu, respectively; and at distances less than 100 m on each side of the headwaters of the ferry terminals or floating in Santos and in the island of Santo Amaro.

5.3.4.4 Navigation Aid

The following characteristic points, described from East to West, facilitate navigation and the anchor in the Bay of Santos:

Morro da Barra (24th-00.9 046° 18.9 ' W) – in the far west of the island of Santo Amaro, with dark vegetation and 330 m of altitude.

Ilha das Palmas -Along the West coast of the island of Santo Amaro, Rocky, whitish in color and with buildings on its top. It is located the Ilha das Palmas (3292) spotlight, a cylindrical tower of reinforced concrete on the slab of a Red House, with 4 m tall and red flashing light at the altitude of 18 m with 5-mile range.

Ilha Porchat -High End East of barra de São Vicente, with 110 m of altitude. Is all urbanized and characterizes the far west of the city of Santos beaches.

Morro de Itaipu -At Itaipu Point, at the extreme west of the bay, 184 meters in height. It is urbanized and a tower stands out on its summit.

The Alignment "A" of the access channel – comprises the lighthouses at Boqueirão Beach No.

1 (anterior), with a round reinforced concrete tower, isolated on the sea surface. It is white with a horizontal red stripe, is 7 meters tall, with a fast white light at an altitude of 8 meters, and a range of 10 miles; and Boqueirão Beach No. 2 (posterior), a square reinforced

concrete tower, with horizontal red and white stripes, at Boqueirão Beach, 17 meters in height, with an isophase white light at an altitude of 17 meters, with a range of 11 miles. This alignment defines the initial axis of channel Section A, up to alignment B; at night, its use is impaired by the lights from the buildings located in the background.

Alignment B of the access channel – Formed by the lighthouses Ponta da Praia No. 3 (anterior) and Ponta da Praia No. 4 (posterior), two square reinforced concrete towers, with black and white stripes. The front lighthouse overlooks the sea, with a rapid red light at an altitude of 8 meters, with range of 6 miles; the rear lighthouse is located at Boqueirão Beach, with 12 meters of height and isophase red light, at an altitude of 13 meters, with a range of 7 miles. This alignment defines the channel inflexion axis, until reaching the alignment C; also, at night, its utilization is impaired by the lights from the buildings located in the background.

Alignment C of the access channel – Comprises the Rio do Meio No. 5 (anterior) and Rio do Meio No. 6 (posterior) lighthouses, two square reinforced concrete towers, with horizontal red and white stripes. Both lighthouses are located on the Santo Amaro Island, near the mouth of the Meio River; the front one is 7 meters tall, with a fast white light at an altitude of 8 meters, and a range of 10 miles; the one at the rear is 13 meters tall, with an isophase white light at an altitude of 13 meters, and a range of 11 miles. This alignment defines the final portion of channel Section A.

5.3.4.5 Port Limits

The official boundaries of the port limits from alignment of Latitude 24° 02 ' 03 "S and Longitude 046° 24 ' 00" W (Itaipu) and Latitude 24° 02 ' 42 "S and Longitude 046° 17 ' 24" W (Munduba).

5.4 Port Control

Port of Santos does not provide with VTS system and should be observed the following procedures, complementary to the COLREG-72:

- When approaching the anchorage areas, and when arriving at and leaving the bay, navigators must pay attention to the large number of moving or anchored ships; the high number of sailboats and leisure boats that navigate in the Santos Bay and its surroundings; and the frequent nautical sports events that are held.
- When navigating from the anchorage areas to the port or its Terminals, and vice versa, special attention must be given to the large number of small boats moving in the entire estuary, day and night.
- All vessels with gross tonnage equal to or greater than 20, except fishing, sports and leisure boats and those that ply the port, must obligatorily provide their identification data to the radio station PWS-88, in the following situations (this contact may be made by the Pilotage, when requested by the captain):

• immediately on anchoring or casting off from any anchorage area.
• with the Palmas Island athwart, when approaching the port.
• soon after berthing or changing the berthing area.
• when initiating or suspending unberthing maneuver.
• when leaving the port.

5.4.1 Speed Limits

Navigation in the channels of the ports of Baixada Santista must be done at reduced speed. The maximum speed allowed for ships in the channel of the Port of Santos and in the Canal de São Sebastião is **9 knots.**

Commercial vessels up to 20 AB and sports and recreational vessels, when transiting in the middle of the navigation channel of the Port of Santos, must navigate their vessels with caution and at a speed compatible with the needs of navigation. The maximum speed allowed in the Bertioga channel is **6 knots**. The **6-knot** limit must be observed for all vessels in the following areas:

1) in the area delimited between the “Pedra do Corvo” lighthouse and the FEPASA bridge, located near the Santos Air Base (Bertioga Channel);
2) in the Piaçaguera Channel; and
3) in the Itanhaém River, Branco River and Preto River.

The speed limit of **5 knots** must be observed near the berths of nautical clubs, marinas and fishing terminals located outside the banks of the access channel to

the Port of Santos. When on duty or responding to incidents, vessels belonging to the Customs, Federal Police (NEPOM), Environmental Police of the State of São Paulo, Fire Department of the State of São Paulo, ANVISA (National Health Surveillance Agency) and Pilotage are permitted to travel above the recommended speed limits.

5.4.2 Restrictions and times for maneuvers

1) Vessels with engine and rudder restrictions may only be maneuvered during daylight hours and with the authorization of the Harbor Master's Office.
2) At the Alemoa Terminal, during spring tides, berthing and umberthing maneuvers shall preferably occur during periods of flood or slack tide, with the exception of berth no. 04, where docking and undocking maneuvers shall preferably occur during periods of ebb or slack tide, taking into account the draft and/or size of the vessel.
3) During movements, the anchor must be kept above the waterline (by the hair);
4) maneuvers necessary for berthing may be performed off the docking site, observing the restrictions indicated in the chart;
5) only small vessels authorized by the Harbor Master's Office may travel between anchored vessels and land points, with the embarkation and disembarkation of personnel and material restricted to customs areas;
6) docked vessels may not keep the gangway and seaward ladders lowered. The gangway ladder on the seaward side must remain folded in its cradle and the dockside ladder must have a safety net;
7) anchored vessels may keep a gangway ladder lowered between sunrise and sunset. Outside this period, the ladder may only be lowered when necessary;
8) anchored or docked vessels must collect garbage in suitable containers with lids until it is removed from the ship. The use of garbage containers, plastic bags or other containers hanging overboard is not permitted;
9) Sewage from holds or tanks containing chemicals, oil or pollutants is prohibited;
10) Treatment and painting of the side and deck is permitted, including the use of planks, in compliance with occupational safety standards;
11) Lifeboats may be lowered for crew training without prior authorization from the Harbor Master's Office;
12) Anchored and moored ships must maintain their sides with adequate lighting. Barges or barges moored alongside must also remain properly lit; and
13) occurrences defined as a navigational event or accident, verified on board during the stay, must be reported to the Harbor Master's Office by the captain or his legal representative, before the ship is dispatched.

5.4.3 Impracticability of the Harbor Port

The maritime authority (São Paulo Harbor Master) is the competent authority for declaring the port movement impracticable. Where unfavorable sea, wind,

visibility conditions etc., are verified, the pilotage contacts the Harbor Master, using any means of communication, so that the impracticability can be declared. When the sea conditions prevent the pilot from coming on board, or when the ship's safety conditions do not recommend that the pilot await the proper moment to embark, the ship's captain, under his exclusive responsibility, may be authorized by the port captain to guide the vessel into port, while complying with the signals and instructions transmitted by the pilot from the shore to the ship.

When leaving the port, if it is not safe for the Pilot to disembark, disembarkation, if necessary, will take place at the next port.

5.4.4 Pilotage will be suspended in the following circumstances:

a) Total – when all three or one of the following three situations occur:
I) waves > 3.0 meters;
II) wind - sustained intensity > 30 knots or gusts > 35 knots; and
III) visibility - range < 0.5 nautical miles.
b) Partial – when all three or one of the following three situations occur:
I) waves > 1.5 meters, partial suspension, for ships LOA > 306 meters;
II) wind - sustained intensity > 17 knots or gusts > 25 knots, partial suspension for ships LOA > 306 meters and ships with large sail area, such as Ro-Ro ships or ships in ballast; and
III) visibility - range < 1 nautical mile, partial suspension for ships LOA > 306 meters and for ships that have any obstructions to the line of sight between the bridge/bow of the ship.

5.4.5 Piaçagüera Channel

The traffic through the Piaçaguera channel to TIPLAM and Ultrafértil Terminals, will comply with the following specific rules:
- only one ship at a time is allowed to pass;
- ships with draft of less than 10.36 meters (34 feet) must be accompanied by two tugs, one of them with the rope fast during the entire run;
- ships with draft equal to or greater than 10.36 meters (34 feet) must be accompanied by three tugs;
- For vessels with a length greater than 180 m and/or a draft greater than 34 feet, the stern tugboat should preferably be an azimuth tugboat (which can operate with the same forward and/or aft thrust capacity). In the absence of this means, it will be up to the Ship's Captain, assisted by the Pilot, to decide on the number of tugboats required to replace it. Vessels with a bow thruster and/or stern thruster, when making their way through the Piaçaguera channel, on the SABOÓ/USIMINAS stretch, may be assisted by only one azimuth tugboat, with the cable passed through the stern, until docking. If this means is not available, the Ship's Captain, assisted by the Pilot, will decide how many and which tugboats should be used, in order to provide a replacement for the safety of that means;

- Night navigation of vessels exceeding 228m in length or with a draught equal to or greater than 10.36m (34 feet) is not permitted;
- The maximum permitted speed is **6 knots.**

5.5 Pilotage

Pilotage at the Port of Santos is:

- ✓ Mandatory for foreign ships of any gross tonnage (except those mentioned below); oil tankers; ships carrying bulk hazardous chemical products, and those carrying bulk liquefied gases, as long as they have been loaded or discharged, but not degassed, Brazilian, with gross tonnage over 2,000; and other Brazilian ships with gross tonnage over 2,000;

- ✓ Optional for foreign ships leased to a company set up under Brazilian law, headquartered and managed in the country, with gross tonnage of less than 2,000 ton, provided they are commanded by a Brazilian maritime professional, ranking equal to or higher than 2nd officer.

The mandatory area is from the parallel 24°00'33" South, in Santos Bay, to the docking location, except for anchorage no. 4. Vessels whose Pilotage is mandatory must receive and disembark the pilot at the coordinate point, 24° 00'33" S 046° 20'20" W, marked on the chart.
In any situation, even in adverse weather conditions, no vessel may sail without a pilot within the marked channel, north of the mandatory pilot embarkation and disembarkation point. If the pilot cannot disembark upon departure of the vessel, he must continue his journey to the next port. The pilot request must be made at least 2 hours in advance of the time of arrival or docking through the ship's agency or directly to the Pilotage, on VHF channel 16/11 or by telephone.
The captain of the vessel, when using the Pilotage service, is responsible for: To undock from the Santos Terminal, the Pilot must be requested by the Captain directly to the Pilotage or through the Maritime Agency. The scheduled time must be confirmed by the vessel at least 1 hour and 30 minutes in advance on VHF channel 16/11. To cancel a maneuver, the Command must do so at least 1 hour in advance, otherwise an additional fee will be charged for the Pilot's absence at the station. Pilotage is provided by the firm Pilot Service, located at Avenida Almirante Saldanha da Gama 64, Ponta da Praia, Santos, telephones, Operations Center: (013) 3269-4050/3269-4051 or Administrative: (013) 3269-4043/3269-4045, and permanent listening on VHF radiotelephony, calling on channel 16 and operating on channel 11; website http://www.sppilots.com.br and e-mail co@santospilot.com.br

5.6 Tugs & Port Services

The use of tugboats is compulsory for the mooring, unmooring, shifting maneuvers and moving at the port or Terminal in Santos.

5.6.1 Application

1) The maneuvers of ships, when mandatorily executed using the assistance of tugboat, may, if the ship's Captain so decides, use the parameters in the Table of Annex 3-C of the Normas e Procedimentos da Capitania dos Portos de São Paulo (Rules and Procedures of the Harbor Master – São Paulo) (Appendix G). The referred table is only a minimum suggestion; complying with the correspondences and obligations contained therein is not mandatory;
2) Towing lines and other materials to be used in tug-assisted maneuvers must be adequate for maneuvering safety requirements. The provisioning thereof shall be agreed between the contracting party, ship owner or agent and the contractor, tug company;
3) The final decision on using materials and devices suitable for maneuvering rests with the ship's Captain;
4) Ships equipped with a bow thruster and/or stern thruster may use them in addition to the tugs used in the maneuver.

5.6.2 Complementary Dispositions

a) The maneuvers executed by the ship are the captain's responsibility and therefore require his intervention should navigation safety is jeopardized.
b) We recommend that the captain exchange prior information with the pilotage (whenever used) and/or the tug masters, about the maneuver to be executed, the evolution basin and the ship's own characteristics.
c) The ship's Captain is exclusively responsible for determining the device and the number of tugs required for the berthing and unberthing maneuvers;
d) When the tugs are maneuvering near the ships' bow, it is forbidden to pass the towing line by lowering it from the bow to be caught with boat hook by the tug's crew. The rope must be fast using a thrown line from the forecastle towards the deck of the tug, thus preventing excessive tug/ship approach, and reducing the hydrodynamic interaction effects between the vessels;

5.6.3 Approach maneuvers for berthing at special locations:

For maneuvering at special locations, we recommend employing an additional tug to the minimum number of tugs defined in the Table of the Annex 3-C of the Rules and Procedures of the Harbor Master – São Paulo (Appendix G), with one of these tugs equipped with rope fast to the towing hook until berthing is completed.

Special locations are:

a) Saboó and Corte Docks
b) Private terminals on the left bank: Dow Química, Cutrale and Cargill
c) Fertilizer Terminal (Tefer) – Conceiçãozinha

d) Barnabé Island
e) Marine Terminal of Santos
f) TIPLAM and Ultrafértil S.A.
g) Sugar terminals: Copersucar and Teaçu
h) Piaçagüera Channel

1) Ship with a draft of less than 34 feet: it is recommended that at least two tugs accompany the crossing, one of them with a rope fast, until berthing is completed.
2) Ship with draft equal to or greater than 34 feet and/or length greater than 180 meters - it is recommended that at least two tugs accompany the crossing, with an azimuthal tug at the stern (which can perform with the same evolutional capacity in forward and/or aft motion). In the absence of such means, it is up to the ship's Captain, under advice from the pilot, to decide the number of tugs required to affect this replacement.
3) When approaching the Saboó/TIPLAM stretch of the Piaçaguera channel, ships equipped with bow thruster and/or stern thruster may use the assistance of only one azimuthal type of tug, with the rope fast to the stern, until berthing is completed. Where such method is unavailable, the ship's Captain, under advice from the pilot, will decide how many and which tugs must be employed, so as to replace the safety objective of said method.
4) For berthing ships with gross tonnage over 10,000 at Santos Terminal, we recommend employing two tugs, and a third one as a pusher tug.
5) Ships equipped with bow thruster and/or stern thruster, in perfect working condition, may be authorized to use fewer tugs when berthing or unberthing, provided they are not executing maneuvers at special locations. With the captain's agreement, supported by the pilot, this waiver may only be given when there is more than one tug, and by withdrawing the tug which, in the Captain's view, with support from the pilot, is less important for that specific situation Where the pilot judges that such waiver should not be effected, he shall send to the Harbor Master an Occurrence Report within 24 hours after the maneuver, using the specific model available at the Pilotage Station. Upon unberthing, the ships equipped with these systems should not use them at the locations determined by the Port Administration (port authority), in order to prevent wear to the lower sections of the dock.

5.6.4 Navigation Hazards

The following hazards and geographical accidents are checked:
Laje submersa – Flat, submerged rock, bearing 289º, at a distance of 15 miles from the Ponta da Sela lighthouse, sounding 1.7 meters.
Baixo Grande – Bank bearing 287º at a distance of 16 miles from the Ponta da Sela lighthouse, awash at low tide, when breaking under southerly winds.

Laje do NE – Flat rock bearing 081º at a distance of 2.0 miles from the Alcatrazes lighthouse, sounding 2.5 meters.
Laje do SW – Flat rock bearing 236º at a distance of 1.9 mile from the Alcatrazes lighthouse, sounding 5.5 meters.
Laje – Flat Rock bearing 230º at a distance of 4.8 miles from the Alcatrazes lighthouse, sounding 7.6 meters.
Cabeças de Poço – Dead wells in the position Lat. 25º 15' S and long. 045º 15' W, sounding 118 meters and 131 meters.
Pedra que cobre e descobre – A Rock that submerges and emerges – bearing 196º, at a distance of 5.6 miles from the Pedra do Corvo lighthouse.
Laje do Bandolim – Flat Rock – bearing 359º at a distance of 2.5 miles from the Laje de Santos lighthouse, sounding 29 meters.
Parcel do Brilhante – a reef bearing 025º at a distance of 2.0 miles from Laje de Santos lighthouse, sounding 13.8 meters.
Parcel do Sul – A reef bearing 200º at a distance of 0.5 mile from Laje de Santos lighthouse, sounding 6,2 meters.
Parcel Novo – A reef bearing 162º at a distance of 1.4 mile from Laje de Santos lighthouse, sounding 24 meters.
Rochedos – Rocky outcrops bearing 119º at a distance of 1.2 mile from the Laje de Santos lighthouse, and 14m high.
Laje Pedro II – Flat Rock bearing 101º.5 at a distance of 8.4 miles within the red sector of the Laje da Conceição lighthouse, sounding 1.7 meters.
Parcel dos Reis – A reef bearing 143º, 5 at a distance of 7.9 miles from the Laje da Conceição lighthouse, sounding 13.2 meters.
Parcel de SE – A reef bearing 146º,5 at a distance of 0,7 mile from the Queimada Grande lighthouse, sounding 2.3 meters.
Parcel do João Ilhéu – A reef bearing 170º at a distance of 0.7mile from the Queimada Grande lighthouse, sounding 17 meters.
Laje de Piraquara – Flat Rock bearing 171º at a distance of 1.1 mile from the Ilha das Palmas lighthouse, sounding 4.6 meters.
Rochedos sempre descobertos – Permanently uncovered rocky outcrops – bearing 255º at a distance of 3.6 miles from the Ilha das Palmas lighthouse.
Parcel da Conceição – A reef bearing 235º at a distance of 6.4 miles from the Laje da Conceição lighthouse, sounding 4.0 meters.
Alto-fundo rochoso – Submerged rocky ledge – bearing 228º at a distance of 6.4 miles from the Laje da Conceição lighthouse, sounding 11 meters.
Laje Noite Escura – Flat Rock bearing 310º at a distance of 9.1 miles from the Queimada Grande lighthouse, sounding 11 meters.
Casco soçobrado – Sunken wreck bearing 238º at a distance of 29,5 miles from the Queimada Grande lighthouse, dangerous to navigation.
Pedra dos Moleques – Rock standing awash bearing 309º at a distance of 1.77 miles from the Bom Abrigo lighthouse.

5.7 General Restrictions – Port of Santos

The SPA, the port authority and the port administrator, is responsible for dredging and maintenance of the depths in the port of Santos, including the terminals located in the area. After the last dredging carried out in January 2025, the maximum operating drafts, referenced to the DHN standard, were defined as follows:

NAVIGATION SITE	METERS
To bar fishing Warehouse (excerpt I)	13,50
Fishing warehouse to the big Tower (excerpt II)	13,50
The big Tower until Warehouse 06 (excerpt III)	13,50
06 warehouse until the end of the BTP (Section IV)	13,50
BTP until Alemoa (Section IV)	12,70

(SPA - Revision nº 257 – 28.01.2025)

When navigating through the channel, the squat effect is disregarded by the pilotage at Santos, because the Harbor Master limits maximum ship speed to 9 knots (NPCP Charpter 5).

5.7.1 Maneuvering restrictions at the Alemoa Terminal (P-1A and P-2A)

The following restrictions must be observed on the piers at Marine Terminal of Alemoa:

1 - Concerning draft:

- ✓ up to 36’ (10.97 meters): no channel restrictions.
- ✓ from 36’01” to 37’00” (10.97 meters to 11.28 meters):

a) quarter tides – no restriction;
b) syzygy tide - berthing and unberthing maneuvers will preferably occur during periods of flood or slack tide; and

c) air draft - at the coordinates of 23°57.18’ S and 046°18.42 W, the passage of overhead cables at a height of 67.5 m is observed. These cables are suspended by two metal towers at a height of 84 m (Chapter 6 of the Sailing Direction).

2 - Concerning the berthing side - Large ships (> 200 meters in length), scheduled to leave with draft exceeding 34'00" (10.36 meters), must preferably berth by starboard. Gas Carrier should berth by portside.
3 - Concerning tidal currents - At syzygy tides, the berthing and unberthing maneuvers may only occur during flood or slack water periods.
For maneuvering at P-4A specifically, the maneuvers may only occur during the slack water period.
There are no restrictions for quarter tides.
4 - Concerning length and beam at berthing (maximum) - Daytime maneuvers: length of 250 meters and beam of 45 meters. Night-time maneuvers: length of 230 meters and beam of 45 meters.
5 - Concerning crossing in the channel - Ships are forbidden to cross in the Piaçaguera Channel.
6 - Concerning operational limits - Berthing on piers (P-1A and P-2A) is limited as per the chart below:

PIER	DISPLACEMENT	MAX. LPP	MIN. LPP	MAX DRAFT.	MANIFOLD HIGH *	MIN. FREE BOARD
P1A	75,000/95,000	250 m	110 m	12,40 m	16,20 m	3.00 m
P2A	60,000/80,000	250 m	110 m	12,40 m	16,20 m	3.00 m

*** Height from waterline to manifold, at low tide**

- Maximum limit for berthing at P1A is 75,000 gross tonnage or 95,000 total displacement tons;
- Maximum length is: P1 = Max. LOA is **250 m;** P2 = Max. LOA is **250 m;**
- Minimum length is **110 m**, however, berthing of smaller vessels is subject to a prior analysis, carried out by SPA, of the construction characteristics and configuration of the vessel's hull to assess compatibility with the fenders;
- Draft is subject to change by SPA, depending on the results of the bathymetry performed;
- With the exception of the LPG loading arms, the light and dark arms must be connected to the vessels with a maximum manifold height of 16.20 meters, at low tide. This height may be changed, after analysis by the Terminal of the tide and loading conditions, in order to avoid excessive effort of the loading arm, above 90º;
- Minimum freeboard is 3 meters.

5.7.2 Maneuvering Area

The channel area comprising B section, as indicated on the chart 1701, and which is located near the Marine Terminal of Santos pier, is the only possibility ships using the Terminal have to affect their maneuver.
It is mandatory for the evolution to be accompanied by the pilot and carried out with the support of tugs.

5.7.3 Maximum Allowable Air Draft

a) TRAFFIC IN THE BERTIOGA CHANNEL Large vessels with a height greater than 5 meters (air draft greater than 5 meters) that, in order to navigate the Bertioga Channel (near the Santos Air Base), need to operate the PORTOFER railway drawbridge, must contact the CCO (Control and Operations Center) of this company, from Monday to Sunday, from 7 am to 11 am and 12 pm to 5 pm, by telephone: (13) 3224-4539. The width of the navigable span of this bridge is 40 meters.

b) TRANSMISSION LINES Large vessels with a height greater than 67.5 meters (air draft) may not travel to locations beyond the Transmission Towers (in front of Arm. 25) in the access channel to the Port of Santos.

5.7.4 Environmental Factors

Regarding the wind regime, the predominant coastal winds blow from the E, from January to December, with a percentage of more than 30%, and with force 2 on the Beaufort Scale. Winds with percentage ranging from 11 to 20%, force 2, occur in the following periods: from November to March, from NE; in April, from SE; from May to October, from SW. Winds with percentages occurring between 8 and 11%, force 2: in January, May and June, from SE; in February, March and November, from SW; in April, July and October, from NE. In December, from SE, force 3.

Land breezes also occur in the area and can be felt up to 9 miles offshore.

From July to October, there is a slight probability of strong winds.

The winds that most influence the port blow from the Northwest and the Southwest. The Northwesterly wind makes maneuvering within the port difficult, especially when carried out at the following locations: Terminal of Santos, Saboó Docks as far as Warehouse 12, and Barnabé Island; Southwesterly winds make it difficult to carry out maneuvers at the sandbar and in the access channel as far as Warehouse 12-A.Winds of the quadrants S and can cause spots that affect vessels in the outer anchorage and may even hinder the practical boarding.

5.7.5 Visibility

Visibility is generally good during summer season and can surpass 4 miles. It can be reduced by dawn mists, which are frequent from July to September.

5.7.6 Temperature

Local temperatures during the year range from 15 ºC in July to 39 ºC in January.

5.7.7 Waves

Near the mouth of the bar at Santos Bay, the wave regime depends on local winds.

The winds from S and SE may cause billows that affect ships at the external anchorage area, which can make the pilot’s embarkation difficult.

5.7.8 Lightning storms

Tropical storms with lightning are common, especially during summer season. The operation may be interrupted where these storms occur near the Terminal, and at its discretion.

5.7.9 Tidal currents

The average tidal range is 1.6 m, and its intensity is very sensitive at the syzygy tides, producing currents of up to 1 knot when the tide is rising, and near 1.4 knot at falling tide.

The exact values for tidal range and intensity may be obtained in the DHN publications (Tide Table and Pilot Chart for the Port of Santos). However, they are subject to sudden changes whenever the weather conditions change. At the syzygy (moon) tides, the variations almost always occur with Southwesterly and Northwesterly winds. On the other hand, at quarter tides (neaps), such variations are much more frequent, since they are influenced by winds and currents close to the coast.

With Northwesterly winds, tides remain low while the winds persist; when the wind blows from the Southwest, the tide is retained for the duration thereof. The quarter tides are also influenced by currents occurring along the coast.

When the currents are running in a Southerly direction (waters to the south), the tidal behavior at the port is that of a retained half-tide.

On rainy days, several affluents that discharge into the estuary substantially increase the tidal current velocity at falling tide.

5.7.10 Density

Densities near the Terminal are 1014 (low tide) a 1017 (high tide).

6. Description of the TERMINAL

6.1 General Description

The piers operated by the Marine Terminal of Santos, that is, piers 1 and 2, are located at the Alemoa Terminal, on the right bank of the Piaçagüera channel, in the Santos estuary. Alemoa Terminal has four different piers for ships (P-1A, P-2A, P-3A and P-4A), and two for operations with barges (P-1 and P-2). The Marine Terminal of Santos uses only P-1A and P-2A, the former for exclusive use by Transpetro, and P-2A shared with other companies.

P-3A and P-4A are used by private chemical companies. The other two piers at the inner side (P-1 and P-2) are operated exclusively by Transpetro and are used for loading barges with maritime fuel oil (bunker), for supplying ships at the Port of Santos.

The piers (P-1A and P-2A), where Transpetro's ship loading and discharging operations are carried out, are located to the west of the central raised access platform, from which the piers P-3A and P-4A begin to the east.
The piers P-1A and P-2A are used both for loading and discharging oil by-products and LPG.
In addition to Transpetro, the following companies also handle liquid bulk products at the Alemoa Terminal:
Stolthaven
Ultracargo
Vopak
Granel (will be able to operate in few months)

6.2 Physical details of mooring berthing

Berth	Length of the Pier (m)	Depth (m)	Tide (m)		Mouth (maximum)	Length of ship (maximum)	Products Handled	Displacement (maximum)	Comments
			Syzygy	Dry					
P1A	**250**	**12,40**	**1.70**	**-0.10**	**N/A**	**250**	**The Diesel Fuel. Gasoline LPG Bunker**	**95,000 t**	
P2A	**250**	**12,40**	**1.70**	**-0.10**	**N/A**	**250**	**The Diesel Fuel. Gasoline LPG Bunker**	**80,000 t**	

6.3 For berthing and mooring Arrangements – Steel / Wire Lines

Berth	Requires Pilot for maneuvers	Size of Vessel (TPB)	Tugs: Number, BP & pusher				Approach speed		Anchorage points		Mooring cables (recommended, bow and stern) STEEL/WIRE		
			Mooring		Unmooring		Parallel body (maximum)	Angle (maximum)	Bollards	Cats	Head/aft lines	Breast lines	Spring lines
			Paragraph	BP	Paragraph	BP							
P1A	**Yes**	Up to 20,000	2	21	2	21	10 cm/sec	10°	8	-	**3**	**2**	**2**
		Above 20,000	2	46	2	46	10 cm/sec	10°	8	-	**3**	**2**	**2**
P2A	**Yes**	Up to 20,000	2	21	2	21	10 cm/sec	10°	8	-	**3**	**2**	**2**
		Above 20,000	2	46	2	46	10 cm/sec	10°	8	-	**3**	**2**	**2**

6.3.1 For berthing and mooring Arrangements – Synthetic lines

Berth	Requires Pilot for maneuvers	Size of Vessel (TPB)	Tugs: Number, BP & pusher				Approach		Anchorage points		Mooring cables (recommended, bow and stern) synthetic		
			Mooring		Unmooring		Parallel body (maximum	Angle (maximum)	Bollards	Cats	Head/aft lines	Breast lines	Spring lines
			Paragraph	BP	Paragraph	BP							
P1A	Yes	Up to 20,000	2	21	2	21	10 cm/sec	10°	8	-	**3**	**2**	**3**
		Above 20,000	2	46	2	46	10 cm/sec	10°	8	-	**3**	**2**	**3**
P2A	Yes	Up to 20,000	2	21	2	21	10 cm/sec	10°	8	-	**3**	**2**	**3**
		Above 20,000	2	46	2	46	10 cm/sec	10°	8	-	**3**	**2**	**3**

The mooring scheme must meet the following conditions:

- Use at least three springs AV (forward) and AR (aft) for any size of ship;
- Keep the mooring tight throughout the operation in order to prevent the ship from moving longitudinally along the quay when other ships are passing through the Piaçaguera Channel.

If the ship has steel springs, only two AV (forward) and two AR (aft) may be accepted, at the Terminal's discretion.

The berthing and mooring maneuvers are monitored by the Terminal's GIAONT to assist in the correct approach of the ship, in order to avoid damage to the terminal and to monitor the technical performance of the pilot and tugboats and record any abnormalities in the maneuver.

6.4 Features of the berth for Loading, Unloading and Bunker

Berth	Arm Number	Diameter/ Length	Type of Product	Pressure class/Work Pressure kgf/cm ²	Temp. ° C	Scope (Reach)
P1A	1	12 "/22.04 m	LPG	300 #/ L = 25.0 V = 25.0	-45.0/ 40.0	20,40 m (**)
	2	12 "/12.50 m	Clear	150 #/ 19.4	40.0	15,80 m
	3	12 "/12.87 m	Clear	150 #/ 19.4	40.0	15,20 m (*)
	4	12 "/12.87 m	Clear	150 #/ 19.4	40.0	15,20 m (*)
	5	12 "/12.87 m	Bunker/Crude Oil	150 #/ 19.4	80.0	15,20 m (*)

	6	12 "/12.87 m	Bunker/Crude Oil	150 #/ 19.4	80.0	15,20 m (*)
	8	12 "/12.50 m	Clear	150 #/ 19.4	40.0	15,80 m
P2A	1	12 "/8"/18.00 m	LPG	300 #/ 150 # L = 50.0 V = 20.0	-50.0/ 50.0	16,00 m (**)
	2	12 "/12.50 m	Clear	150 #/ 19.4	40.0	15,80 m
	3	12 "/12.87 m	Clear	150 #/ 19.4	40.0	15,20 m
	4	12 "/12.87 m	Clear	150 #/ 19.4	40.0	15,20 m
	5	12 "/12.87 m	Bunker/Crude Oil	150 #/ 19.4	80.0	15,20 m
	6	12 "/12.87 m	Bunker/Crude Oil	150 #/ 19.4	80.0	15,20 m

NOTE: (*) Height from the base of the terminal to the ship's manifold.
(**) The LPG arms at Pier P1A and P2A are out of operation.

6.5 Management & Control

The Control Room of the Terminal is located at the LPG storage area, approximately 1 km from the pier. The shift supervisor works at this central unit, along with the operators responsible for controlling all Terminal operations, by means of a supervision system.

There is another control room at the pier, called “Captação”, where dedicated operators prepare the documentation, control the communications, monitor loading and discharging operations and the positioning of ships at the piers, in addition to connecting arms and/or hoses for the operations.

Communication with ships is carried out via VHF radios, channel 06, or on another maritime frequency, previously agreed and registered. A secondary method using the telephone, is agreed upon in case the main system fails.

The Terminal has the SAFETY SURVEYOR STAFF (GIAONT), which proceeds with the initial inspection of the ships, and performs periodic inspections during the entire loading, discharging and COW operation. These inspectors also advise supervisors and operators on subjects related to the operational safety of ships and barges.

6.6 Major Risks

The navigation conditions at the Piaçagüera channel, with ships heading to or returning from the TIPLAM and Ultrafértil Terminals, become critical near the Santos Terminal, due to the channel narrowing at that stretch. Longitudinal displacement of the ships operating in the piers is common when other ships are passing through the channel, especially when the following unfavorable conditions occur, on their own or together:

- ✓ ship moored in nonconformity with the recommendations of the Terminal;
- ✓ ship with slack mooring;

- ✓ passage of another ship at a speed exceeding that permitted;
- ✓ passage of another ship with large displacement;
- ✓ a ship operating with a draft near to 11 meters, when there is little clearance under the keel for the displaced water mass to flow away.

To prevent or minimize problems with any fortuitous displacement, the Terminal recommends the mooring described in the item 6.3.

The Terminal, may interrupt the operations of ships under the following circumstances:

- ✓ fire or a fire starting onboard or ashore;
- ✓ passage of another ship, considered as critical;
- ✓ wind gusts at **30 knots** or over;
- ✓ atmospheric electrical discharges in the surrounding area;
- ✓ at the request of the Captain of the ship in operation.

7. Procedures

During the ship's laytime at the port, a series of actions are taken so as to enable safe operations and to manage risks in such a way as to minimize them. At all stages, and as described in the items and sub-items below, steps are taken with a view to facilitating the operations and planning them properly.

7.1 Before Arrival

7.1.1 Before the berthing maneuver, a lot of information is exchanged, such as: berthing board, number and diameter of the manifolds to be used, mooring layout, number of ropes to be used, etc. The Terminal reserves itself the right to refuse berthing to any ship considered inadequate, or not in compliance with safety or mooring conditions, or presenting any circumstances that may pose risks to its assets, which include personnel, equipment and environment.

After berthing, an operational safety inspection is carried out by the Safety Inspector (GIAONT), based on the ISGOTT Ship/Terminal Operational Safety Checklist. In case of any discrepancies directly affecting operational safety, which has not been solved by the crew, the ship will not receive authorization from the Terminal to start operating.

7.1.2 On-board repairs that make the ship's engines unavailable, and the washing of cargo tanks, must preferably be carried out at the anchorage area. To carry out these services with the ship berthed, prior authorization from the Terminal will be required, after strict analysis of the risks involved.

7.1.3 The ships must send their estimated time of arrival (ETA) directly to the respective agent, 24 hours in advance, in order to have them included in the schedule.

LPG ships must inform their ETA at least 48 hours in advance. The ETA information must specify whether the time informed is local or UTC.

7.2 Arrival

7.2.1 Ships navigating to the Terminal at Santos will be visited, after berthing, by representatives of the Port Health, Customs and Maritime Police. The ship's agent must take steps to this end.
A specific message must be sent to the Port Health authority, via the agency, in order to obtain Free Practice, evidencing its good sanitary conditions.
Ships arriving from a foreign port, even where they have already called at a Brazilian port, will be inspected by the Customs Service, and the agent must request this inspection, providing all the required details. They also are subject to a visit from the Maritime Police after receiving the free practice, in order to check the papers of the crew and passengers.

7.2.1.1 Documents required for ship clearance **(They must be sent to the agency)**

Maritime Police:
> Crew list (3 copies);
> General list (1 copy);
> List of passengers disembarking from the ship (3 copies);
> List of passengers in transit (3 copies).

Port Health Service:
> Maritime health declaration (1 copy) – the agent must issue in advance
> declaration to the effect that the entire crew are in good health;
> Deratting certificate (1 copy);
> Vaccination list (1 copy);
> List of drugs and narcotics (1 copy);
> List of passengers in transit (1 copy);
> Passenger list (1 copy).

Customs Authority:
> Crew list (1 copy);
> Spare parts list (3 copies);
> On-board store list (3 copies);
> On-board provisions list (3 copies);
> Cargo manifest (1 copy);
> Bill of lading (1 copy);
> List of passengers disembarking from the ship (2 copies);
> List of passengers in transit (2 copies);
> List of crew's personal effects (2 copies);
> Baggage declaration for passengers disembarking from the ship (3 copies).

7.2.2 Bunkering requests

The bunkering request must be forwarded to Petrobras (UN-Bunker) through the ship's agent.

This can be supplied in two ways: by pipeline or barge.

Supplying by pipeline is conditional on the availability of the loading arm, as well as the product to be supplied.

Bunkering through barge alongside the hull is possible, simultaneously or otherwise with loading, depending on the flash point of the product being operated.

The following fuel types may be supplied: MGO and MF-30 to MF-380 (fuel oil).

All connection and operation conditions valid for loading/discharging operations are applicable to bunkering.

The Ship/Terminal Operational Safety Checklist (ISGOTT, Appendix A, section “A” Bulk Liquids – General) must be filled out, in the same manner as for ship loading/discharging operations.

7.2.3 Fresh Water Supply

The Terminal **does not have** available resources for supplying fresh water to the ships. The supplying of fresh water must be coordinated by the agent, and is possible from a barge alongside the ship, simultaneously with the loading/discharging operation or not, depending on the flash point of the product being operated.

7.2.4 Waste Discharge (Slop)

Although it has tanks for receiving dirty ballast, the Terminal does not have the resources for treating it. Thus, it does not receive slop from ships.

However, on-board slop can be discharged to a barge especially adapted for this purpose. This operation must be coordinated between the ship’s Captain and his maritime agency.

Discharge of waste (Slop) to barges is not permitted during ship operation.

The Terminal must be notified before this operation is carried out, and the ship is responsible of all the measures required for preventing sea pollution.

7.2.5 Garbage Removal

The Port Authority (SPA) does not provide facilities for receiving on-board garbage from the ships anchored at the Terminal of Santos. This service is available from specialized companies, and the ship’s Captain and his maritime agency are in charge of contracting this service.

Where garbage is to be removed on the seaside, the Terminal must be notified in advance, and the GIAONT (Safety Inspector) will evaluate the possibility of executing this operation simultaneously with the loading/discharging operation.

7.3 Mooring

7.3.1 Ship mooring system

The mooring lines must receive permanent care so that the ship is always berthed. All the lines must be kept under adequate tension during the operation, with the winch brakes on. The use of automatic tensioning winches is not permitted.

All the mooring lines must be of same type, gauge and material (fiber or wire); mixing mooring lines is not permitted.

Mixed mooring lines are those in which the lines executing the same function have different type, gauge and materials.

The mooring lines must be arranged as symmetrically as possible in relation to the middle of the ship. The breast lines must be deployed as perpendicularly as possible to the longitudinal axis of the ship and passed far forward and aft as possible. Spring lines shall be deployed in the most parallel position possible to the longitudinal axis of the ship.

When tails are used on the wire lines, the tails must be of the same type, with gauge 25% greater than the minimum breaking strain of the wire, and of the same material and length.

The horizontal angle of the head and stern lines relative to a breast line perpendicular to the ship's longitudinal axis may not exceed 45°.

7.3.2 Ship/shore access

The Terminal does not provide gangway ladder for serving the ships. Ship/shore access is via the ship's gangway or wharf ladder or scaffold, installed directly on the pier, or lowered onto the dock side and complemented by an aluminum wharf ladder supplied by the Terminal.

Where it is impossible to install a gangway or wharf ladder installation from the ship, access will be affected by a boat provided by the Terminal.

When disembarking, the crew members must use leather footwear, long pants, shirts with sleeves, and may circulate only within the demarcated area until the exit gate.

7.4 Before Cargo Transfer

7.4.1 To increase the efficiency of the discharging process for ships carrying cooled LPG, we recommend that the on-board tank pressures remain 60 gf/cm2 before berthing at the Terminal.

7.4.2 Electrical insulation between the Vessel and the Terminal is provided by the insulating flange fixed to the loading arm at the Vessel/Terminal interface, except in the operation of LPG Vessels whose loading arms have insulating joints. When it is necessary to use hoses for the operation of LPG Vessels, hoses with electrical discontinuity are used.

7.4.3 The resources required for the connection are agreed to in the first contact from the ship to Terminal, as per the Appendices D and F.
The ship must provide the loading manifold diameters to enable the loading arms to be connected.
The captain must ensure that all ship-shore load line connections have been inspected and considered in good condition.
One on-board representative must accompany the entire operation, and must be near the ship's load manifold.
All the connections for loading/discharging operations, or for bunkering, which are unused, must be fully bolted with blank flanges.

7.4.4 On-board measurements will be taken by the ship's personnel and inspected by the Terminal representatives and other inspectors, when required. The material used must be duly grounded, and the measuring instruments must be explosion-proof.

7.4.5 The operation will only begin after the initial letter has been filled out and approval received from Safety Inspector (GIAONT), which will check the compliance with the relevant International Standards and Conventions (SOLAS, ISGOTT, Guidelines for Inert Gas Systems, etc.).
Concerning the Inert Gas Supply System, upon initial release, the Safety Inspector (GIAONT) will check the SGI conditions, according to the operational safety checklist, described in the item 7.4.6.

7.4.6 The Ship/Terminal Operational Safety Checklist (Isgott, Appendix A, section "A" Bulk Liquids – General) is checked and filled out by the Safety Inspector (GIAONT) and the ship's representative during the initial release.

7.4.7 Boiler pipes should not be cleaned while the ship berthed. Every precaution must be taken so that sparks do not escape from the smokestack. The non-compliance with these determinations will lead to one or more of the sanctions below:
> Immediate interruption of the operations;
> A fine being applied by the competent authorities;
> Compulsory ship unberthing from the pier;
> Communication of the infraction to the ship owners;
> The ship being held responsible for the fines applied, demurrage and all other related expenses resulting from this fact.

7.4.8 The prohibition on non-authorized small boats remaining alongside or near berthed ships must be strictly observed. Only the Terminal service vessels may remain near or alongside the ships, provided they fulfil all the safety conditions (the flash point of the product being operated having been checked). The violation

of this rule shall be communicated to the competent authority. In any situation, the Terminal should always be consulted.

7.4.9 Berthed ships may not start their propellers while connected to the loading lines, and where there are floating booms installed. The jacking gear may be used, once the Terminal operator has been properly notified, provided the propeller turns slowly enough to ensure absolute safety. Ships will be held responsible for any damages resulting from such procedures.

7.5 Cargo Transfer

7.5.1 The Terminal issues an Operation Monitoring Letter upon initial release, establishing matching criteria for flows and quantities.
Pressure monitoring during cargo transfer is registered by the representatives aboard and ashore at the ship's manifold, hour by hour. The Terminal controls the internal pressure variables by means of a centralized control supervision system. The flows on both sides of the operation are measured hour by hour, and compared between the parties, and according to the system used, there will be a limiting parameter for operational control.
Any changes in the operation conditions must be communicated and documented between the parties. It is expressly forbidden to close the valves that cause system counter pressure during the operation.

7.5.2 When operating LPG ships, the Ship/Terminal Operational Safety Checklist (ISGOTT, Appendix A, section "A", Bulk Liquids – General and section "C") is checked and filled out by the Safety Inspector (GIAONT) and the ship's representative, during the initial release.
When operating cooled LPG, a vapor return line must be used.
The LPG loading arms are equipped with an automatic uncoupling device in case of emergency or when the ship moves away from the pier.
Gas detection systems and an emergency stop device for the LPG system are installed on the piers, with automatic valve blockage.

7.5.3 Ballast and deballast operations are only permitted for SBT-type ships.
Ballast and deballast piping and tanks must be designated for this purpose only and remain isolated from other pipes aboard. The water ballast to be discharged into the sea shall be totally free of oil, any oily residues or other substances that may pollute the seawater.
the ship's port laytime), and from Safety Inspector (Giaont) (for operational safety purposes), or so as to comply with the Marpol Convention; in this case, overtime will be for the ship's account.

7.5.4 Conventional tank cleaning operations are not normally accepted. However, COW operations are permitted, subject to prior authorization of the schedule, for

the purpose of the Ship's stay in port and, of the GIAONT for operational safety purposes or to comply with the MARPOL Convention, in which case the extra time will be at the Ship's expense.

7.5.5 No repairs or maintenance work, where risk of sparks or other forms of ignition is involved, may be carried out depending on the flash point of the cargo handled, while the ship is berthed at the Terminal piers. In extreme cases, all the safety rules shall be complied with and fulfilled. Repairs involving the pier facilities, or that imply any restriction on the ship during laytime, must have the prior authorization of the Terminal.

7.5.6 The Safety Inspector (Giaont) will carry out intermediate inspections, based on the Isgott recommendations, every six hours. Other inspections for the purposes of checking those items not included in Isgott, but which affect safety, may be carried out at any time while the ship is in operation at the Terminal.

7.5.7 Loading/discharging must be interrupted in any situations considered dangerous both for the ship and the Terminal.
Operations may be temporarily suspended during lightning storms, thunderstorms and/or squalls.
The operating personnel at the Terminal are authorized to interrupt/suspend the operation in case of non-compliance with any safety-related rules and standards globally accepted and adopted in the maritime oil transportation.
The ship’s Captain is entitled to interrupt the operation when there are reasons to believe that onshore operations are not safe, as long as he gives the pier operators advance notice.

7.5.8 In any emergency situation, the Terminal of Santos interrupts the operations being carried out so that all available resources are focused on mitigating the disaster.
The actions and contacts for every type of emergency are described in the management’s Local Contingency Plan (LCP), and the key telephones are listed in section 9.

7.6 Operation with VEC (Vapour Emission Control)

The TRANSPETRO Santos Terminal has a closed vapor return system to reduce emissions during ship operations, in accordance with the company's Health, Safety and Environment values. This system does not accept the presence of liquids. Therefore, it is extremely important that the ship arrives with the lines that will operate with the VEC drained and dry. The vapors from the loading operation will be incinerated in the Vapor Combustion Unit (UCV) of the Santos Terminal, which operates between 30 gf/cm² (300 mmAq) and 250 gf/cm² (2500 mmAq), seeking to maintain the vapor phase pressure of the ship's tanks at positive

values, but below the relief setting for the atmosphere. To ensure safe and efficient operation between ship and terminal, we ask that:
- The ship arrives with its lines drained and dry;
- The vessel must inform the settings of the pressure and vacuum relief valves of the cargo tank ventilation system. For this operation, we use a 12-inch hose and, if necessary, the terminal will provide a reduction for use during the operation. The ship's crane will be required for connection. Please inform the terminal if it is necessary to block the ship's vapor phase valve.

7.7 Cargo Measurement and Documentation

7.7.1 When the operation is finished, draining of arms/hoses used in the operation must begin. This operation will be carried out by the Terminal operators by displacing the product to the ship and to the Terminal using nitrogen. To prevent any abnormal occurrence, this operation must be previously agreed upon between ship and Terminal.

7.7.2 The final onboard measurements will be carried out by the ship’s personnel and inspected by the Terminal representatives or other inspectors. The material used must be duly grounded and calibrated, and the measuring instruments must be explosion-proof. The final release of the ship must occur after matching the quantities moved and complementing the laytime documentation.

7.8 Unberthing and Leaving Port

7.8.1 During the unberthing and maneuvers for leaving port, the channel limits and hazards, listed in the section 5.3 and its sub-items, must be observed.

7.8.2 The pilot’s disembarkation location will be in the channel, at the position below:
Latitude = 24º 00’ 33’ S and Longitude = 046º 20’ 12” W, as per NTPS (Traffic and Stopover Procedures in Santos).

8. Port Organization

8.1 Port Control or VTS

The Port of Santos does not provide “VTS” equipment, but the pilotage service has the “AIS” system for monitoring ships in the anchorage area, and during movement at the Port of Santos.

8.2 Maritime Authority

8.2.1 The maritime authority to which the Terminal is subordinated is the Harbor Master of São Paulo.

8.2.2 Since the anchorage areas are external to the bar, the visits of the authorities are carried out after the ship berths at the Santos Terminal.

8.2.3 The official port limits go from the alignment of the coordinates of Latitude 24º 02’ 03” S and Longitude 046º 24’ 00” W (Ponta Itaipu) to Latitude 24º 02’ 42” S and Longitude 046º 17’ 24” W (Ponta Munduba), as per the item 5.3.4.

8.2.4 The Harbor Master of São Paulo is the maritime authority within the limits of the Port of Santos, and it is responsible for determining what actions and penalties are to be taken/applied to those responsible for any incident within the port limits.

8.3 Pilotage

8.3.1 It is compulsory to use pilotage in the Santos Terminal, and this complies with the rule established for the port as a whole (see item 5.3.9).

8.3.2 Pilotage organization operating in the port of Santos: Pilots - Pilotage Services of the Port of Santos and Baixada Santista S/C Ltda. Av.: Almirante Saldanha da Gama, 64 Neighborhood: Ponta da Praia - Santos - São Paulo - Zip Code: 11030-400 Administrative Telephone Numbers: (13) 3269-4045 / (13) 3269-4043 / Fax (13) 3261-5098 Operations Center: (13) 3269-4050 / (13)3269-4051 / Fax (13) 3261-1990 Emergency: (13) 3261-6340

8.3.3 The pilotage service may be activated by the Captain or the Ship's Agent. In case of emergency and depending on availability, the pilot will be placed on the ship as soon as possible. The Santos Terminal does not have a specific vessel to assist in mooring ships; this service is carried out by pilotage boats. When docking ships with a LOA greater than 150 m, two support boats are available to assist in mooring.
The Terminal has boats that are used to place and remove containment barriers from ships operating with products with a flash point above 60ºC at piers P1A and P2A.

8.4 Maritime services at the Port of Santos

Several workshops provide naval maintenance and repair services, such as engine works, boiler works, electrical, electronic and cooling systems.
Several specialized firms operating in Santos provide diving services.
Repair needs must be communicated to the ship’s agency, which will meet these according to the local resources.

9. Combat & Emergency Planning

9.1 Emergency Contacts

The following table indicates the essential contacts with phone number, Fax number and Radio Frequencies/Channels

Organization	Hours of operation	Acronym for Identification	Phone	Fax	Vhf/UHF Call	Vhf/UHF Conversation
Port Authority	24 horas	CPSP	(5513) 3221-3456 3224-9900	(5513) 3222-3188	16	12 / 17 / 77
Tug Company SAAM SMIT	24 horas	- X -	(5513) 3324-6233	(5513) 3324-6233	16	13
Tug Company Wilson Sons	24 horas	- X -	(5513) 3211-2300 3211-2345	(5513) 3211-2358	16	13
Tug Company "Sulnorte"	24 horas	- X -	(5513) 3211-5046		16	13
Pilot Station	24 horas	- X -	(5513) 3269-4043 3269-4045	Fax: (5513) 3261-5098	16	11
Control Room (Pier)	24 horas	Captação	(5513) 3014-6027 3014-6014	(5513) 3014-6046	06	06
Terminal Control Room (CEMOV)	24 horas	- X -	(5513) 3014-6009	(5513) 3014-6008	06	06
Operation	07 h às 16 h		(5513) 3014-6027	(5513) 3014-6046	- X -	- X -
Terminal Mananger	07 h às 16 h	- X -	(5513) 3014-6191	Fax: (5513) 3014-6182	- X -	- X -
Fireman	24 horas		(5513) 3289-9509		- X -	- X -
Civil Defense	24 horas	- X -	(5513) 3208-1015	(5513) 3208-1000	- X -	- X -
City Hall	08 as 17 h	PMS	(5513) 3226-8080	(5513) 3226-8106	- X -	- X -

9.2 Sensitive areas for the environment

The areas most sensitive to environmental impact can be verified in the LCP, by means of environmental sensitivity maps, which, according to the area selected, indicate those locations subject to the greatest impact should this kind of event happen at the Terminal.

9.3 General description of the Organization to combat Emergencies

The entities responsible for handling possible emergencies involving the vessels arriving at the Terminal are listed below.

Incidents within the area of the port of Santos					
Type of Incident	**Organisation Responsible**	**Other Organizations Involved**			
Collision in the channel	*Port Authority*	*Civil Defense*	*TRANSPETRO*	CETESB	

Ship Stranding	*Port Authority*	*Civil Defense*	*TRANSPETRO*	CETESB	IBAMA
Collision against Pier	*Port Authority*	*TRANSPETRO*	*Civil Defense*		
Boat Sinking	*Port Authority*	*Civil Defense*	*Fire Department*	*TRANSPETRO*	CETESB
Vessel fire	*Ship*	*TRANSPETRO*	*Fire Department*	*Civil Defense*	*Port Authority*
Fire in the Pier	*TRANSPETRO*	*Fire Department*	*Civil Defense*	*Capitania dos Portos*	
Pollution	*TRANSPETRO or Ship*	*Capitania dos Portos*	*CETESB*	*IBAMA*	

9.4 Contingency Plans

9.4.1 The LCP (Local Contingency Plan) is the emergency fighting plan of the Santos Terminal and all its facilities. Explanatory charts on emergency procedures are distributed at strategic locations at the Terminal, for ready reference.

9.4.2 Berthed ships must maintain their emergency tow lines fast to the onboard bollards and hanging down to the waterline during the entire operation, by the bow and quarter on the side opposite to the mooring side.
The emergency and firefighting equipment must be kept ready for use while the ship is berthed. The operational fire hoses must be extended, one forward and one aft, on the load manifolds.
A pollution fighting kit (sawdust, rags, shovels, buckets, squeegees, transfer pumps, etc.) must be kept ready for use in case of oil spillage. Supplementary precautions must be adopted aimed at preventing seawater pollution by oil.
The Terminal has an Emergency Response Center (CRE), equipped with modern equipment and facilities to be used in accidental pollution incidents, and is strategically located near the piers.
The CRE has various boats, floating booms, absorption rolls and blankets, skimmers, suction pumps, generators, portable tanks, etc., and provides a specialized team 24 hours a day, on 12-hour shifts, which can be called into action at any time.
Piers P-1A and P-2A are equipped with fixed floating booms, which will be used by surrounding the ships operating in the area, depending on the product being moved.

9.4.3 The Terminal has an outpatient clinic with a doctor, nurse and nursing technician for assistance during administrative hours. The Terminal also has a contract with an ambulance company for first aid, available for call-out 24 hours a day. The most serious emergency cases will be triaged to hospitals in the region in accordance with the regulations of the medical team responsible for the care and may be referred to hospitals with health insurance or public hospitals.

9.5 Public Resources for Combating Emergencies

9.5.1 Port administrator

SPA, as the port authority, will be always called into action, and will provide resources for intervening in combating any emergency situation.
For emergencies involving environmental damage, SPA has an agreement with the Fire Department, Transpetro, Cetesb and other companies, for activating an Emergency Control Plan (ECP).

9.5.2 Maritime authority

The Harbor Master of the State of São Paulo is the maritime authority at the Port of Santos and must be called into action when emergencies occur.

9.5.3 Local emergency services

Medical and dental assistance for the crew aboard the ships berthed at the Terminal must be coordinated with the maritime agencies.

9.5.4 Mutual Assistance Plans

The Port of Santos has a Mutual Assistance Plan (PAM), which includes companies involved in the port activities. The port authority (SPA) is in charge of maintaining it, by integrating the entire port.

9.6 Combating Oil and Chemical Product Spills

The following items describe the resources available for combating pollution at the Terminal areas and its surroundings.

9.6.1 Pollution-combat capacity of the Terminal

The resources available at the Terminal for combating oil spillage situations consist of immediately calling the Emergency Response Center (CRE) into action, whose resources are described in the item 9.4.2.
The procedures are listed in the Local Contingency Plan (LCP), available at all the administrative, operational and maintenance areas of the Terminal of Santos.

9.6.2 Pollution-combat capacity of the environmental agency

Cetesb (Companhia de Tecnologia de Saneamento Ambiental de São Paulo), an agency subordinated to the State Environment Secretariat, is in charge of controlling, inspecting, monitoring and licensing the pollution-generation activities, with the fundamental concern of preserving water, air and soil quality in the State.
Cetesb does not have resources for combating oil spillage at the sea.

9.6.3 Resources available in the Mutual Support Plans of other Terminals

The resources available at other Transpetro Terminals for combating pollution emergencies at the Terminal surroundings are listed in the LCP.

EMERGENCY CLASSIFICATION	ACTIVATION OF RESOURCES
Local Response Level	Includes organization, operational response procedures and resources of the facility, activity or service that relies on its own and external resources available in local institutions and companies or other resources, including corporate resources, made available through specific protocols established for emergency response;
Regional Response Level	When local resources are not sufficient to combat the emergency. Include external resources available from organizational units in the same region, institutions and companies in the region and other corporate resources located in the region;
National or International Response Level	When regional resources are not sufficient to combat the emergency. Includes external resources available in any organizational units of the company, national or international institutions and companies and corporate resources located in more than one region.

9.7 Combating Large-Scale Incidents

The LCP at the santos Terminal lists the actions and the entities responsible for every type of event that may occur within its units, pipelines or vessels, involving third parties. For events not included in this document, Petrobras/Transpetro will provide all the national or international resources available.

9.8. Emergencies alarms

Emergency alarms conventions are established as shown below:

Desccription	Rings
Weekly Test	01 ring for 15 sec
Start Emergency	01 ring – 60 sec
Finish Emergency	02 rings – 15 sec
Abandono de Área	01 ring for 180 sec.

ESCAPE ROUTE

10. CONTACTS

The following tables indicate the organization, title, telephone, fax, e-mail and radio channel/frequencies.

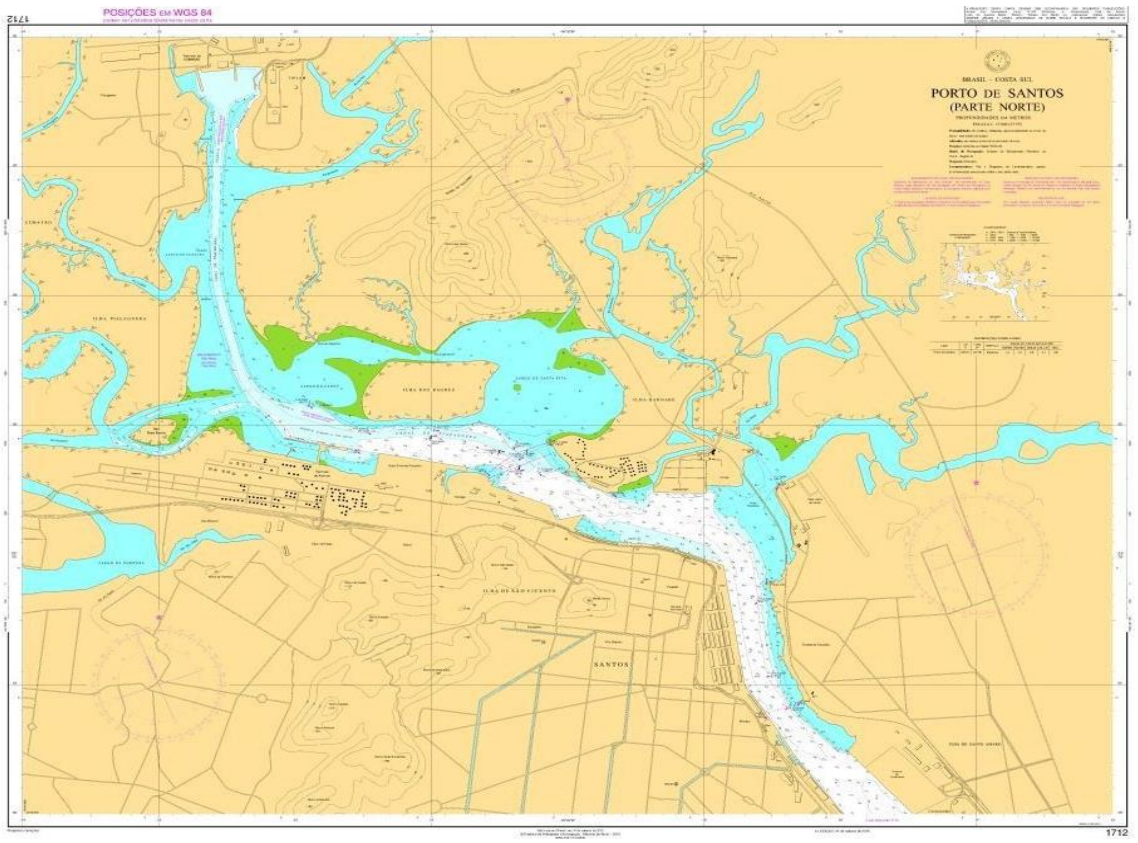
10.1 Terminal

Location	Contact	Phone	Fax	VHF/UHF channels	
				Call	Conversation
Pier P1A and P2A	Operator	(13)-3014-6327	(13) 3014-6046	6	6
Control Center	Operator	(13)-3014-6009	(13)-3014-6008	16	6
Shift supervisor	Supervisor	(13)-3014-6145	(13)-3014-6008	- x -	01 terrestrial
Security (SMS)	Supervisor	(13)-3014-6017	(13)-3014-6160	- x -	01 terrestrial
CRE	Seaman service	(13)-3014-6189	(13)-3014-6160	01 terrestrial	6

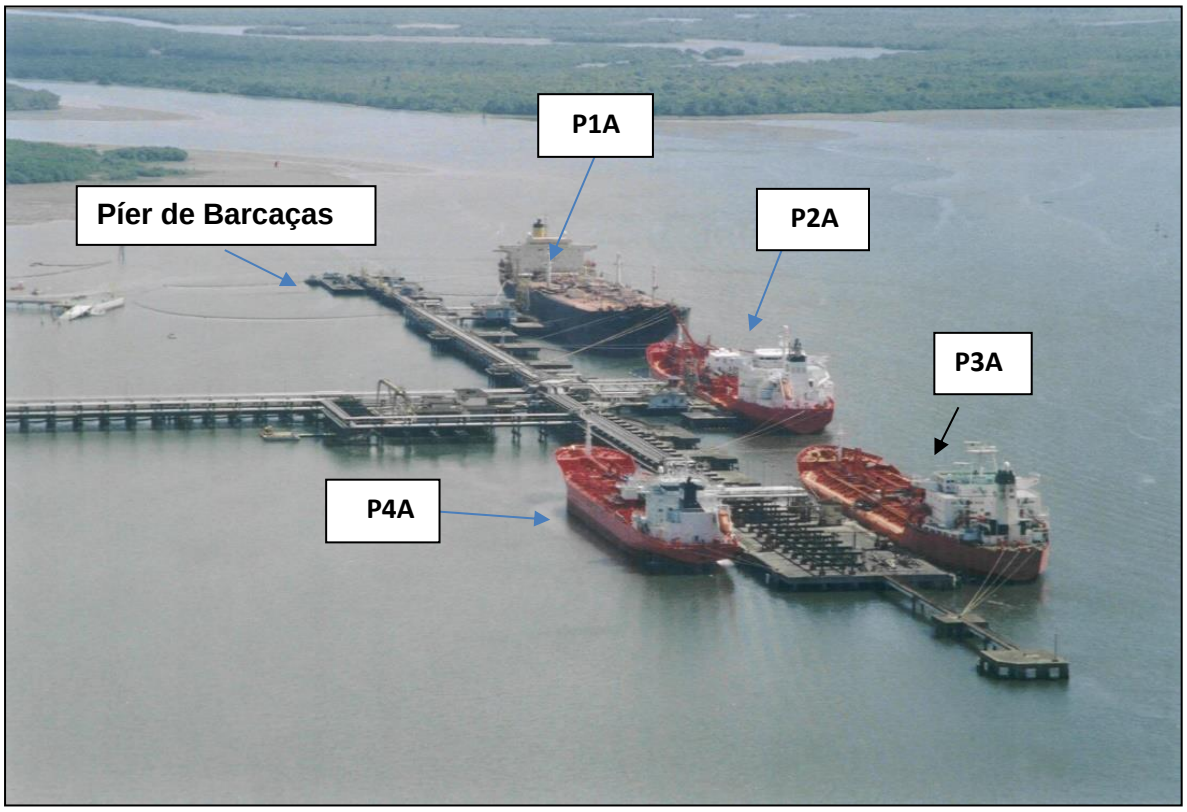
10.2 Port Services

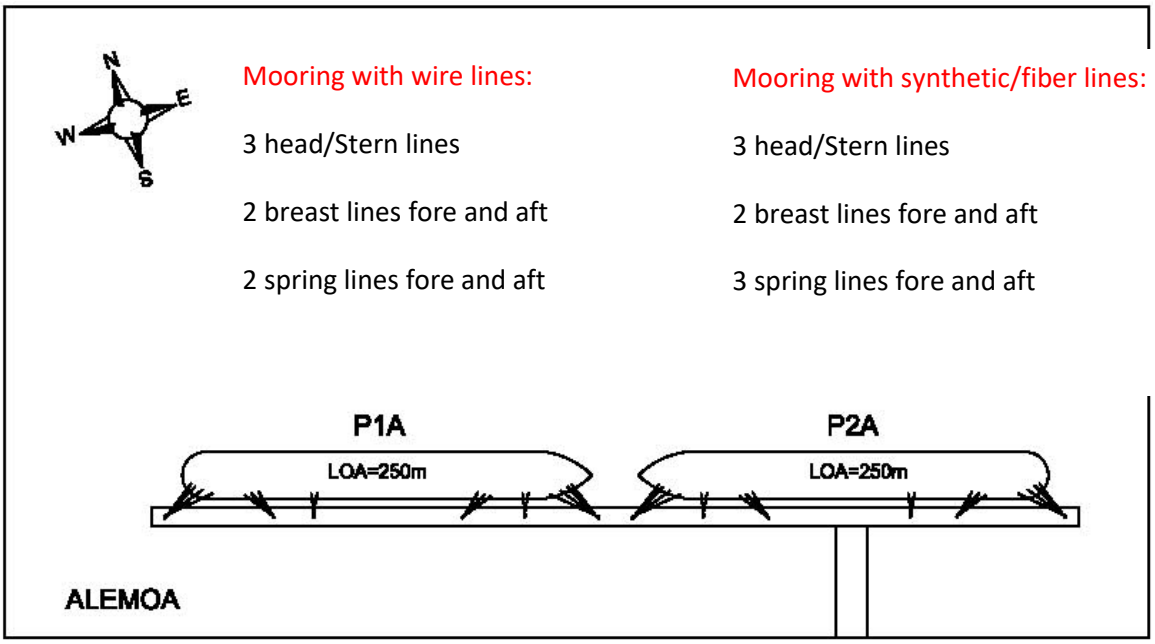
Organização	Contato	Telefone	E-mail	Canais de VHF/UHF	
				Chamada	Conversação
Port Authority	24 h	(13) 3221-3456 3224-9900	secon@cpsp.mar.mil.br	16	-
Tugs Company Svitzer	24 h	(21) 982372557	central.ops.br@svitzer.com	16 16	11 13
Tugs Company Saam Smit	24 h	(13) 997753224	filial.santos@saamtowage.com.br	16	13
Tugs Company Wilson Sons	24 h	(13) 3348-4839	operation.santos@wilsonsons.com.br	16	13
Tugs Company “Sulnorte”	24 h	(13) 3211-5040	santos@sulnorte.com.br	16	13

APÊNDICE A - Berths and approaches to the Santos Terminal.

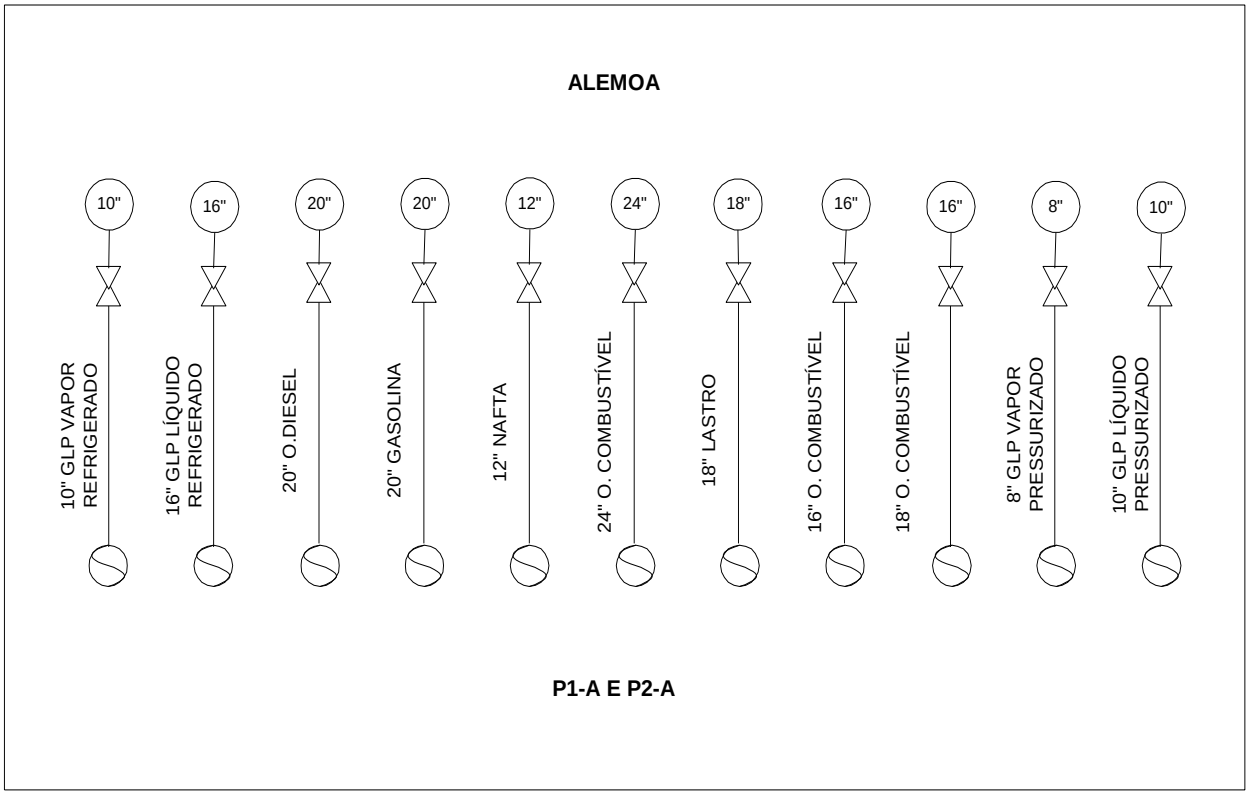


APÊNDICE B Diagram of Berths





APÊNDICE C - Cargo Lines, dimensions and flange sizes



APÊNDICE G

Correspondence between the deadweight tonnage (DWT) of the vessel, longitudinal static traction force (bollard pull) required and minimum number of tugs to be used.

TPB (t)	(BOLLARD PULL) MT	Number of recomenden Tugs
De 2.000 até 2.500	3.0	1
De 2.501 até 3.000	5.0	1
De 3.001 até 4.500	6.0	1
De 4.501 até 5.000	7.0	1
De 5.001 até 7.500	9.0	1
De 7.501 até 10.000	11.0	1 a 2
De 10.001 até 12.500	14.0	1 a 2
De 12.501 até 15.000	17.0	1 a 2
De 15.001 até 17.500	19.0	1 a 2
De 17.501 até 20.000	21.0	1 a 2
De 20.001 até 25.000	25.0	1 a 2
De 25.001 até 30.000	28.0	1 a 2
De 30.001 até 35.000	32.0	2
De 35.001 até 40.000	36.0	2
De 40.001 até 45.000	39.0	2

De 45.001 até 50.000	42.0	2
De 50.001 até 60.000	46.0	2
De 60.001 até 70.000	51.0	2
De 70.001 até 80.000	53.0	2
De 80.001 até 90.000	55.0	2 a 3
De 90.001 até 100.000	56.0	2 a 3
De 100.001 até 110.000	58.0	2 a 3
De 110.001 até 120.000	60.0	2 a 3
De 120.001 até 130.000	62.0	2 a 3
De 130.001 até 140.000	64.0	2 a 3
De 140.001 até 150.000	66.0	2 a 3
De 150.001 até 160.000	81.0	2 a 3
De 160.001 até 170.000	83.0	2 a 3
De 170.001 até 180.000	86.0	2 a 3
De 180.001 até 190.000	87.0	2 a 3
De 190.001 até 200.000	89.0	2 a 3
De 200.001 até 210.000	90.0	4
De 210.001 até 220.000	91.0	4
De 220.001 até 230.000	93.0	4
De 230.001 até 240.000	95.0	4
De 240.001 até 250.000	96.0	4
De 250.001 até 270.000	98.0	4
De 270.001 até 290.000	101.0	4
De 290.001 até 310.000	106.0	4
De 310.001 até 330.000	110.0	4 a 6
De 330.001 até 350.000	114.0	4 a 6
De 350.001 até 370.000	118.0	4 a 6
De 370.001 até 390.000	121.0	4 a 6

Note: The bollard pull total included in this table are considered the minimum required for carrying out the maneuvers, with tidal currents that do not impair them.

List of important addresses and phone numbers in the port:

Delegacia de Polícia Federal.
Rua Riachuelo, 27
Centro - Santos - SP
Telefone: (13) 3213-1817, 3213-1800 ou 3213-1801(Plantão)

Delegacia da Receita Federal
Rua do Comércio, 86
Centro – Santos – SP
Telefone: (13) 4009-1203

Alfandega do Porto de Santos
Praça da República s/n°
Centro - Santos - SP
Telefone: (13) 3208-2000 ou 3208-2001

Capitania dos Portos.
Av. Perimetral, s/nr.
Zona Portuária - Santos - SP.
Telefone: (13) 3221-3456

Capitania dos Portos (Núcleo de Apoio)
Av. Conselheiro Nébias, 488
Encruzilhada
CEP 11045-000
Telefone: (13) 3224-9900

Praticagem de Santos.
Av. Almirante Saldanha da Gama n° 64
Ponta da Praia - Santos - SP.
Telefone: (13) 3269-4043 ou 3269-4045
Fax: (13) 3261-5098

Guarda Portuária (GPORT).
Av. Conselheiro Rodrigues Alves, s/nº
Bairro: Macuco
Telefone: (13) 3202-6565
Pça José Bonifácio, 53
Centro - Santos - SP.
Telefone: (13) 3224-8533, 3224-4983, 3224-5869

Agência Marítima Conesul
Rua Martim Afonso, 34 1° andar
Centro - Santos - SP.
Telefone: (13) 3222-7444 / (13) 7850-0106
Fax: (13) 3222-2805