PETROBRAS TRANSPORTE S.A.
TRANSPETRO

PORT INFORMATION

Terminal
BELÉM

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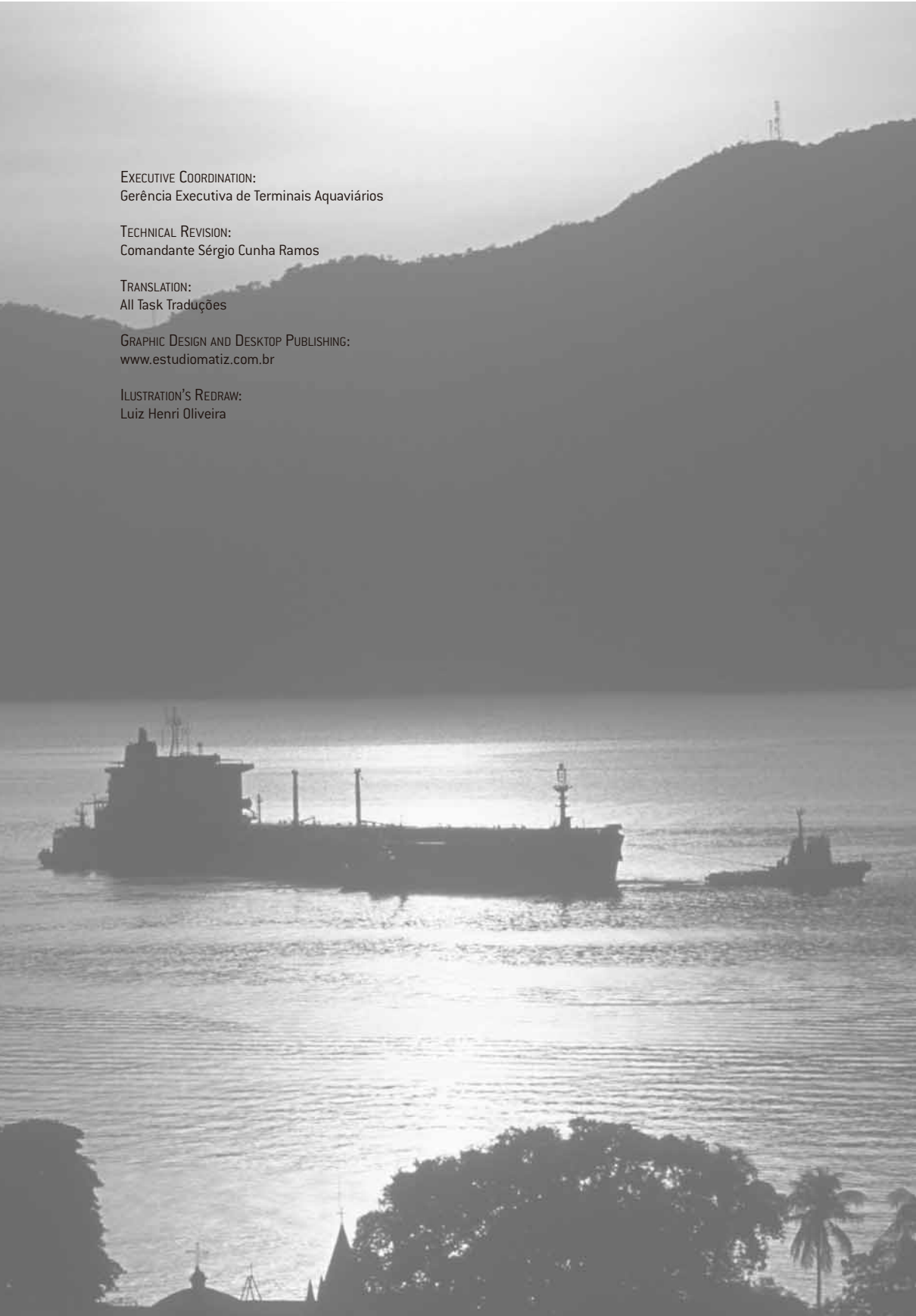

SUMMARY

1 Introduction

This Port Information is prepared by Petrobras Transporte S.A. (Transpetro), which operates the Terminal of Belém (TA-Belém) in the Miramar port.

It presents essential information for ships operating at the Terminal, is distributed for the interested parties at the Port, National and Local Authorities, as well as the different branches of the company.

The Port Information is available in Portuguese and English language versions .

The information contained herein serves to supplement, but never to supersede or alter, any legislation, instructions, guidance or official publications, either national or international. Therefore, anything that conflicts with any of the aforementioned documents should be ignored.

The Terminal holds itself the right to change any information herein presented, with no advance notice.

Transpetro will analyze any suggestions, recommendations or corrections to the topics addressed herein, in order to improve the information. Where any information is found to be incorrect and requiring updating, please contact:

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The most recent version of this Port Information and those for other Transpetro terminals may be obtained at the following website: **http://www.transpetro.com.br** .

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Definitions

BP – Bollard Pull – Ship's longitudinal Static Traction.

COW – Crude Oil Washing.

Dry tide – A condition in which the tide reaches the minimum amplitude at a certain time of the year.

DWT – Deadweight Tonnage.

GAV – Aviation Gasoline.

Giaont – Generic designation for the professionals inspecting the operational safety. The name comes from "Safety Surveyor Staff".

LPG – Liquefied Petroleum Gas.

QAV – Aviation Kerosene.

Siscope – Sistema de Controle de Operações e Estadias (Operation and Laytime Control System).

SMS – Segurança, Meio Ambiente e Saúde (Safety, Environment and Health).

Syzygy tide – A condition in which the tide reaches the maximum amplitude at a certain time of the year.

TA-Belém – Terminal of Belém.

UTC – Universal Time Control (Coordinated Universal Time).

VTS – Vessel Traffic Service.

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Charts and Reference Documents

Information about the Terminal may be obtained in the following publications:

Nautical Charts

Area	Chart Number
	Brazil (DHN)
Salinópolis Anchorage Area	311
From Salinópolis to Belém	310
Espadarte channel and Vicinities	313
Belém Port and Miramar	320
From Baixo do Espadarte to Mosqueiro	303
From Mosqueiro to Belém	316

Other Publications – Brazil (DHN)

Type/Subject	Publication Number
	Brazil (DHN)
Rules and Procedures of the Harbor Master	NPCP-2003
Route North Coast	DH1– I


WELD

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Documents and Information Exchange

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

Information	Prepared by:			Delivered to:			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
Before arrival							
Estimated Time of Arrival (ETA) and ship information		X		X			As per Appendix E
Essential Terminal information	X				X		As per Appendices B and C
Before cargo or bunker transfer							
Details about on-board cargo/slop/ballast		X		X			As per Appendix E
Essential operating information (fill in locally)	X				X		As per Appendix E
Ship/Terminal Safety Checlist			X			X	As per Isgott Appendix A

continue

Information	Prepared by:			Delivered to:			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
During Cargo or Bunker Transfer							
Repeat the Safety Checklist			X			X	As per Isgott Appendix A
After Cargo or Bunker Transfer, before Leaving							
Information required for unberthing the ship			X			X	Quantity of fuel and water onboard
After Unberthing, on Leaving Port							
Information concerning port departure data		X		X			Time when Pilot disembarked and ship left the port

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Description of the Port

5.1 General Description

The port is located in the city of Belém, capital of the State of Pará, on the right bank of the Pará river, 70 m upstream from its bar.

The area of the Organized Port of Belém is comprised, according to Decree number 5230 of October 5th 2004, of the terrestrial port facilities existing in the city of Belém, composed of anchorage areas, harbors, docks and berthing and docking piers, lands, storehouses, buildings and internal circulation tracks in the right bank of the Guajará bay, from the south end of the Mercado Ver-o-Peso (Check-the-Weight Market) up to the southwest end of the Caratateua island, on the Pará river mouth, as well as maritime facilities in the polygonal area of the Organized Port, encompassing all docks, harbors, bridges, berthing and docking piers, storehouses, silos, ro-ro ramps, yards and general buildings, road circulation tracks, and also lands throughout these marginal stretches and on their vicinities, belonging to the Union, incorporated or not to the asset of the Belém Port or under its custody and responsibility.

The Miramar terminal is an extension of the organized port of Belém.

Currently, the Belém Port moves 800,000 tonnes of cargo each year, and the main cargoes operated are: wood, pepper, palm cabbage, fish, shrimp, Brazilian nut and wheat

The annual movement of large-size vessels in the Belém Port is of approximately 342 ships.

Brazilian laws are very severe with respect to water pollution along the coast. It is forbidden to throw any kind of material, debris, garbage, oil or polluting substance into the river and sea waters. Heavy penalties will be imposed by the maritime authorities on those who infringe this law, including being arrested as provided for under the law. The ships' captains are in charge of ensuring that no oil or contaminated water will be pumped or spilt from their ships.

Ship's Captains must inform the Harbor Master and Port Authority about any spill of polluting substances in the Miramar terminal area.

Pollution may be qualified as crime under the Brazilian legislation, according to Law 9605 of February 12th, 1998, which describes the penal and administrative sanctions resulting from behaviors and activities harmful to the environment, both for the polluting party and the party that failed to prevent such actions.

5.2 Location

5.2.1 Terminal coordinates

→ Latitude: 01º 24' S
→ Longitude: 048º 29' W

5.2.2 General geographic location

The Miramar Terminal is located in city of Belém, on the right bank and downstream the Guajará Bay, 5 km away from the Belém Port and 120 km away from the Atlantic Ocean.

5.3 Approaching the Terminal

5.3.1 General description

According to rules and procedures from the Harbor Master of Western Amazon, the maximum draft recommended at the Miramar Terminal will be limited, as well as in the Belém port, by the depth on the Tapanã Bar, of 7.92 m (26.0 feet) in both piers. At pier 1, only ships with maximum size of 15,000 DWT and 140 m of length can berth, and at pier 2 only ships with maximum size of 45,000 DWT and 210 m of length can berth.

The accesses to the Miramar terminal are listed on charts 316 and 320, the Route, chapter IV, must be referred to, and the information disclosed on the Warnings to Navigators must be followed.

The Pará river separates the east, southeast and south coasts of the continent's Marajó Island, and has a considerable width, with stretches where the navigator located in the middle of the river cannot see its banks. The river is connected to the

Amazon river through straits and vast channels (furos), which separate the countless islands located between the southwest coast of Marajó island and the continent, mouth of the Tocantins river and of several smaller rivers. On its confluence with the Guamá river is located the city of Belém, Capital of the State of Pará, with its Port.

Coming from the North, the recognition of the coast for landing is made difficult due to its characteristics – low, with uniform vegetation and without noticeable geographic accidents, as well as by the muddy color of the waters from Amazon and Pará rivers, which penetrate in the sea, making the observation of Areas with shallower depth difficult.

One must navigate in over 20 m depth, to avoid the banks located on the North bar of the Amazon river and on the Pará river bar, until marking the radio lighthouse Salinópolis at 167º, when one must head to the radio lighthouse on this bearing until the Salinópolis lighthouse appears on the ship bow.

The landing marking the Salinópolis lighthouse at 167º is safe, until the anchorage area where the pilot awaits.

The navigator coming from east is able to locate himself safely, 10 m far from the coast, in depth above 10 m and within the lighthouse range, until recognizing Salinópolis and marking the anchorage area where the pilot awaits.

When approaching the Pará river with destination to the Miramar Port, pilotage is mandatory for oil tankers with gross tonnage superior to 2000, including propane carriers.

The Miramar terminal is limited on the left by the Onças island, which is 19 km long, and other similar islands located in front of the Pará river, with three large channel mouths:

→ between the bar and Fortim island, used by maritime and long run vessels;

→ between the Arapiranga and Cotijuba islands, used by typical river vessels known as "cages"; and

→ the Oriental channel, which deserves more detailed comments, such as length of 6,000 m, width of 90 to 180 m , depth of 6 to 9 m, draft of 5.10 to 7.30 m and annual average silting up of 600,000 m^3.

5.3.2 Anchorage areas

Recommended or assigned Anchorage Areas			
Name or Number	**Latitude and longitude**	**Minimum Depth in meters**	**Notes**
North of Mosqueiro island on the Sol bay – chart 315	01° 00' S – 048° 23' W	10	Sand and mud bed and sheltered from all winds
Northwest of Icoaraci – chart 316	–	10.67 maximum draft recommended	For oil tankers and propane carrier waiting for berthing at the Miramar terminal
East of the Barra island – chart 316	01° 21,3' S – 048° 30,3' W	5	For oil tankers degassing
1	01° 23,0' S – 048° 30,3' W	4	South of the Barra island, mud bed, for ships degassing, in repair or maintenance – chart 320
2	01° 23,6' S – 048° 29,7' W	7.92 maximum draft recommended	West of the Naval Base of Val-de-Cães, for war or merchant ships authorized by the Harbor Master.
3	01° 24,1' S – 048° 30,0' W	7.92 maximum draft recommended	West of the Miramar Terminal, mud bed, for ships waiting to berth or in loading and discharge operation.
–	00° 23' 31" S – 048° 30' 10" W 00° 23' 31" S – 047° 29' 56" W 00° 24' 28" S – 048° 30' 30" W 00° 24' 28" S –-047° 29' 56" W	7.92	Anchorage areas for ships waiting to berth at the Miramar terminal

5.3.2.1 Forbidden Anchorage

Anchoring is forbidden in the following areas:

→ Between the Naval Base of Val-de-Cães and the Miramar terminal, in the area marked on the chart by restricted area limit line;

→ Southwest of Igarapé do Una (01°25,3'S – 048°29,9'W), in the area marked on the chart by restricted area limit line; and

→ In the dredged channel, without express authorization from the Harbor Master.

5.3.3 Navigational Aids

The right bank of the Pará river is the one usually used for positioning the navigator heading to Belém Port.

These are the most characteristic points of this bank:

→ Coroa das Gaivotas Lighthouse (00°34,67'S – 048°01,88'W) – Green flashing light;
→ Ponta Taipu (00°40'S – 048°03'W) – Taipu Lighthouse;
→ Ponta Maria Teresa Lighthouse – 9.2 M SW from the Taipu lighthouse;
→ Colares Lighthouse – 2 repeated white flashing lights;
→ Chapéu Virado Lighthouse – On Mosqueiro island;
→ Tatuoca Lighthouse – 2 repeated white quick flashing lights;
→ Icoaraci – 8 M S from Mosqueiro, a location at the river's bank, well built and illuminated;
→ Forte da Barra Lighthouse (01°22,65'S – 048°29,53'W) – Quick white light;

Characteristic points on the left bank:

→ Soure (00°44'S – 048°31'W) – City with nearly 17,000 inhabitants;
→ Soure Lighthouse (00°44,52'S – 048°30,32'W) – 2 repeated white flashing lights;
→ Salvaterra Lighthouse – 0.65 M S from the Soure Lighthouse;
→ Joanes Lighthouse – White flashing light;
→ Coroa Grande Lighthouse – Three repeated flashing lights;
→ Onças island Lighthouse – This island takes the entire left bank of the river in front of Belém.

5.3.4 Port Limits

According to Decree number 5230, of October 5th, 2004, the polygon of the area of the Organized Port of Belém has its vertices defined by the following geographic coordinates:

→ Point A: Latitude 1°14'16,31"S and longitude 47°29'06,45"W
→ Point B: Latitude 1°14'16,09"S and longitude 47°32'59,99"W
→ Point C: Latitude 1°17'34,24"S and longitude 47°32'59,99"W

→ Point D: Latitude 1°17'34,34"S and longitude 47°31'18,24"W
→ Point E: Latitude 1°17'32,03"S and longitude 47°31'18,67"W
→ Point F: Latitude 1°24'32,05"S and longitude 47°30'30,35"W
→ Point G: Latitude 1°26'34,05"S and longitude 47°30'30,35"W
→ Point H: Latitude 1°27'33,05"S and longitude 47°29'43,35"W
→ Point I: Latitude 1°27'33,05"S and longitude 47°27'46,35"W
→ Point J : Latitude 1°16'45,91"S and longitude 47°29'06,59"W

5.3.5 Port Control or VTS (Vessel Traffic Service)

The Belém Port does not have a special traffic or navigation control service. The Port control of the Miramar terminal is responsibility of Companhias Docas do Pará – CDP, and this control is performed via VHF radio communication on channel 16, with one central and three mobile units.

For additional information, rules and notices in force, please visit the Harbor Master website: **http://www.cpaor.mar.mil.br** .

5.3.6 Pilotage

Pilotage is mandatory for oil tankers, propane carriers and ships transporting explosive cargo with gross tonnage superior to 2000 in the entire area of the Amazon basin, comprised of all its waterways and ports, encompassing the tributary and confluent rivers of the Amazon and Solimões rivers in the Brazilian territory.

Inside or outside the port area, pilotage is mandatory for all ships headed for Belém. The pilots for Miramar Port can be requested via ship agent, with its own form, 48 hours before the ship arrives in Salinópolis; the time must be confirmed 24, 12 and 8 hours beforehand. It is important that the time of arrival is confirmed in the intervals aforementioned, because the pilot boat cannot cross the Salinópolis bar with low tide.

The Pilotage association of Barra do Pará is headquartered at Rua 15 de Novembro 226, salas 602/603, Belém, PA; phone number (55 91) 3241-4360 and fax-simile (55 91) 3241-4372, in Belém; phone (55 91) 823-1795, in Salinópolis; and VHF radio telephony, channels 16 for call and 6, 11, 13 and 78 for operation, with permanent monitoring in Salinópolis and from 6 AM to 12 AM in Belém.

The pilot embarks in a point 7.5 miles north from the Salinas Lighthouse, on position Lat. 00º 29' 5" S and Long. 47º 23' 1" W. If the pilot boat is not positioned on the arrival, the position 7 miles north from the Lighthouse is a safe anchorage area. Captains who do not know the area must approach Salinas carefully.

In addition to Salinas, there are the pilot waiting points Espadarte and Mosqueiro.

Espadarte A (North):

→ Latitude: 00º 22' 0" S
→ Longitude: 047º 49' 0" W

Espadarte B (South):

→ Latitude: 00º 24' 5" S
→ Longitude: 047º 49' 0" S

Mosqueiro:

→ Latitude: 01º 06' 0" S
→ Longitude: 048º 29' 5" W.

The points where the pilot awaits in Salinópolis and Espadarte are optional. Pilotage is mandatory from Mosqueiro.

The Ship's Captain is the sole responsible for the maneuvers. In addition, he is obliged to warn the Pilot of any abnormality or difficulties on the ship, such as defects in mooring apparatus and equipment, the helm, engine and/or boiler faults, or lack of the necessary equipment that could put navigating, berthing and unberthing the ship in danger.

It is also responsibility of the Ship's Captain:

→ To investigate the pilotage service execution, informing the Harbor Master of any abnormality;

→ To remove the maneuver control from the pilot, when convinced that the maneuver is being conducted in an incorrect or dangerous manner, informing the fact, in written, to the Port Captain and registering the event in the own model of Maneuver Statement. To take, in this case, the control or request a replacement, as permitted by the circumstances;

→ To fill up the maneuver statement model and require the Application and Registration Book (CIR) when the pilot embarks.

5.3.7 Tugs and Port Services

There is not assistance from tugs at the Miramar Terminal, and its use is not foreseen by the Normas e Procedimentos da Capitania dos Portos da Amazônia Oriental – NPCP – 2003. Only the boat for assisting the mooring conduces the line.

5.3.8 Risks to navigation

5.3.8.1 From the North Bar of the Amazon River to the Pará River Bar

When navigating offshore, the depths inferior to 20 m must be avoided, due to the frequent variations of depth and changes of the bed positions.

The existence of vegetation adrift and tree trunks ripped from the river banks, on the surface or submerse, is another danger to navigation, which requires special attention (chart 40).

From the pilot embarking and disembarking point, in front of the city of Salinópolis, at the Pará river bar, one must not navigate between the coast and the isobath of 10 m; in this area, there are countless banks, the bottom is dirty and the sea breaks (chart 302).

On depths superior to 10 m, the following dangers must be avoided:

→ **Pedra da Corvina** – 5m deep, bearing 346° and 6.8 m far from the Salinópolis Lighthouse. It is marked by a cardinal North light buoy (charts 311 and 302).

→ **Piraquembáua de Fora Bank** – With two bollards where the sea breaks: the south bollard, at depths of 5m to 10m, between bearings 013° and 003°, and at distances of 12.5 m to 14 m from the Curuçá Lighthouse; and the north bollard, on the 7m to 10m depths, between bearings 004° and 358°, and at distances of 15.1 m to 17.3 m from the Curuçá Lighthouse.

→ **Baixo do Espadarte (or Bragança bank)** – With uncovering southwest area and sea breaking on the remaining area, in the low tide, between bearings 027° and 329° and at the distances of 5.4 m to 8.9 m from the Ponta da Tijoca Lighthouse. It is signaled by the C.S. Rio Guaíba Lighthouse. Its bank along the Espadarte channel is marked by two numbered Port Side light buoys (charts 313 and 302).

→ **Tijoca Banks** – With three bollards where the sea breaks in the low tide and depths shallower than 10 m, extending 11 m throughout the W bank of the Espadarte channel, between bearings 349° and 285° of the Ponta da Tijoca Lighthouse. The south bollards is uncovered in the low tide. Its banks in the Espadarte channel are marked by two numbered Starboard light buoys (charts 313 and 303).

5.3.8.2 Pará River, from the Bar to the Belém Port

Variations of depth and changes in the bed positions, as well as changes in the banks due to erosion, are frequent in the Pará river (chart 310).

The navigator must know that the outline of the river's emerged parts represented in the nautical charts is subject to constant changes, due to intense geomorphologic, erosive

and sediment deposit activities, which may cause a phenomenon like rising, growth and displacement of sandbanks, growth of islands, erosion of banks, etc.

It is known that some islands in the river were banks that covered and uncovered a few years ago. Ledges, as soon as they rise, can be covered with vegetation and become small islands in a short period of time.

Tree trunks and vegetation adrift, on the surface or submerse, are also a danger in the Pará river.

From the bar to the Belém port, the following dangers, located near the right bank and the navigable channel, must be avoided:

- **Coroa das Gaivotas** – Some always uncovered and others awash in the low tide, where the sea breaks, between bearings 014° and 311° and at the distances of 0.5 m and 1.5 m from the Chapéu Virado lighthouse (chart 303 and 315).
- **Submerse rocks** – At unknown depths, in the Mosqueiro channel, between bearings 202° to 212.5° and at distances of 1.6 m to 2 m from the Chapéu Virado Lighthouse.
- **Rocks** – With some always uncovered and other submerse, extending to NE of the Tatuoca lighthouse in the bearing 035°, up to the distance of 1.1 m. Its limit along the Mosqueiro channel is marked by starboard light buoy (chart 316).
- **Barra Rocks** – With depth shallower than 5 m. The rock with shallowest depth (0.5 m) is at bearing 018°, 0.4 m away from the Forte da Barra lighthouse, and is signaled by isolated danger beacon. The west limit of these rocks is beacon signaled by a light buoy on the port side (chart 320).
- **Val-de-Cães Rock** – With depth of 1.7 m to 5 m, between bearings 188° and 198° and 0.77 m to 0.96 m away from the Forte da Barra lighthouse. Its west limit is beacon signaled by a light buoy on the port side, the north limit by a North cardinal light buoy, and south limit by a South cardinal light buoy.
- **Ledge** – Taking a large area in the Guajará bay, in front of the Belém port, with depths shallower than 4 m. There are two areas in this ledge where depths range from 1 m to 3 m, named middle bank and city bank.

Along the right river bank there is a channel dredged at 2.9 m (1991) that provides access to the port; the west bank of this dredged channel is beacon signaled by numbered starboard light buoys.

The dangers near the left bank of the Pará river do not affect navigation between the bar and Belém port. This region must only be navigated with perfect knowledge of the location or with the pilot's help.

5.3.9 Free pratique and release by port authorities

The Ship's Captain informs the ship agent 6 hours before arrival at the port so that the agent can make arrangements concerning the scheduling of visits from port authorities for receiving the Free pratique. The ships coming from areas considered endemic will be visited in the anchorage area, before berthing. On other situations, the ships will be visited at the terminal by Port Health, Customs Service – when there is imported cargo – and Federal Police – in case of foreign ship.

The Cabotage ships coming from a non-endemic area must send a specific message to Port Health through the agency with the purpose of receiving free pratique confirming its good sanitary state, which will be sent via radio to the ship.

Ships arriving from a foreign port, even if they have already called at a Brazilian port, will also 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 pratique, in order to check the papers of the crew and passengers.

In any situation, no crew member and/or visits onboard can embark and disembark until free pratique is received.

5.3.9.1 Documents necessary to release from Port Health

→ List of crew members
→ List of passengers
→ List of valid vaccination against yellow fever
→ Statement from International Maritime Health
→ Xerox copy of deratting certificate
→ Xerox copy of cargo manifest
→ List from the last port visited
→ Ballast water report

5.3.9.2 Documents necessary to release from the Federal Police

→ List of crew members
→ List of narcotics
→ List of weapons and ammunition
→ List of passengers
→ List from the last port visited
→ List of passengers in transit
→ Crew's passports or Onboard Journal

5.3.9.3 Documents necessary to ship release from the Customs Service

→ List of crew members
→ List of passengers
→ Ship's particulars
→ List from the last port visited
→ List of material on board
→ List of belongings from crew members
→ General luggage statement
→ Copy of the cargo manifest and of the embarking awareness

5.3.9.4 Documents necessary to ship release from the Harbor Master

→ Statement from the captain
→ General statement
→ List of crew members
→ List of passengers
→ Statement of cargo
→ List of material on board
→ Copy of the captain's onboard journal
→ Copy of the international tonnage certificate
→ Copy of the international cargo line

5.3.9.5. For releasing the ship departure, it must be obtained

→ Departure pass from Customs
→ Departure pass from Harbor Master
→ Departure pass from Federal Police

When the crew members' families embark on ships heading abroad, the respective passports, in addition to the specific license granted by the Harbor Master, must be handed to the agent 24 hours before the ship clearance, for purposes of regulating the embarking visas and list of passengers with the Federal Police.

When returning from abroad, the captains shall send messages to the terminal, informing the number of passengers to disembark. During the entrance visit, the respective list of passengers must be presented to the Federal Police, along with the passports, for inspection by the police and sanitary authorities.

Notes:

1. The Quebec flag shall be hoisted when approaching the terminal and lowered when free pratique is received. The national Brazilian flag must remain hoisted throughout the laytime at the terminal.

2. Contraband – Brazilian laws are very severe with respect to contraband. Thus, the captains must instruct their crews so that they avoid taking ashore or trading cigarettes, cigars, tobacco, alcoholic beverages, souvenirs and other imported items. Before the arrival, these items must be stored in the customs storeroom (sealed), which will be under the responsibility of the captain during the entire laytime at the terminal. Under no circumstances, will any commercial transaction be allowed either among the employees or any other persons.

5.3.10 General restrictions

The ships can maneuver both during the day and night. There are restrictions only about the tide. However, in the Miramar terminal, ships only berth with flood tide, except for some special cases related to gas ships with low draft (up to 5.00 m of draft) and less long, up to 140 m, under criteria of the Ship's Captain – these ships can berth with falling tide. At pier 2 (south), berthing must only be made by BE.

Currently, berthing with tide running downstream at pier 1 are not being performed, since turning at the maneuver area, under this condition, is more critical during the departure.

The area southwest from the Barra island, marked on the chart by a line limiting the area of hydroplane alighting on the water, is targeted to landing and taking off of hydroplanes.

Winds are usually moderate and visibility is good, except during the frequent Ecuatorial rainstorms, which can be preceded by strong winds, when visibility can be dramatically reduced.

The tide has a semi-daytime nature, being strongly influenced by wind and rain, with maximum amplitude of 3.7 m and current of up to 3.5 knots, which lasts for up to two hours after tide reversal. The average level heights over the chart reduction level are: 2.75 m in Salinópolis, 2.26 m in Colares, 1.84 m in Mosqueiro, and 1.80m in Belém.

At the Espadarte channel, the tide current speed can reach 3.5 knots, at syzygy tide.

In the Belém port dock, the flood and falling currents push the ship to the dock and can reach up to 3.5 knots, continuing for two hours at flood tide.

For ships longer than 180 m, the channel known as "Tatuoca Channel" must be used, that is, the channel limited at north by the "Middle Bank", maximum recommended draft of 6.00 m at flood tide, thus avoiding turning at the maneuver basin.

It is a critical maneuver, and the prior agreement from pilotage is mandatory.

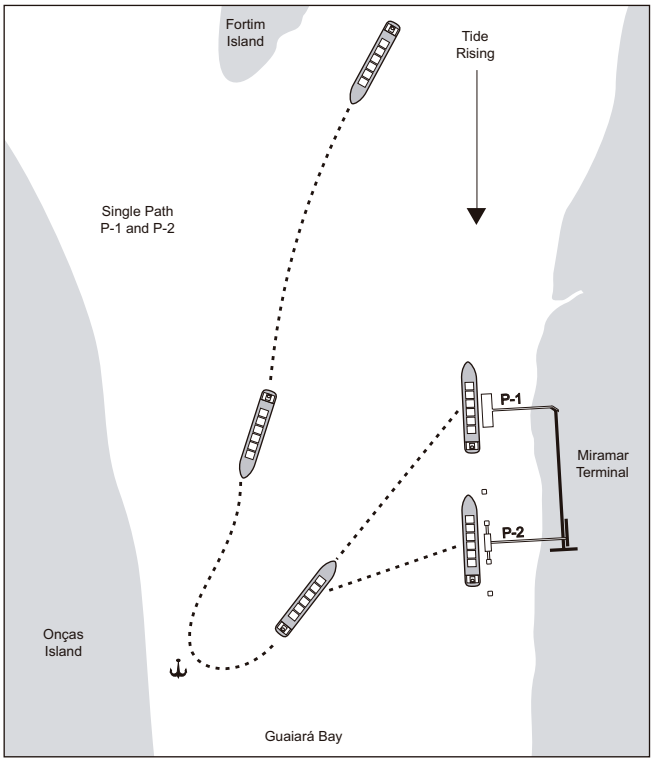
At the Miramar terminal, the speed at the bottom of the access channel shall not be superior to 8 knots. When approaching for berthing, the speed must be 4 knots.

For detailed information on the tide currents between Salinópolis and Belém, please refer to the publication from DHN 'Cartas de Correntes de Maré – Rio Pará – De Salinópolis a Belém, DG 10-I'.

5.4 Maneuver Areas

The terminal has a large maneuver bay, which is 500 m long, 500 m wide, its water depth is between 5 and 6.5 m, plus the tide amplitude, whose average is 3.0 m per year, with annual silting up of 400,000 m^3, completely signaled with signal buoys and lights under control of the Technical Council of the Brazilian Navy's Directorate of Hydrography and Navigation (DNH).

The maneuver recommended by Harbor Master for ships approaching the Belém port is to enter with the tide upstream, turn in the maneuver basin and berth by BE, releasing the Port Side anchor.



5.4.1 Navigational and berthing aids

Signaling the port entrance there is the "Tatuoca" buoy, located at Lat 01º 11, 22' S and Long 048º 29, 50' W.

The ship must turn in the area in front of the Miramar terminal to start berthing, and a towing service is not required at the Miramar terminal for helping ships during berthing.

The berthing equipment to be used is from the ship and the terminal, with labor from the port. The berthing maneuver is entirely made with help from the pilot.

5.4.2 Controlling the depths

According to rules and procedures from the Harbor Master of Western Amazon, the maximum draft recommended at the Miramar Terminal will be limited, as well as in the Belém port, by the depth on the Tapanã Bar, of 7.92 m (26.0 feet) in both piers.

5.4.3 Maximum dimensions

At pier 1, only ships with maximum size of 15,000 DWT and 140 m of length can berth, and at pier 2 only ships with maximum size of 45,000 DWT and 210 m of length can berth. There are no restrictions concerning the ship beam for both piers.

5.5 Environmental Factors

Since it is located at the Tropic of Capricorn, the region's weather is Tropical. The average annual temperature is higher than 26°C, and the average temperature in the coldest month is higher than 18°C. The relative air humidity is high, usually above 85% in the first hours of the afternoon.

Main Weather Information on the Belém Port

Average temperature	25.7 °C
Atmospheric pressure	1,009.5 mb
Relative humidity	84.2 %
Rainfall	2,800 mm
Average height of waters (syzygy), flood tide	3.22 m
Average height of waters (syzygy), low tide	2.42 m
Maximum flood tide height (18.03.80)	+ 4.21 m
Minimum low tide height (16.07.20)	- 0.37 m

5.5.1 Prevailing winds

The NE winds prevail.

In the coastal maritime region near the Amazon River mouth, "general winds" prevail during the dry season, from June to December. In July and August, the wind speed reaches 13 to 18 knots, and in the other months, 25 to 31 knots.

These gusts of wind, sometimes very strong, are known as "marajós". These winds may occur throughout the year and come from Northeast. They blow more frequently in the afternoon. In wider areas of the river, especially in the Marajó and Marapatá bays, the fresh northeast winds ripple the waters, with danger for small vessels.

5.5.2 Waves

There are no records of waves capable of affecting the ship berthing, unberthing and operating maneuvers.

5.5.3 Rainfall

There is constant rain in the region during the winter. The period with greater concentration of rain goes from December to April, considered in the region as winter, and the maximum rainfall is of 390 mm/month, related to April. In the summer, from June to September, the rainfall level drops to the minimum of 48 mm/month, in September.

5.5.4 Lightning storms

With few occurrences, however more frequent during the rainy period, which goes from December to April.

5.5.5 Visibility

Usually considered good to excellent, it can be dramatically reduced in the rainy period, from December to April, when usually there is also an average of 2 days of fog per month.

We have no records of operations that have been affected by limited visibility.

5.5.6 Tidal currents and other currents

At the Miramar terminal, the speed at the bottom of the access channel shall not be superior to 8 knots. When approaching for berthing, the speed must be 4 knots.

At the Espadarte channel, the tide current speed can reach 3.5 knots, at syzygy tide.

In the Belém port dock, the flood and falling currents push the ship to the dock and can reach up to 3.5 knots, continuing for two hours at flood tide.

For detailed information on the tide currents between Salinópolis and Belém, please refer to the publication from DHN 'Cartas de Correntes de Maré – Rio Pará – De Salinópolis a Belém, DG 10-I'.

5.5.7 Rise and fall of water levels

The tide has a semi-daytime nature, being strongly influenced by wind and rain, with maximum amplitude of 3.7 m and current of up to 3.5 knots, which lasts for up to two hours after tide climax. The average level heights over the chart reduction level are: 2.75 m in Salinópolis, 2.26 m in Colares, 1.84 m in Mosqueiro, and 1.80m in Belém.

5.5.8 Measurements

There is no information about weather and water level available for the vessel approaching for berthing. These measurements are not made at the Miramar terminal.

6

Description of the Terminal

6.1 General Description

Belonging to CDP – Companhia Docas do Pará, the Miramar terminal is an extension of the organized port of Belém and is located at the right bank of the Guajará bay, 5 km away from the Belém port and 120 km away from the Atlantic Ocean, in the north/south direction, bordered on the left by the Onças island, which is 19 km long, and other similar areas in front of the Pará river, with three large channel mouths. The waterway access is through the Oriental channel, the same that enables ships to enter the Belém port. The terrestrial access is made via highway Arthur Bernardes, interconnecting with the Brazilian road system through highway BR 316.

The Miramar terminal has the purpose of receiving and distributing oil by-products to the State of Pará. It is also a base for storing products for distribution. It does not produce, only receives, including bunker for ships. Therefore, it is a terminal that receives by-products via long run and cabotage, and also distributes regionally through river navigation by ferryboat and bunkers by ferryboats and berthing.

The Miramar terminal has an annual movement of approximately 141 ships and 793 ferryboats.

The terminal has two parallel piers, and pier 2 is more upstream.

6.2 Physical Details of the Berths

The vessel docking at pier 1 is at the platform with dimensions 80 x 20 m, connected to the continent by an 142 m long platform, with structure in reinforced concrete and metallic profiles. The docking platform of Pier 2 measures 40 m x 15 m, and has 4 dolphins, two for the spring lines and two for the lines. It has an 180 meter long platform and the Pier structure is made of reinforced concrete.

Each pier at the Terminal allows berthing only one ship at a time, and in pier 2 it is permitted to berth a ferryboat on the internal side for simultaneous operations with the ships. Pier 1 (North) operates only liquid bulks – oil by-products and LPG, enabling the berthing of ships with maximum 15,000 DWT and up to 140 m of length. Pier 2 (South) also operates only liquid bulks – Oil By-products and LPG, enabling the berthing of ships with maximum 45,000 DWT and up to 210 m of length. There are no restrictions concerning the ship beam for both piers.

The table below presents the features of the terminal mooring berths:

Miramar Terminal

Berth Number	Type	Berth Length (meters)	Depth (meters)	Tide (meters)		Beam (max.)	Vessel Length (meters)	Products Moved	Displacement (max.)
				Syzygy	Dry				
1	Pier	76.3	7.92	3.22	2.42	No restrictions	140	By-products, bunker and LPG	4 knots
2	Pier	40	7.92	3.22	2.42	No restrictions	210	By-products, bunker and LPG	4 knots

6.3 Berthing and Mooring Arrangements

Berth Number	Requires Pilot for Maneuvering?	DWT (max.)	Approaching		Mooring Points		Mooring Lines		
			Speed (max.)	Angle (max.)	Bollards	Hooks	Line	Breast Line	Spring
1	Yes	15,000	4	45°	8	–	3	2	2
2	Yes	45,000	4	45°	8	–	4	2	2

6.4 Berth features for Loading, Discharging and Bunker

The tables below indicate the products moved, hoses available, flange details, temperature limits, maximum flow rates and pressures for loading/discharging.

Notes:

a) The values presented below are merely for information purposes and are based on historical maximum values. It is necessary to define the operational conditions (hoses, board manifolds, number of lines, number of pumps, pressure, flow rate and temperature) during the initial ship release.

b) The loading/discharging hose positioning is presented in Appendix C (Distribution of loading/discharging manifolds at every berth).

Berth No.	Products	Hose (diameter)	Class (pounds/ inch)	Receive or Send	Temperature		Max. Flow (m^3/h)	Max. Pressure (kgf/cm^2)
					Min. (°C)	Max. (°C)		
1	Diesel	8"	150	R	Amb.	Amb.	900	7
	Gasoline	8"	150	R/E	Amb.	Amb.	450	7
	Bunker MGO/Mixture	4"	150	E/R	Amb.	90	450	7
	Bunker Ferryboat	6"	150	E/R	Amb.	90	450	7
	LPG	6"	300	R	5	45	500	18
2	Diesel	8"	150	R	Amb.	Amb.	900	7
	Diesel	6"	150	E	Amb.	Amb.	450	5
	Gasoline	8"	150	R	Amb.	Amb.	900	7
	Gasoline	6"	150	E	Amb.	Amb.	450	5
	Alcohol	8"	150	R	Amb.	Amb.	900	7
	Alcohol	8"	150	E	Amb.	Amb.	450	7
	QAV	8"	150	R	Amb.	Amb.	900	7
	GAV	8"	150	R	Amb.	Amb.	900	7
	Bunker MGO/Mixture	4"	150	E	Amb.	90	450	7
	Bunker Ferryboat	6"	150	E/R	Amb.	90	450	7
	MF-380	8"	150	R	Amb.	90	900	7

6.5 Management and Control

The maneuvers for berthing and unberthing ships at the Belém Terminal shall always be performed with the participation of a qualified Pilot. The ship turning maneuvers for berthing shall occur within the evolution basin limits. The ship must turn in front of the Miramar terminal, and in this terminal the towing service is not required for helping ships during berthing.

The berthing equipment to be used is from the ship and the terminal, with labor from the port.

All the maneuvers are tracked and recorded by the shift supervisor via mobile cameras on a closed TV circuit.

During berthing, an operational Safety Inspector (Giaont), an operational assistant and a foreman from the port remain on the pier, in a position to evaluate the maneuver and direct the positioning of the ship in relation to the shore manifolds. A team of moorers is available for placing the mooring lines at the bollards, and two teams in two boats are available for placing the ropes at the dolphin bollards.

An operational assistant responsible for tracking the operation, exchanging information with the ship and monitoring the ship's berthing and position remains at the piers during the operations. This assistant has VHF radio for simultaneous communication with the ship and control room.

6.6 Major Risks

→ The passage of a large size ship, heading for or leaving the Belém Port, in front of the terminal and with no machine reduction, causing strong breakers, throwing the ship against the pier, and possibly causing the rupture of mooring lines and product discharge hoses;

→ Friction between the hoses used for product discharge and the pier's concrete floor during the operations, due to oscillations in the river level caused with the tide, which may eventually lead to trapping and consequent rupture;

→ Strong winds, however not very frequent, are a potential risk, and they may distance the ship from the pier, breaking ropes and product discharge operation hoses;

→ Increase of stream due to the so-called 'moon tides', causing greater tensions to the mooring lines, especially the bow and stern lines.

7

Procedures

During the ship laytime at the port, various steps are taken to make it possible to operate safely and manage the risks, in order to minimize them. At every stage, as described in the sub-items below, measures are taken so as to facilitate the operations and plan them adequately.

7.1 Before Arrival

When the ship is berthing, and the Operation Safety Inspector (Giaont) has carried out his inspection based on the Isgott Safety Checklist, the ship will not be authorized to start its operation at the terminal if there are pending items still not solved by the crew.

Onboard repairs and cargo tank washing must be carried out in the anchorage area. It is forbidden by the port authority, CDP, to clean tanks with the ship berthed.

The ships heading for the TA-Belém facilities must indicate the estimated time of arrival (ETA) 72 and 48 hours in advance, directly to the respective Agent. Change to or confirmation of the ship's arrival shall be communicated at least 24 hours in advance.

7.2 Arrival

The Port control of the Miramar terminal is responsibility of Companhias Docas do Pará – CDP, and this control is performed via VHF radio communication on channel 16, with one central and three mobile units.

Bunkering requests must be forwarded to UN-Bunker via its Agent, who, on his turn, forwards them to the terminal. The request for water is made via Agent to the Port Authority, in this case, CDP, since the port provides potable water. The supply of water can be made in both piers, with a 2 1/2" hose and without using pump. The supply is made by difference of level, at a flow of 8 m^3/h. Bunkers can also be made in both piers, with 4" hoses, and in pier 2, a 8" hose can be used to bunker MF (marine fuel) – in this case, it depends on the conditions of the ship's onboard manifolds. The maximum supply pressure is of 7.0 kgf/cm^2. TA-Belém has conditions of bunkering, in addition to MGO, mixtures of MF-30 to MF-380, for all ships berthed at piers 1 and 2.

Information from the terminal to the ship is forwarded by the agency when requested by the ship or when it is the first time the ship comes to the terminal, and the information from the ship to the terminal is described on Appendix "D".

7.2.1 Telephone number from authorities

Federal Environmental Organ Ibama
Phone: (55 91) 3224-5899
Fax: (55 91) 3223-1299

Federal Police – Belém Port Immigration Department
Phone: (55 91) 3216-2096 / 3242-4331 / 3241-8000

IRS Service – Belém Port Customs
Phone: (55 91) 3218-3522 / 3218-3209

Fire Department
Phone: (55 91) 3244-0092 / 3257-2265

Naval Base of Val-de Cães – Extra Repair Navy Department
Phone: (55 91) 3216-4326
Fax: (55 91) 3216-4254

Port Health – Sanitary inspection
Phone: (55 91) 3222-6079

Pilotage Association of Barra do Pará
Phone: (55 91) 3241-4360 / 3241-1703
Fax: (55 91) 3241-4372
Call – 24 h: 4006-6550

União dos Práticos da Bacia Amazônica Oriental Ltda
(55 91) 3241-4191 / 3242-8435

CDP – Companhia Docas do Pará – Port Authority
Phone: (55 91) 3257-0808
Fax: (55 91) 3257-1900

CDA – Environment Defense Center
Phone: (55 91) 3211-6759
Fax: 3211-6760

Serviço de Sinalização Náutica do Norte (4th Naval District) – SSN4
Phone: (55 91) 3257-2160

INFRAERO – Information – Val-de-Cães International Airport
Phone: (55 91) 3257-0962 / 3210-6039

Military and Civil Police (Ciope)
Phone: 190

Municipal Emergency Hospital Services
Phone: (55 91) 3241-0928

7.3 Berthing

The mooring lines must be looked after constantly so that the ship always remains berthed.

All the lines must be kept under adequate tension during the operation, and winches with their brakes on. Using automatic tensioning winches is not permitted.

All the mooring lines must be of same type, gauge and material (fiber or wire); mixing mooring lines are not permitted. Mixed mooring lines are those in which the lines performing the same function are of 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 must be set up in the most parallel position possible to the longitudinal axis of the ship.

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

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

Emergency towing ropes shall be left hanging down to the waterline, from the bow and quarter of the opposite side to the berthing side, and are fast to the onboard bollards, with the rope hands on the waterline height during the entire operation.

The maximum stress applied to the ropes shall be of 55% of its breaking limit.

The approaching, berthing and unberthing maneuvers must be performed on low speed, always against the current.

One must be careful when passing the mooring lines from the ship stern to the mooring boats, so as to prevent accidents with the ship and the mooring vessel propellers.

The use of automatic stress winch is not permitted.

The mooring recommended take into account that the ship ropes and winches are well preserved

If the ship does not have a sufficient number of cables or has cables and winches in poor conservation state, or the crew is not in condition to keep the mooring as recommended, additional measures will be adopted by the terminal directors, such as:

a) Do not start operations;
b) Stop the operation, if it has already started;
c) Unberth the ship, in last case.

While berthed, the ships must keep the machines in "stand-by", ready for startup.

CDP has personnel available and qualified for handling the ships' mooring lines, in berthing and unberthing maneuvers. The entire work necessary during berthing, cargo transfer and unberthing, hatch opening and closing and deck cleaning must be performed by the ship crew.

Every ship heading for the TA-Belém must be qualified to carry out the mooring below. The safety of the mooring is the responsibility of the Ship's Captain and will be evaluated by a qualified safety inspector. The TA-Belém may veto or interrupt an operation where the ship mooring is considered unsatisfactory. The minimum mooring configuration is shown below:

Pier	Lines		Breast Line		Springs	
	Bow	Stern	Bow	Stern	Bow	Stern
1	3	3	2	2	2	2
2	4	4	2	2	2	2

Note: The ships berthing at bridge 2 are usually above 30,000 DWT, therefore they comply with the configuration above; when they are below 30,000 DWT, consider the same configuration adopted for pier 1.

The piers at the TA-Belém do not provide telescopic ladders for accessing the ships berthed. All the ships must provide safe access for embarking and disembarking personnel, and the wharf ladders and ladders must always be ready for lowering. When using wharf ladder, there must be space for free strolling, and such wharf ladder must have a

protective net. Life buoys with guide rope must be available in the proximity of the access means. The gangway ladder or wharf ladder on the ship must be used when necessary.

The access to shore using the terminal facilities is subject to rules from CDP – Companhia Docas do Pará, which is the Port Authority; therefore, the crew members can disembark, provided that the formalities are fulfilled. A request must be made by the agent and each crew member who disembarks must have its Application book and valid Passport. If the crew member does not return to the ship, he must present an air ticket, proving that he will leave the country on an airplane.

7.4 Before Transferring the Cargo

All Terminal connections that interface with the ships are provided with Electric Insulation Joint (JIE), and in all hose lines the hoses adopted are electrically continuous. The Port has earth strap application along the hose area.

The resources necessary to connection are established on the first contact between the ship and the terminal. The ship must have manifolds and install load reductions and connections so as to enable coupling the hoses. The terminal does not have loading arms – Cranes are used at Pier 2 and only hoses are used at Pier 1. The Port personnel connects and disconnects the hoses and earth straps, aided by the onboard personnel, who handles the winches and derrick, when necessary. After connecting the loading hoses, they will be tested for tightness, using the static terminal column pressure for this purpose. One on-board representative must accompany the entire operation, and must be near the ship's load manifold. It is compulsory for all the connected hoses to have supports, especially those connected to the reductions.

The personnel from CDP is responsible for the necessary adjustments to the hoses, to relieve tensions that might occur, due to the variation in the water level with the tide

The ship is responsible for monitoring the onboard manifolds that received the hose connections, observing any type of abnormality and/or leaks.

The onboard measurements and calculations will be carried out by the ship's personnel and inspected by the terminal representatives or other inspectors. The material used must be properly grounded, with the purpose of preventing ignition due to spark from static electricity, and the measurement instruments must be explosion-proof. Whenever possible, a ship must be inspected without the need for entering the tanks. If the cargo requires the internal tank inspection, all safety precautions inherent to entering confined spaces shall be taken. In this case, the ship must leave its tanks degassed after the discharge ends and in the "free for man" condition. If the TA-Belém or the Inspector rejects the tanks inspected, the delay will be debited to the ship.

Aiming at reducing the ship laytime at the port, whenever possible the samples will be taken by the terminal personnel with the ship still berthed.

The operation only starts after the Initial Chart is filled out, during the Initial Release, by the shore and onboard representatives, as per information in Appendix "E". Such procedure aims at establishing an agreement between terminal and ship that may ensure the minimum safety conditions for starting cargo transfer.

The Ship/Shore Safety Checklist. (Appendix A of Isgott) is checked and filled out by Safety Inspector (Giaont) during the initial release of the ship.

It is forbidden to carry out steam cleaning or to clean boiler piping while the ship is berthed. Precautions for preventing the escape of sparks through the smokestack must be taken. The non-compliance with this regulation will cause one or more of the sanctions below: immediate interruption of operations; fine applied by the relevant authorities; compulsory ship unberthing from the pier; notification of the infraction to the ship owners; responsibility of the ship for the fines, demurrage and all other correlate expenses resulting from this fact.

The prohibition of non-authorized small boats remaining alongside or near berthed ships shall be strictly observed. Only the terminal service vessels or the vessels authorized can be in the vicinities or side by side, provided that they meet all safety conditions. The violation of this rule shall be communicated to the competent authority.

The berthed ships should not run their propeller(s) while connected to the discharge and/or bunkering hoses. The jacking gear may be used, once the terminal operator has been duly notified, however, the propeller must be turned slowly in order to ensure absolute safety. Ships will be held responsible for any damages resulting from these procedures.

7.5 Cargo Transfer

The pressures will be monitored during cargo transfer and recorded by the representatives aboard and onshore at the ship's manifold every hour. The terminal controls the internal pressure variables, and the flow rates are checked in real time, via the supervision system available in the control room. Since some diesel, gasoline, GAV and QAV lines do not have Mass balance or flow meters, in this case the terminal flows will be calculated from receiving or dispatching tanks. The operation flows, measured on the ship and on the terminal, and the total volume moved are checked on an hourly basis and compared between the parties in 15 minutes at the most, having a limit parameter for operational control, according to the system used. Any changes in the operating conditions must be communicated and documented between the parties.

It is expressly forbidden to close valves that may cause counterpressure in the system during the operation.

The LPG ships can berth both at pier 1 and 2, preferably berthing at pier 1, leaving pier 2 free for ships with deadweight tonnage above 30,000 DWT. The terminal has a vapor

return line for pressurized ships, which may or may not be used depending on the transfer operations to LPG distributor companies.

Ballast and deballast pipes 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 sea or river water.

TA-Belém does not receive SLOP from ship.

The COW operation is not performed, because the terminal is characterized for being only for discharge of light by-products.

No repairs or maintenance work involving a risk of sparks or other forms of ignition may be carried out 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 the laytime, must have prior authorization from the TA-Belém and by the port authority of the Miramar terminal, CDP.

The intermediate inspections, according to Appendix "A" of the "Isgott", will be performed by Safety Inspector (Giaont) during the ship operation every 6 hours.

Interrupting the ship loading and discharging must be requested via radio or other communication mean whenever there is a situation that may offer danger, whether to the ship or the terminal. The operations must also 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 the operations ashore are not safe, provided he notifies the pier operators in advance.

In any emergency situation, the TA-Belém interrupts the on-going operations 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 Emergency Plan and the key telephones are listed in section 9.

7.6 Cargo Measurement and Documentation

When the operation is finished, the draining of the hoses used must commence. The terminal operators will arrange for the used hoses to be drained to a closed system on the pier. The representative from the ship must arrange for draining the board stretch, according to the Operation Manual of the TA-Belém, item 11.1, paragraph "a", which states that, before the connection and soon after the operation with the ship ends, the operational assistant supports the CDP team for draining the hoses to the sump-tank installed at the Pier. After completely draining the hoses, the operational assistant will conduce maneuvers for emptying the

sump-tank, and this operation is monitored and assisted by the Terminal's control room.

Finally, the operational assistant must make sure that all manifolds involved in the operation are properly insulated and sealed, and that the hoses used in the operation have their free end properly sealed with blank flange at the end.

The operational assistant will deliver the entire operation tracking documentation to the Operator from Transpetro.

The final onboard measurements will be made by the ship personnel and tracked by representatives from the terminal and other inspectors. When there is imported cargo, the representative from Customs Service will also be present. The material used must be duly grounded, and the measuring instruments must be explosion-proof. The Final ship Release will occur after comparing the quantities moved and after complementing laytime documentation. The documents involved in the Final ship release comply with the standard from SISCOPE, in which all times recorded by the ship and terminal shall be compared for further acceptance by the parties involved, through signature and stamp on the "TIME-SHEET" form. When there is reminiscent on board, the RMQB – Relatório de Medição e Quantidades a Bordo (Measurement and Quantities Onboard Report) must be filled out, signed and stamped by both parties involved; otherwise, the ship shall issue the Certificate of inspection, in which both parties sign agreeing that the ship tanks were inspected and are empty.

7.7 Unberthing and Leaving the Port

During the unberthing and maneuvers for leaving port, the channel limits and hazards, listed in section 5.3 and its sub-items, must be observed. The presence of a pilot in the unberthing and port departure maneuvers is mandatory.

Usually, the pilot disembarks at the same point where he embarked for entering the port, where a Pilotage boat from the port will be waiting for him.

7.8 Compliance with the ISPS Code

The Belém Terminal has implemented corporate safety protection measures applicable to ships and port facilities, in compliance with the requirements of the International Maritime Organization (IMO), and by adopting the ISPS – International Ships and Port Facilities code.

When required, these protection measures may be taken by the ship, via the Port Facility Security Officer (PFSO), or VHF radio, channel 16.

The Terminal usually operates at safety level 01.

For more details, the Port Facility Security Officer, who is qualified according to the requirements stipulated by the IMO, may be contacted.

8

Port and Anchorage Area Organization

8.1 Port Control or VTS

There is no resource deployed for Port control at the Belém port and the Miramar terminal, where the TA-Belém is located.

The contact with the port authority at the Miramar terminal is made through communication via VHF radio channel 16 or telephone – number (55 91) 3257-0808 –, directly with the port supervisor or the mobile unit, via VHF radio channel 9.

8.2 Maritime Authority

The Maritime Authority to which the Terminal is subordinated is the Eastern Amazon Harbor Master.

The ships coming from areas considered endemic will be visited by Sanitary Inspection in the anchorage area, before berthing. On other situations, the ships will be visited, when they are berthed, by Port Health, Customs Service – when there is imported cargo – and Federal Police – in case of foreign ship.

The limit of the Belém Port, in which there is the Miramar terminal where the TA-Belém facilities are, goes from the south end of the Mercado do Ver-o-Peso to the southwest end of the Caratateua island, according to Decree number 5230, of October 5th, 2004.

The Maritime Authority is responsible for deciding what actions to take, and for penalizing those responsible for any incident within the port limits.

8.3 Pilotage

Pilotage is mandatory in all ports and terminals for oil tankers, propane carriers and ships transporting explosive cargo with gross tonnage superior to 2000 in the entire area of the Amazon basin, comprised of all its waterways and ports, encompassing the tributary and confluent rivers of the Amazon and Solimões rivers in the Brazilian territory.

It is mandatory for foreign ships with any gross tonnage and for oil tankers, ships transporting hazardous chemical products in bulks, and ships transporting liquefied gases in bulks, provided that they are loaded or discharged but not degassed, with Brazilian flag and gross tonnage superior to 2000.

Pilotage organization that offers pilots for this Port zone:

→ **Barra Pilotage**

In all situations, the Pilotage service is called into action by the ship's agent. In case of emergencies, and depending on the availability, the Pilot will embark on the ship at the earliest opportunity.

8.4 Tugs and other Maritime Services

There is no help from tugs at the Miramar Terminal, and its use is not described by the Normas e Procedimentos da Capitania dos Portos da Amazônia Oriental – NPCP -2003.

TA-Belém does not have a boat service. The agent must see to such service through service providing companies in the port.

Please find below a list of some vessels that provide line mooring services and crew transport at the port, as well as the vessels' characteristics:

Mooring and Crew Transport Services

Own	Name	Length (m)	Shafts	Power (HP)	Static Traction	Approved by Transpetro	Note
Amarena	Amarena II	9	1	130	*	Yes	Passenger and cargo transport
Amarena	Amarena III	10	1	130	*	Yes	Passenger and cargo transport

coninue

Own	Name	Length (m)	Shafts	Power (HP)	Static Traction	Approved by Transpetro	Note
Amarena	Celebrate	14	1	155	*	Yes	Passenger and cargo transport
Amarena	Novilho	10	1	103	*	Yes	Passenger and cargo transport
Amarena	Zenith	11	1	155	*	Yes	Passenger and cargo transport

* Information not disclosed by the company.

Shipyard for Repairing deck and machines of all types:

Repair Services in Ships – Deck and Machines

Name	Address	Telephone
Naval Base of Val-de-Cães Extra Repair Navy Department	Naval Base of Val-de-Cães Rodovia Arthur Bernardes s/n, Belém– PA– Brazil	(55 91)3216-4326

8.5 Other Oil Terminals

The Sotave Terminal is located at Barreiras island (Caratateua island), District of Icoaraci, in the city of Belém, State of Pará, near the south end of the Santo Antônio bay, in front of Jutuba island, approximately 15 and 20 km away from the north of the Miramar terminal and from Belém, respectively.

The Sotave Terminal geographic coordinates are:

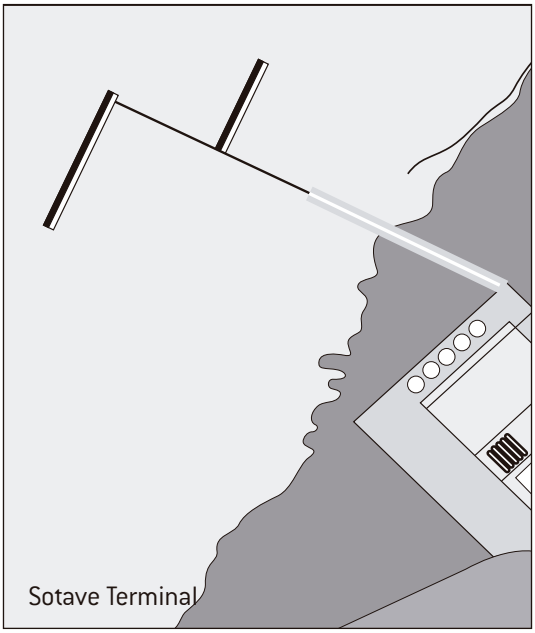
→ **Datum: WGS-84** **Terminal**

Latitude S 01º 16' 29,20"
Longitude W 048º 29' 00,27"

It was built by the company Sotave S/A to work as an import and export port for solid bulks, having been adapted by Petrobras/Transpetro for operations of oil by-product transshipment between ships and barges.

At the moment, the Sotave Terminal is operating only with wood export, with monthly movement of approximately 2 ships.

The river access to the Sotave Terminal is the same for the Belém port and the Miramar Terminal, via Mosqueiro Channel, where the minimum depths registered are around 10.7 m,



as it can be seen on Nautical Chart DHN number 316, with 7.8 to 9.0 m and 6.7 m depths in some points. The depths in front of the ship berth at the Terminal pier II, as seen on the nautical chart, are superior to 12.0 m to 13.0 m, in parallel range of 2.0 km of extension by approximately 1 km of width.

The road access is via Municipal highway BL-010, approximately 38 km away from the Belém port.

8.6 Other Key Users

The Miramar terminal only operates liquid bulks – oil by-products and LPG.

In addition to Transpetro, the Miramar terminal is used by by-product distribution companies that supply the entire State of Pará and part of the State of Amazonas by ferryboat. Nearly 100% of the ships that discharge products in the Miramar terminal are at service of Transpetro and are operated by the TA-Belém. Approximately 141 ships and 730 ferryboats operate at the Miramar terminal per year, and most of the ferryboats are at service of the distributor companies BR, Shell and Texaco.

9

EMERGENCY PLAN

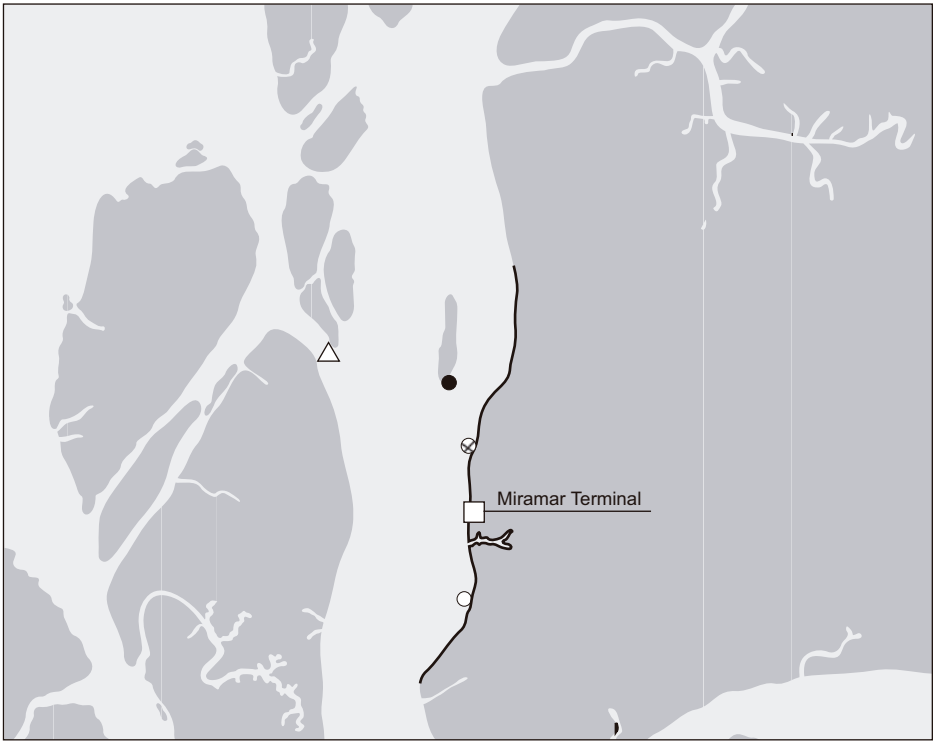
9.1 Emergency Contacts

The table below indicates the essential contacts, with telephone number, fax number, and radio channels/frequencies.

Organization	Operation times	Identification acronym	Telephone (55 91)	Fax (55 91)	Cellular (55 91)	VHF/UHF Call
Harbor Master of the Eastern Amazon	24 hours	CPAOR	3223-3363	3224-7690	–	16
Port Control	24 hours	CDP	3257-0808	3257-1693	–	16
Pilot Association	24 hours	–	4006-6550	3241-4372	9994-1166	6 / 11
Pier 1 operator watchtower	When in operation	P-1	3211-6750	–	–	9
Pier 2 operator watchtower	When in operation	P-2	3211-6781	–	–	9
Control Room	24 hours	–	3211-6725	–	–	16 / 9
Maintenance /Supervision	8 am to 5 pm	–	3211- 6743	–	9995-0530	9
Maintenance/-Supervision	24 hours	TA–Belém	3211-6743	–	9995-0530	–
Fire Department Miramar	24 hours	1º GBS	3257-2265	3257-7200	8119-6609	–
State Civil Defense	24 hours	–	190	3257-7400	–	–
Medical Department	8 am to 5 pm	–	3213-3243	3213-3257	9162-2650	–
Sectam	8 am to 5 pm	–	3276-5100	3276-8564	9985-1124	–
Ibama	8 am to 5 pm	Ibama	3224-5899	3223-1299	–	–
Belém City Hall – Mayor's Office	8 am to 5 pm	PMB	3222-3678	3224-6128	–	–

9.2 Environmentally Sensitive Areas

The map below displays the region of the Belém Port with the coast sensitivity areas near the Miramar Terminal.



Noticeable points
Beaches, islands
Marines
Water intakes
Rivers, bays
Mangroves
Pastures and farms

9.3 General Description of the Organization for Combating Emergencies

Please find below a table with a list of the Organizations responsible for handling any emergencies that involve vessels approaching the Terminal.

Incidents within the Area of Belém Port/Miramar Terminal

Incident Type	Organization in Charge	Other Organizations Involved			
Collision in the channel	Harbor Master	Civil Defense	Transpetro	–	–
Vessel running aground	Harbor Master	Civil Defense	Transpetro	–	–
Collision at the berth	Harbor Master	Transpetro	Civil Defense	–	–
Vessel sinking	Harbor Master	Civil Defense	Fire Department	Transpetro	–
Fire onboard	Ship	Transpetro	Fire Department	Civil Defense	Harbor Master
Fire at the berth	Transpetro	Fire Department	Civil Defense	Harbor Master	–
Pollution	Transpetro or ship	Harbor Master	IAP	Ibama	–

9.4 Contingency Plans

The Local Contingency Plan (LCP) is the TA-Belém plan for controlling and extinguishing emergency situations at all its facilities. It is available in all operational areas, on boards located in the operation maintenance rooms and administrative building entrances. The local SMS (health, environment and safety activity) is responsible for its updating.

A minimum number of crew members capable of executing safely the loading and discharging operations and of acting in case of emergencies, including unberthing the ship if necessary, must be kept onboard of the ship.

Berthed ships must maintain their emergency towlines 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 fire fighting 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 taken to avoid polluting the seawater with oil.

At TA-Belém there is the Environmental Defense Center (CDA) from Petrobras, which has modern equipment and various facilities for use in accidental pollution. Periodically, intensive training sessions are carried out so as to prepare the terminal employees to act in compliance with the LCP. Located at a strategic point, in the CDP facilities, it can be ready for action to combat emergencies. Floating booms, oil collectors and other equipment and materials necessary to works are stored in its shed. Service vessels, support vessels, tankers and oil collection vessels remain berthed at the pier, in a permanent state of readiness.

The group of help in accidents (helpers) will be responsible for helping people injured in accidents at TA-Belém. This group applies the first aid procedures in employees who are involved in accidents with injuries.

The rescue to help people injured in accidents will be made via car up to the Belém Port, where there is the Fire Department of the Miramar terminal, and then an ambulance from the Fire Department will be called, and will take the injured person to the closest first aid facility.

9.5 Public Resources for Combating Emergencies

At the Belém port, only Transpetro, via TA-Belém, has resources that can be used to mitigate river pollution events. For other emergencies, the public organizations offer resources according to what they are destined to.

9.5.1 Port Administrator

CDP – Companhia Docas do Pará has at pier 2 a motor-pump system with two fire-fighting pumps, and, at each pier, CDP has one tank with foam-generator liquid (LGE), fire extinguishers of all types, independent mask and cleaning materials for small spills.

9.5.2 Maritime Authority

The Harbor Master of the Eastern Amazon has, in the Naval Base of Val-de-Cães, 9 boats and 1 pusher for fighting pollution in the river.

9.5.3 Local Emergency Services

The Fire Department, Civil Defense, Military Police, and medical services are called according to table in section 9.1.

9.5.4 State and National Combat Organizations

The following plans can be called, depending on the type of emergency, as established in the LCP/Belém:

→ **PCR** – Regional Contingency Plan, involving regional organs from Petrobras.
→ **PGR I** – Amazon Plan – Regional Contingency Plan that involves all Organs from Petrobras in the Amazon Region.

9.5.5 Mutual Support Plans

The institutions listed below are part of the PAM (Mutual Support Plan) of the Miramar terminal, and their resources are available as previously agreed upon in this plan:

→ Transpetro/TA-Belém
→ Fire Department of Pará
→ Companhia Docas do Pará – CDP
→ Environment Defense Center – CDA
→ Petróleo Sabbá S/A
→ Esso
→ BR – Distribuidora
→ Ipiranga
→ Texaco
→ Paragás
→ Liquigás
→ Minasgás
→ Harbor Master of the Eastern Amazon
→ Grupamento Naval do Norte
→ Military Police
→ State Civil Defense
→ Petro Amazon
→ Reicon Navegação
→ Transdourada Transportes
→ Rodopar
→ Transpal
→ Barra Pilotage

9.6 Combating Oil Spillage

The sub-items below describe the resources available for fighting against pollution at the areas adjacent to the terminal.

9.6.1 Combat capacity of the Terminal

The resources available at the terminal for combating oil spillage situations are listed in the LCP, which is available in all the administrative, operational and maintenance areas of TA-Belém.

9.6.2 Combat capacity of the environment agency

The State Secretariat of Science, Technology and Environment (Sectam) does not have resources for combating oil spillage in the sea.

9.6.3 Resources available from the Mutual Support Plans at Other Terminals

The resources available in other Transpetro terminals for fighting against pollution emergencies occurring at the terminal surroundings are listed in the LCP/Belém.

9.6.4 Tier-2 combat

Combat to significant pollution. In these events, regional Transpetro and Petrobras resources are requested. These resources, their readiness and how they are called into action are described in the LCP/Belém.

9.6.5 Tier-3 combat

Combat to major pollution. In these events, national Transpetro and Petrobras resources are requested. These resources, their readiness and how they are called into action are described in the LCP/Belém.

9.7 Combating a Large Scale Incident

The LCP at the TA-Belém lists the actions and the entities with responsibility for every expected type of event that may occur in its units, pipelines or vessels and that involve third parties. For events not foreseen in this document, Transpetro and Petrobras will provide all the national or international resources within their reach.

10

CONTACTS

10.1 Terminal

Location	Contact	Telephone (55 91)	Fax (55 91)	VHF/UHF Channels	
				Call	Conversation
Pier 1	Operator	3211-6750	–	9	6 or 9
Pier 2	Operator	3211-6781	–	9	6 or 9
Control Room	Operator	3211-6725	–	9	6 or 9
Supervision Room	Supervisor	3211-6703	–	9	6 or 9
Workshop	Supervisor	3211-6743	–	–	–
Coordination of TA–Belém	Coordinator	3211-6701	3211-6745	–	–
Security (SMS)	Safety Tech.	3211-6740	–	9	6 or 9
Gateway	Inspector	3211-6736	–	–	–
Port Administration – CDP	Supervisor	3257-0808	3257-1900	16	6 or 9
Secretariat of TA–Belém	Secretary	3211-6702	3211-6745	–	–

10.2 Port Services

Organization	Contact	Telephone (55 91)	Fax (55 91)	E-mail	VHF/UHF Channels	
					Call	Conversation
Harbor Master of AO	Official on duty	3242-7188	3242-7690	secom@cpaor.mar.mil.br	16	9, 12 and 14
Pilot Association	Agency	4006-6550	3241-4372	secretaria@pratbel.com.br	16	6 or 11
Port Authority	On call	3257-0808	3257-1900	kzan@cdp.com.br	16	9

10.3 Selected Navigation Agents and Suppliers

Company	Activity	Telephone (55 91)	Fax (55 91)	E-mail	VHF/UHF Channels	
					Call	Conversation
Transpetro	Agent	3213-3247	3213-3250	agbelem@petrobras.com.br	16	9
Naval Base of Val-de-Cães	Large-Scale Naval Repairs	3216-4326	3216-4254	bnvc@canal13.com.br	16	9
Amarena	Mooring and Crew Transport	3230-1860	3230-1860	amarenaportuarioltda@bol.com.br	16	9, 14 and 65
Expresso Mercantil	Agent	3212-4822	32234353	–	–	–
Wilson Sons	Agent	4009-0050	4009-0051	opebe@wilsonsons.com.br	–	–

10.4 Local authorities, State and National Agencies

The table in section 9.1 shows the list of these authorities and how to contact them.

10.5 Organizations for Combating Emergencies

The organizations available at the port for combating emergencies are listed in section 9.1.

10.6 Bibliography and Reference Sources

Normas e Procedimentos da Capitania dos Portos da Amazônia Oriental – NPCP -2003.

Route North Coast. Diretoria de Hidrografia e Navegação. Brazilian Navy.

International Safety Guide for Oil Tankers and Terminals – Isgott. 4th edition, 1996, translated and revised by the 1st NO José Vieira Nascimento.

Dicionário de Comércio Marítimo. Author: Wesley O. Collyer.

Website of Companhia Docas do Pará – **www.cdp.com.br** .

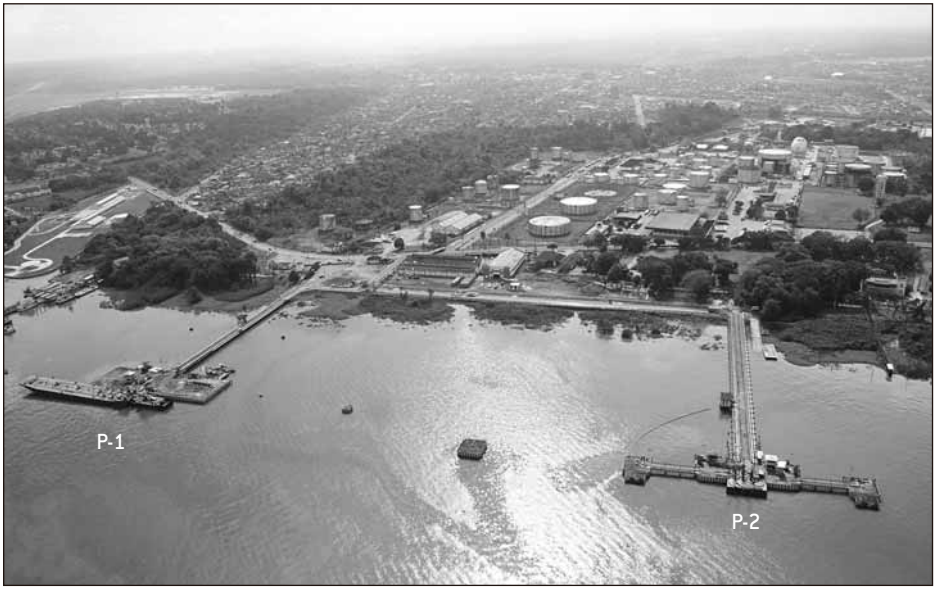
Website of Capitania dos Portos da Amazônia Oriental – **www.cpaor.mar.mil.br** .

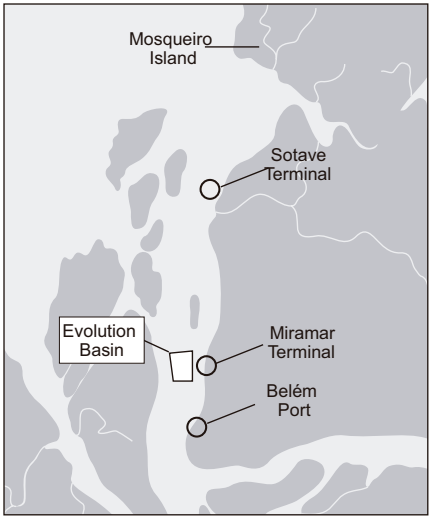
LCP/Belém.

Safety Inspectors (Giaont) from TA-Belém.

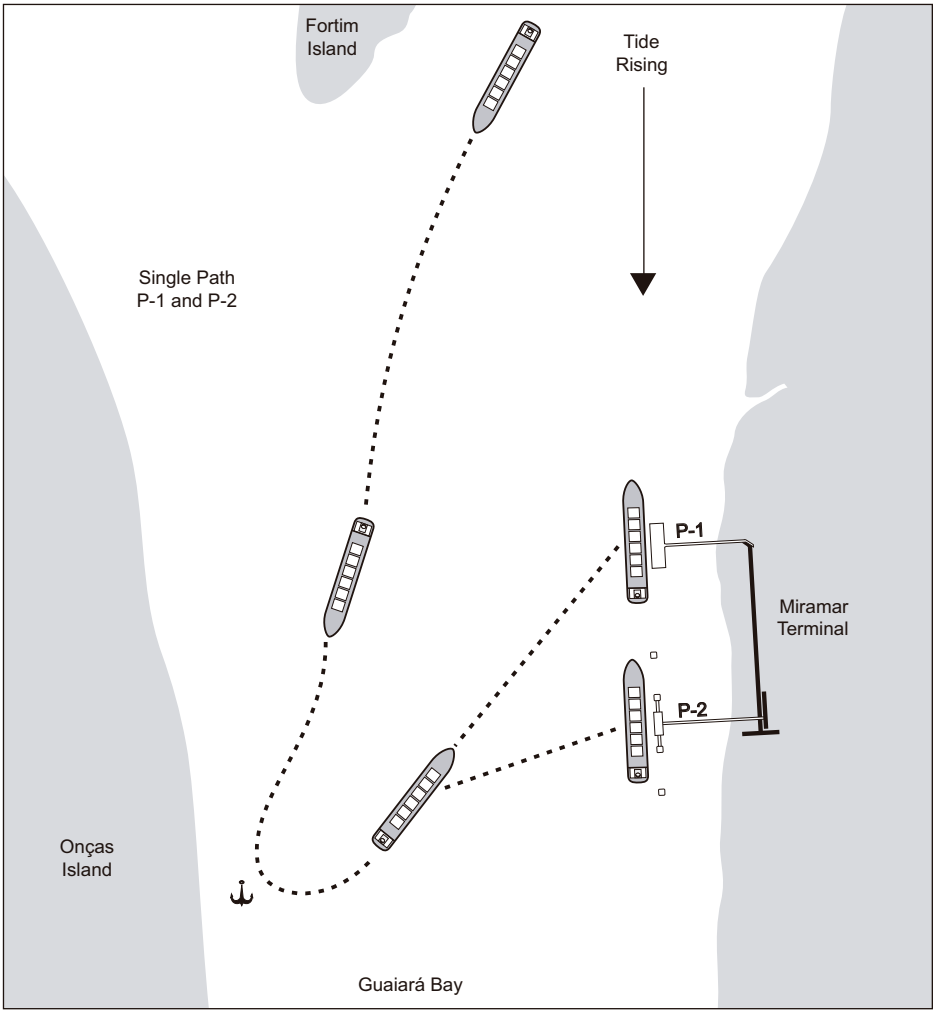
APPENDICES

A – Approaching, Evolution Basin and Berths.

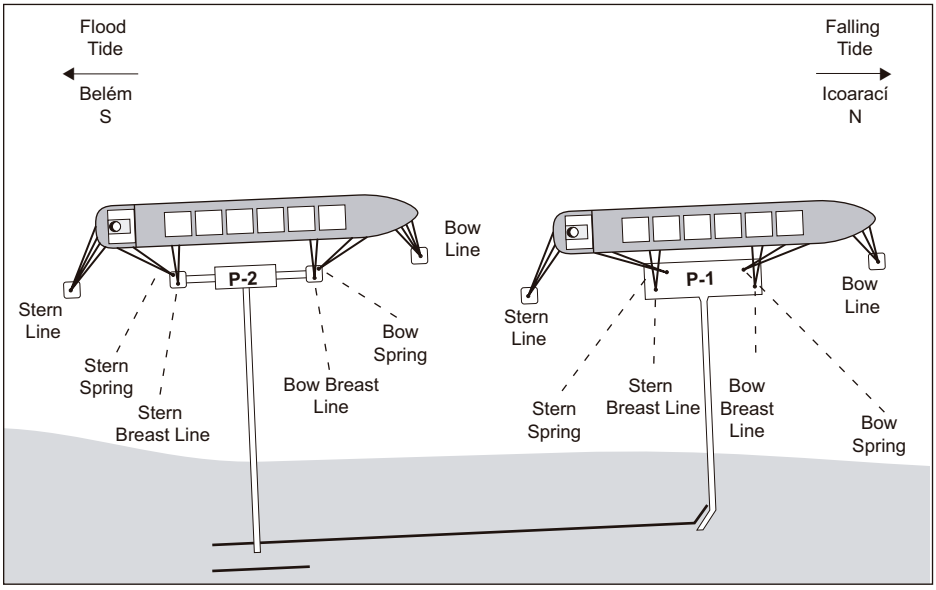




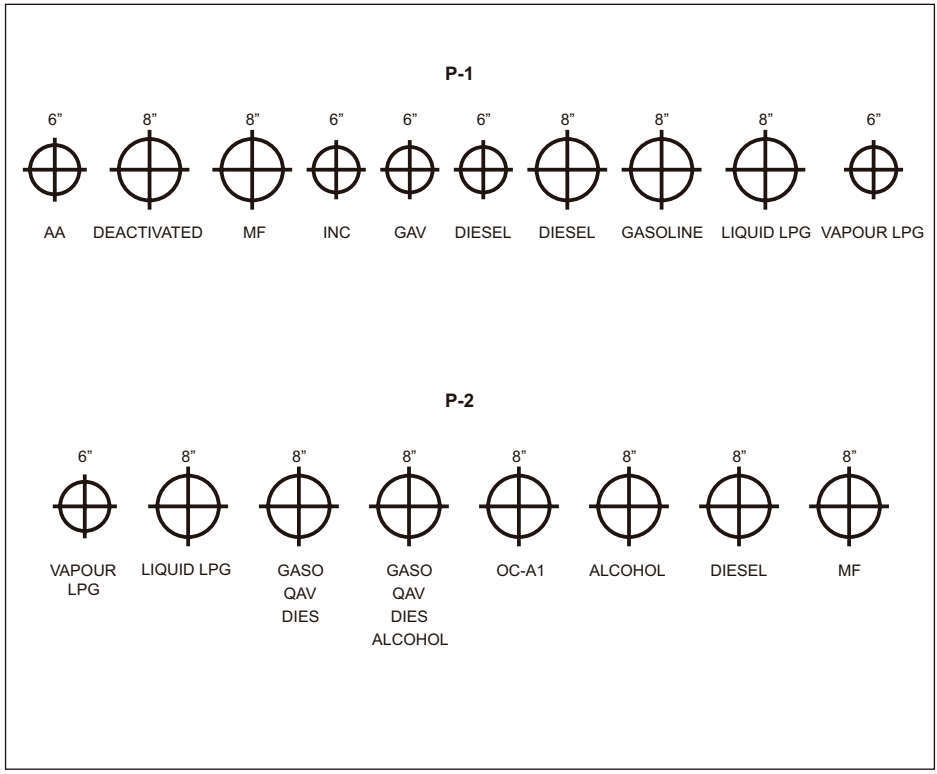
Docking Maneuvers.



B – Mooring point diagram.



C – Distribution of loading/discharge manifolds in each berth (onboard view).



D – Essential Information from the Ship to the Terminal

Port and Terminal:		
Vessel Information Request:		
Ship name: Flag: Captain's name: Ship owners:		Estimated Time of Arrival (ETA): Last port: Next port: Agents:
Does the ship have an inert gas system? Oxygen content:		
Length overall (LOA): Length between perpendiculars: Beam:		Draft at arrival: Maximum draft during transfer: Draft when leaving:
Number of engines: Number of propellers:		Transversal propulsion: Bow (number and power): Stern (number and power):
Tugs, minimum required: No. and static traction (bollard pull):		
Number and size of manifold flanges: Cargo: Ballast: Bunkers:		Distances: Bow to manifold: Hull to manifold: Manifold height to main deck:
Loading schedule (fill when applicable):		
Naming: Type and quantity: m^3	Type and quantity: m^3	Type and quantity: m^3
Ballast discharge at sea: Quantity: m^3		Estimated time:
Slop/ballast discharge ashore: Quantity: m^3		Estimated time:
Discharging schedule (fill when applicable):		
Type and quantity: m^3	Type and quantity: m^3	Type and quantity: m^3
Ballast:	Volume: m^3	Time:
Bunkers requested:		
Type and quantity:		Type and quantity:
Additional information (if any):		

Please, send via fax or e-mail to the Terminal Supervisor.

E – Information to be exchanged before cargo transfer

Information between ship and terminal			
Ship name:		Mooring berth:	
Voyage number:		Berthing date:	
Contractual data			
Number of on-board pumps:			
Volumetric capacity 98%:			m^3
Guaranteed discharge pressure (for discharge operation):			kgf/cm^2
Simultaneous ballast/deballast capacity with loading/discharging:			
Voyage information			
Freighting type (VCP,TCP,COA, etc.):			
Voyage type (cabotage/long run):			
Origin and destination ports or locations:			
Did the ship request bunker?			
Communication mean between ship and Terminal:			
Cargo information			
Product:	Quantity:	Temperature:	API:
SLOP			
Quantity:	Temperature:		API:
Fluidity:	Origin: Contaminants:		
Ballast			
Dirty Ballast: Quantity:	Temperature:	**Segregated Ballast:** Quantity:	
Operation information			
For discharging:	Will the ship perform special operation (COW, Inertization, etc.)?		
	Estimated time for the special operation:		
	Required pump downtime:		
For loading:	Advance notice time for TOP :		
	Flow during TOP period:		
	Quantity of ballast to be discharged:		
	Maximum flow allowed for deballast:		
Are there restrictions concerning electrostatic properties?			
Are there restrictions on using valves with automatic closure?			
Ship/Terminal conditions for the operation loading/discharging per product			
Ship	Pressure: Flow: Temperature: Max.: Min.:	**Terminal**	Pressure: Flow: Temperature: Max.: Min.:

continue

Operation sequence per product
Quantity to be loaded/discharged: Origin/destination tanks: Onboard/onshore lines: Loading arms/hoses used: Operation forecasted to start/end:
Complementary operating and safety information