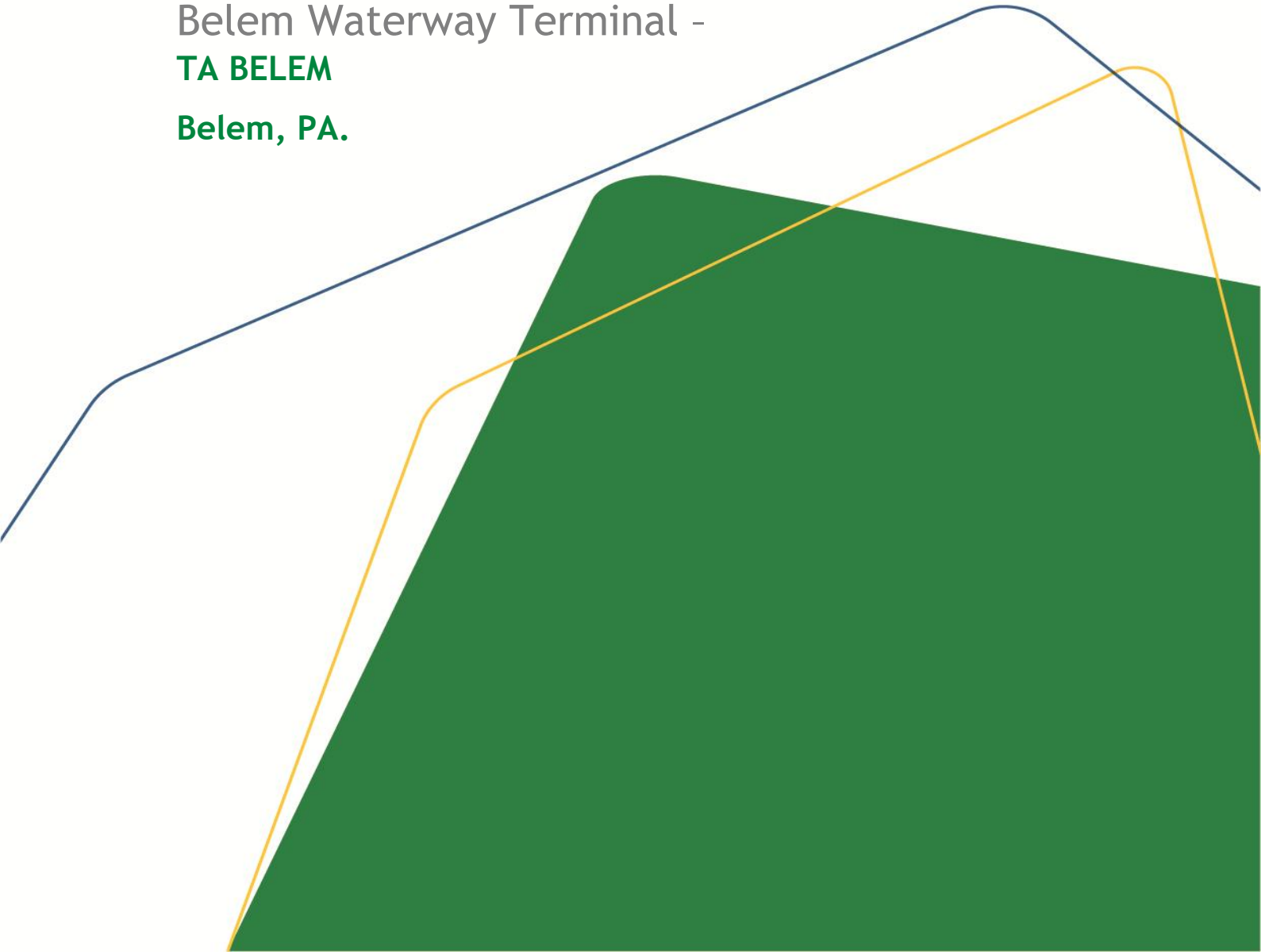
# PORT INFORMATION

## Terminal Information Booklet (TIB)

Belem Waterway Terminal –
**TA BELEM**

**Belem, PA.**



# BELEM TERMINAL

**Full Address of the Terminal:** Avenida Salgado Filho, S/N, Belém – Pará – CEP 66.115-225
**Phone:** (55 91) 211-67025

## Contacts

| Organization | Time | Phone / Fax | Mobile | VHF/ UHF Call Channel | VHF / UHF Conversation Channel |
|---|---|---|---|---|---|
| **Management – Transpetro –** TA BELÉM | **08 am to 4:30 pm** | (55 91) 3211-6725 | - | - | - |
| **Pier Operator's Guardhouse 1** | When in operation | (55 91) 3211-6750 | - | 09/16 | 09 |
| **Pier Operator's Guardhouse 2** | When in operation | (55 91) 3211-6781 | - | 09/16 | 09 |
| **Control Room** | 24/7 | (55 91) 3211-6725 | - | 09/16 | 09 |
| **Port Captaincy of Eastern Amazon - CPAOR** | 24/7 | (55 91) 3218-3950 | - | 16 | - |

# INTRODUÇÃO

This Port Information was prepared by Petrobras Transportes S.A. **(TRANSPETRO)** which operates the Belém Waterway Terminal – TA BELÉM, in the Miramar Port area.

It presents essential information for ships that require operating at the terminal. It is distributed to the interested parties of the Organized Port and National Authorities. Port Information is presented in Portuguese and English versions.

The information contained in this publication is intended to supplement, never supersede or alter any type of laws, instructions, guidelines or official publications, national or international.

**The Terminal reserves the right to change any operational information presented here without prior notice.**

**TRANSPETRO** will analyze any suggestions, recommendations or corrections to the topics covered here, aiming to improve the content. If you find erroneous information that needs to be corrected, please contact:

**Belem Waterway Terminal – TA BELÉM**
Avenida Salgado Filho, S/N, Belém – Pará – CEP 66.115-225
Phone: (55 91) 211-67025

**Petrobras Transportes S/A - TRANSPETRO**

Av. Presidente Vargas, nº 328, Centro.

CEP 20091-060, Rio de Janeiro – RJ.

The most recent version of this Port Information and other Terminals of **Transpetro** may be obtained by accessing the following address:

https://transpetro.com.br

Port Information | default

# Summary

# REVISIONS

| Revision | Changes | Date | Prepared by | Approved by |
|---|---|---|---|---|
| V.0 | Initial Version | 11/17/2025 | Nautical Advisor Ana Claudia<br>ON Julio Cesar Andrade Neves<br>ON Jacqueline Ferreira Vieira<br>Ives Marcelo Xavier | Nautical Advisor Ana Claudia |
| | | | | |

# 1. Emergency Procedures

## 1.1 GENERAL

**EMERGENCY CONTACTS**

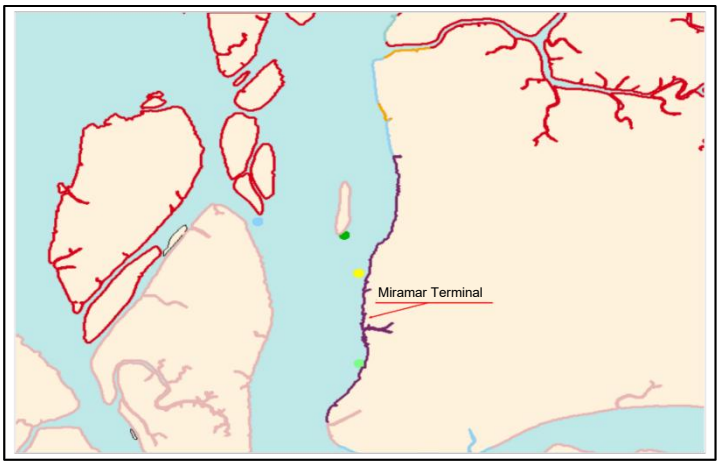
| Organization | Opening Hours | Phone | Acronym | VHF / UHF Call | VHF / UHF Conversation |
|---|---|---|---|---|---|
| **Port Control** | 24 hours | 3213-6606 | CDP | 16 | - |
| **Pilots Association** | 24 hours | 4006-6550 | - | 16 | 11/06 |
| **Maintenance - Supervision** | 08 am to 5 pm | 3211-6703 | - | 16 | 09 |
| **Maintenance - On-call** | 24 hours | - | TA-Belém | - | - |
| **State Civil Defense** | 24 hours | 190 | - | - | - |
| **Fire Department - Miramar** | 24 hours | 3251-3919 | 1st GBS | - | - |
| **Medical Sector** | 08 am to 5 pm | - | - | - | - |
| **SEMAS** | 08 am to 5 pm | 3184-3330 | - | - | - |
| **IBAMA** | 08 am to 5 pm | 3210-4706 | IBAMA | - | - |
| **City Hall of Belém - Mayor's Office** | 08 am to 5 pm | 3114-1003 | PMB | - | - |

*Table 1*

## ENVIRONMENTALLY SENSITIVE AREAS

The PEI (Environmental Impact Assessment Program) of TA BELÉM has Environmental Sensitivity Maps that indicate environmentally sensitive areas.

The map below shows the Port of Belém region with the coastal sensitivity areas near the Miramar Terminal.




Brazilian laws are quite strict regarding water pollution along the coast. It is forbidden to throw any type of material, debris, garbage, oil or polluting substance into rivers and the sea. Heavy fines will be imposed on offenders by maritime authorities, in addition to imprisonment as provided by law. It is the strict responsibility of ship commanders to ensure that no contaminated oil or water is pumped or spilled from their ship.

Ship masters must report any spills of pollutants to the Port Authority and the Port Ports Department (CDP) in the Miramar terminal area.

Pollution can be classified as a crime under Brazilian law, according to Law 9605 of February 12, 1998, which provides for criminal and administrative sanctions arising from conduct and activities harmful to the environment, both for those who pollute and for those who failed to prevent them.

## GENERAL DESCRIPTION OF THE EMERGENCY RESPONSE ORGANIZATION

The following table lists the Organizations responsible for handling potential emergencies involving vessels arriving at the Terminal.

| Incident Type | Organization in Charge | Other Involved Organizations | | | |
|---|---|---|---|---|---|
| **Collision in the Canal** | Port Captaincy | Civil Defense | TRANSPETRO | | |
| **Vessel Running Aground** | Port Captaincy | Civil Defense | TRANSPETRO | | |
| **Collision in the Berth** | Port Captaincy | TRANSPETRO | Civil Defense | | |
| **Vessel Sinking** | Port Captaincy | Civil Defense | Fire Department | TRANSPETRO | |
| **Fire on the Vessel** | Ship | TRANSPETRO | Fire Department | Civil Defense | Port Captaincy |
| **Fire on the Berth** | CDP | TRANSPETRO | Fire Department | Civil Defense | Port Captaincy |
| **Pollution** | TRANSPETRO / Ship / CDP | Port Captaincy | CDP | IBAMA | CDA |

*Table 2*

## CONTINGENCY PLANS

The PCL (Local Contingency Plan) is TA-BELÉM's plan to control and extinguish emergency situations in all its facilities. It is available in all operational areas, on boards located at the entrances to the operating rooms, maintenance rooms, and administrative buildings. The local HSE (Health, Environment and Safety) department is responsible for updating it.

A minimum contingent of crew members capable of safely performing loading and unloading operations and acting in case of emergency, including undocking the ship if necessary, must be kept on board the ship.

Emergency and firefighting equipment must be kept ready for use while the ship remains docked. The operating fire hoses should be extended, one forward and the other aft of the load outlets.

A spill response kit (sawdust, rags, shovels, buckets, squeegees, transfer pumps, etc.) should be kept ready for use in case of an oil spill. Additional precautions should be taken to prevent oil pollution of seawater.

TA-BELÉM has an Emergency Response Center (ERC) equipped with modern equipment and various facilities for use in accidental pollution incidents. Intensive training sessions are conducted periodically to enable terminal employees to act in accordance with the PCL. Located in a strategic point within the CDP facilities, it allows for rapid response in controlling emergencies. Containment barriers, oil skimmers, and other equipment and materials necessary for the operations are stored in their warehouse. Work vessels, support vessels, tankers, and oil recovery vessels are moored at the pier in a state of permanent readiness.

At TA-Belém, the rescue of casualties will be the responsibility of the casualty group (first responders), who will administer first aid to employees who have suffered injuries in accidents.

The rescue of accident victims will be carried out by car to the Port of Belém, where the Fire Department of the Miramar terminal is located, and then the Fire Department ambulance will be called, which will take the injured person to the nearest emergency room.

## PUBLIC RESOURCES FOR COMBATING EMERGENCIES

At the port of Belém, TRANSPETRO, through TA-Belém, has resources that can be used to mitigate pollution events in the river. For other emergencies, public organizations provide resources as needed.

## PORT ADMINISTRATOR

CDP – Companhia Docas do Pará, has a fire suppression system with two pumps at pier 2.

## MARITIME AUTHORITY

The Eastern Amazon Port Captaincy has 9 speedboats and 1 tugboat at the Val-de-Cães Naval Base to control pollution incidents in the river.

## LOCAL EMERGENCY SERVICES

The Fire Department, Civil Defense, Military Police, and medical services are deployed according to Table 1

## STATE AND NATIONAL CONTROL ORGANIZATIONS.

The following plans may be activated depending on the type of emergency, as established in the PCL/Belém:

PCR – Regional Contingency Plan, which involves Petrobras' regional departments.

PGR I - AMAZON PLAN – Regional Contingency Plan, involving all Petrobras departments in the Amazon Region.

### MUTUAL SUPPORT PLANS

The institutions listed below participate in the PAM (Mutual Aid Plan) of the Miramar terminal; their resources are available as previously agreed in this plan:

- Transpetro/TA-BELÉM
- Fire Department of Pará
- Companhias Doca do Pará – CDP
- Center for Environmental Defense – CDA
- Petróleo Sabbá S/A
- Esso
- BR – Distribuidora
- Ipiranga
- Paragás
- Copa Energia
- *Capitania dos Portos da Amazônia Oriental* (Port Captaincy of Eastern Amazon)
- North Navy Quartermaster Center
- Military Police
- State Civil Defense
- Petro Amazon
- Reicon Navegação
- Transdourada Transportes
- Rodopar
- Transpal
- *Praticagem da Barra* (Barra Pilotage)

## 1.2 OIL SPILL AND VAPOR RELEASE

Sub-items below describe the resources available to combat pollution in the areas adjacent to the terminal.

### TERMINAL'S SPILL CONTROL CAPACITY

The resources available at the terminal to combat oil spill situations are listed in the PCL, which is available in all administrative, operational and maintenance areas of the TA-BELÉM.

### CONTROL CAPACITY OF THE ENVIRONMENTAL AGENCY

The State Secretariat of Science, Technology and Environment (SECTAM) does not have the resources to control oil spills at sea.

### AVAILABLE RESOURCES FROM MUTUAL SUPPORT PLANS OF OTHER TERMINALS

The resources available at other TRANSPETRO terminals for responding to pollution emergencies occurring in the vicinity of the terminal are listed in the PCL / BELÉM.

### TIER 2 RESPONSE

Controlling significant pollutions. These events require the use of regional resources from TRANSPETRO and PETROBRAS. These resources, their readiness and method of activation are described in the PCL / BELÉM.

### TIER 3 RESPONSE

Controlling major pollutions. These events require the use of national resources from TRANSPETRO and PETROBRAS. These resources, their readiness and method of activation are described in the PCL / BELÉM.

### CONTROLLING A MAJOR INCIDENT

TA-BELÉM's PCL lists the actions and those responsible for each type of anticipated event that may occur within its unit, pipeline or vessel range involving third parties. For events not covered by this document, TRANSPETRO and PETROBRAS will make available all national or international resources available to it.

## 1.3 FIRE AND EXPLOSION

Procedures to be adopted are found in the Belém Terminal Emergency Response Plan – PRE.

### 1.3.1 EVACUATIONS (ESCAPE ROUTES AND MUSTER POINTS))

**Primary escape route for ships:** Sea-board lifeboat.

The ship and its crew must be familiar with the terminal's emergency siren signals as per the information contained in the initial letter signed by the ship and terminal.

## 1.4 COLLISION / DAMAGE TO BERTH

In the event of a collision or damage to the berths, masters must inform the Safety Inspector, the Brazilian Navy and the protective agency.

## 1.5 MEDICAL EMERGENCY

The Terminal has the means available to provide resources to respond to medical emergencies.

## 1.6 SAFETY VIOLATION

Commanders must instruct their crews on the need for **strict** compliance with the ISPS CODE.

### 1.7 MAN OVERBOARD

Masters must IMMEDIATELY alert the Man Overboard emergency on VHF channel 16, inform the Brazilian Navy, the Terminal Safety Inspector and the ship's protective agency.

### 1.8 DRIFT OF BERTHED SHIP

Onboard personnel must alert TA BELÉM safety inspector as soon as possible. The Terminal has tugboats to assist in mitigating and correcting the drift.

### 1.9 EMERGENCY STOP (ESD)

The emergency stop will be negotiated with the ship at the time of initial clearance.
Transpetro encourages crews to **"When in doubt, STOP".**

### 1.10 INCIDENT NOTICE POLICY

The instructions for reporting incidents must be followed by Commanders as follows:

- **Pollution Incident**

This should be recorded in a specific document, to be sent to the Terminal's shift coordinator as soon as possible. This document may be prepared in phases (initial alert, incident alert update, and final incident report).

- **Safety Incident**

Similar action as for pollution incident.

- **Protection Incident**

Generate report as recommended by the ISPS Code.

# 2. Safety, Environment and Health Policies

### 2.1 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Crew members in areas outside the superstructures must continue to wear their PPE. Crew members in transit "going to" or "coming from" the Terminal entrance will be exempt from using PPE.

### 2.2 TERMINAL ACCESS (SHORE CREW AND SHIP VISITORS)

For further information, the Terminal's port safety supervisor, who is trained in accordance with IMO requirements, can be contacted. (see table "contacts").

## 2.3 SAFETY STATEMENT (ISPS CODE)

The terminal has implemented protection measures applicable to ships and port facilities, in accordance with IMO requirements, through the adoption of the ISPS Code. If necessary, specific protection measures can be deployed by the ship through the Terminal's port safety supervisor - PFSO - or via VHF radio. The terminal operates normally at safety level 1.

## 2.4 ALCOHOL AND OTHER DRUGS

According to ISGOTT, item 13.4, for reasons of personnel safety and health, the use of alcohol or other drugs has a dangerous effect on performance, behavior and safety practices in the workplace and its use is prohibited at TEBAR.

**Transpetro**, aiming to support national and international authorities in combating drug trafficking and the use of alcohol in prohibited places, it complies with the relevant preventive measures regarding the criminal use, possession or distribution of these substances.

## 2.5 SMOKING

TA BELÉM does not have safe and designated smoking areas, so no one is allowed to smoke within the terminal facilities.

## 2.6 PORTABLE ELECTRONIC EQUIPMENT AND UNPROTECTED LIGHTS

All portable electrical equipment used in areas subject to ambient air contamination by flammable or explosive gases must be of the intrinsically safe and explosion-proof type.

On the deck and adjacent compartments, only intrinsically safe and explosion-proof electrical lighting will be permitted, and must strictly comply with the safety recommendations contained in the ISGOTT (latest edition) during the ship's stay at the pier.

**Taking photographs of any area, equipment or people within the Terminal facilities is prohibited without prior authorization from the Terminal management.**

## 2.7 ONBOARD MAINTENANCE WHILE BERTHED

No repairs or maintenance work of any nature that involves or may involve a risk of sparks or other means of ignition may be carried out while the ship is docked without prior authorization from the Terminal management. Cold repairs that imply any restriction of the ship during the stay must be previously authorized by the shore team and the request for such repairs must be made at least 24 hours in advance. Any repairs must be carried out in accordance with the recommendations in the most recent edition of ISGOTT.

## 2.8 MATERIAL HANDLING

The movement of materials must be agreed with the terminal. **(contact the nautical inspector via VHF channel 16)**

### 2.9 SAFETY DATA SHEET (SDS)

For the storage, transportation or use of chemicals classified as hazardous or whose intended or recommended uses give rise to risks to the safety and health of workers, the SDS is mandatory (NBR 14725/2023) and must be available at the place of storage and/or use.

### 2.10 BENZENE AND H2S

The risks associated with benzene, H2S and any other toxic substances present in the cargo being handled must be properly identified and understood.

Transpetro encourages ship Masters to require crew members to wear benzene and H2S detectors when outside the ship's superstructure.

### 2.11 STATIC ELECTRICITY

**Attention** must be paid to precautions to prevent the risk of ignition by static electricity sparks during measurements, sampling, connections and loading/unloading operations.

# 3. General information

### 3.1 CHARTS AND REFERENCE DOCUMENTS

Information about the Terminal can be obtained from the following publications listed below, as well as from the Guide to Port Entry:

#### Nautical Charts

| Area | Chart Number | |
|---|---|---|
| | Brazil (DHN) | British Admiralty |
| From Salinópolis to Espadarte Canal | 302 | |
| From Cabo do Maguari to Mosqueiro | 303 | |
| From Mosqueiro to Vila do Conde | 304 | |
| Abaetetuba (Anchorage) | 305 | |
| Port of Belém | 320 | 397 |
| Port of Vila do Conde | 321 | |

**SOURCE: Catalog of Charts and Publications – DHN – 14th ED. 2021-2025.**

### Other Publications

| Type / Subject | Editor or Source |
|---|---|
| **Rules and Procedures of the Port Captaincy - CPAOR** | NPCP – CPAOR |
| ***Route Guide - North Coast*** | 12th ED. 2020 - 2024 - DHN |

## 3.2 SHIP/TERMINAL COMMUNICATION POLICY

See items below.

## 3.3 DOCUMENTS AND INFORMATION EXCHANGE

Vessels arriving at the port/terminal of Belém, Miramar, Agropalma, Tapanã, Outeiro, Vila do Conde, Ponta da Montanha, Imerys Rio Capim Caulim (RCC), Fronteira Verde terminal (TERFRON) and other ports located in cities under the jurisdiction of CPAOR, must comply with the procedures established below in addition to the Maritime Authority's Regulations for Traffic and Permanence of Vessels in Brazilian Jurisdictional Waters (NORMAM)*/DPC), regarding entry, dispatch and exit procedures.

| Information | Prepared by: | | | Delivered to: | | | Comment |
|---|---|---|---|---|---|---|---|
| | Terminal | Ships | Both | Terminal | Ships | Both | |
| **Before Arrival** | | | | | | | |
| Estimated Time of Arrival (ETA) and vessel information | | X | | X | | | According to ANNEX E |
| Essential information about the Terminal | X | | | | X | | According to ANNEXES B and C |
| Before Transfer of Cargo or Bunker | | | | | | | |
| Details of cargo/slop/ballast on board | | X | | X | | | According to ANNEX E |
| Essential information for the operation (complete on site) | X | | | | X | | According to ANNEX E |
| Ship/Shore Safety Checklist | | | X | | | X | As per Appendix A of ISGOTT |
| **During Transfer of Cargo or Bunker** | | | | | | | |
| Repeat Ship/Shore Safety Checklist | | | X | | | X | As per Appendix A of ISGOTT. |
| **After Transfer of Cargo or Bunker, before departure** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Information required for unberthing the ship | | | X | | | X | Inform the quantities of fuel and water expected for the arrival and departure of the ship. |
| **After unberthing, leaving the Port** | | | | | | | |
| Information regarding data related to departure from the Port | | X | | | X | | Inform the Shift Coordinator, via email, of the pilot's disembark and departure times from the port. |

### 3.4 OPERATION HOURS

The terminal has no time restrictions for mooring/unmooring; however, the tide should be observed.

### 3.5 LOCAL TIME

Brasilia Time in UTC-03:00

### 3.6 COMMUNICATION LANGUAGES

Communication from the ship/terminal must be made in Portuguese or English.

### 3.7 USEFUL PHONE NUMBERS

See item **10. Contacts**

### 3.8 ENVIRONMENTAL MONITORING PROCEDURES

Crew members on deck duty shall be instructed to maintain a constant watch over the sea areas adjacent to the ships. Any observation of the appearance of pollutants in the water, or the occurrence of marine or terrestrial animals, should alert safety inspectors or operations technicians.

# 4. Description of Port and Anchorages

## 4.1 GENERAL DESCRIPTION

The area of the Organized Port of Belém, according to Decree No. 5230 of October 5, 2004, consists of the existing land-based port facilities in the city of Belém, namely anchorages, docks, quays and berthing and docking piers, land, warehouses, buildings and internal circulation routes, existing on the right bank of the Guajará Bay, from the southern end of the *Ver-o-Peso* Market to the southwestern tip of *Ilha de Caratateua*, at the mouth of the Pará river, and the maritime facilities contained within the polygon of the Organized Port, encompassing all quays, docks, bridges, berthing and docking piers, warehouses, silos, ro-ro ramps, yards, buildings in general, road circulation routes and also the land along these marginal strips and in their vicinity, belonging to the Federal Government, whether or not incorporated into the assets of the Port of Belém or under its custody and responsibility.

Currently, the Port of Belém handles 35,576,045.5 tons of cargo per year, with the main cargoes handled being: soybeans, corn, bauxite, alumina, fertilizers, manganese, diesel oil, caustic soda, fuel oil, and gasoline (CDP portal, 2020 statistics).

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

## 4.2 LOCATION OF ANCHORAGES

| Anchorage Area | Remarks |
|---|---|
| Anchorage No. 1<br>Chart nº 304 | - For sanitary, customs and maritime police inspection.<br>a) LAT 01º 05.00'S and LONG 048º 30.00'W;<br>b) LAT 01º 05.00'S and LONG 048º 28.50'W;<br>c) LAT 01º 06.50'S and LONG 048º 28.50'W; and<br>d) LAT 01º 06.50'S and LONG 048º 28.50'W |
| Anchorage No. 2 (ICOARACI)<br>Chart No. 304 | - For oil tankers and propane carriers awaiting berthing at the MIRAMAR Terminal. a) LAT 01º 16.00' S and LONG 048º 30.40' W; b) LAT 01º 16.30' S and LONG 048º 30.00' W; c) LAT 01º 17.65' S and LONG 048º 30.40' W; and d) LAT 01º 17.65' S and LONG 048º 30.00' W. - Maximum draft 12.6 m |
| Anchorage No. 3<br>Chart nº 304 | For degassing oil tankers. |

| | |
|---|---|
| Anchorage No. 1 (Miramar 2) Chart No. 320 | - For ships under repair, maintenance, litigation, or awaiting orders. a) LAT 01º 23.75' S and LONG 048º 31.25' W; b) LAT 01º 23.75' S and LONG 048º 31.00' W; c) LAT 01º 24.50' S and LONG 048º 31.00' W; and d) LAT 01º 24.50' S and LONG 048º 31.25' W. - Maximum draft 7.92 m. |
| Anchorage No. 2<br>Chart nº 320 | - For warships or merchant ships authorized by the representative of the Maritime Authority. |
| Anchorage No. 3<br>Chart nº 320 | - For ships waiting to dock or in the process of loading or unloading: - Area 3A (Miramar 1)<br>a) LAT 01º 23.75' S and LONG 048º 30.50' W;<br>b) LAT 01º 23.75' S and LONG 048º 30.25' W;<br>c) LAT 01º 23.50' S and LONG 048º 30.25' W;<br>d) LAT 01º 23.50' S and LONG 048º 30.00' W;<br>e) LAT 01º 24.25' S and LONG 048º 30.00' W;<br>f) LAT 01º 24.25' S and LONG 048º 30.25' W;<br>g) LAT 01º 24.50' S and LONG 048º 30.25' W;<br>h) LAT 01º 24.50' S and LONG 048º 30.50' W.<br>- Maximum draft 7.40 m. - Area 3B (Minas Gerais) a) LAT 01º 26.10' S and LONG 048º 31.70' W; |

**SOURCE: Updated schedule according to NPCP, 2022 and the 2020-2020-2024 North Coast Route Guide.**

## FORBIDDEN ANCHORAGE

Anchorage is prohibited in the following areas (*nautical chart 320*):

- Between the Val-de-Cães Naval Base and the Miramar terminal, in the area delimited on the map by the restricted area boundary line;
- Southwest of Igarapé do Una (01° 25.3' S – 048° 29.9' W), in the area delimited on the map by the restricted area boundary line; and
- In the dredged canal, without express authorization from the Port Captaincy. (2020-2024 North Coast Route Guide).

## 4.3 APPROACHING THE TERMINAL

### GENERAL DESCRIPTION

The Pará river separates the east, southeast, and south coasts of *Ilha de Marajó* from the mainland; it has a considerable width, with stretches where a navigator in the middle of the river cannot see its banks. It connects with the Amazon River through canals called straits and bores that separate the numerous islands located between the southwest coast of *Ilha de Marajó* and the mainland It is also mouth of the Tocantins River and several smaller rivers; and at its confluence with the Guamá river lies the city of Belém, the capital of the State of Pará, with its Port.

Coming from the North, recognizing the coast for landing is made difficult by its characteristics (low-lying, with uniform vegetation and no notable geographical features) and by the muddy color of the waters of the Amazon and Pará rivers, which penetrate far out to sea, hindering the observation of shallower areas. Navigation should be at depths greater than 20 m to avoid the sandbanks located at the northern entrance of the Amazon River and at the entrance of the Pará River.

A navigator coming from the East can safely position themselves 10 m from the coast, in depths greater than 10 m and within the range of the lighthouses, until they recognize Salinópolis.

For routes along the Pará river to the Port of Belém and Vila do Conde, and for timber transport in the Breves strait, pilotage is mandatory for oil tankers with a gross tonnage greater than 2,000.

The Miramar Terminal is located in the city of Belém-PA, on the right bank of the Guajará Bay downstream from the Port of Belém and upstream from the Val-de-Cães Naval Base, at coordinates 01°24.20'S and 048°29.59'W. It is 5 km from the Port of Belém (nautical chart 320).

The terminal is an extension of the organized Port of Belém, which serves an average of 1046 vessels annually, specializing in petroleum byproducts, alcohol, liquefied petroleum gas, and other flammable liquid bulk cargo.

According to the rules and procedures of the Port Captaincy of Eastern Amazon, for ships calling at the Miramar Terminal via the access canal, the maximum draft is in accordance with ***Ordinance No. 67 CPAOR, of May 3, 2018***, which changed the maximum operational draft at the Miramar Terminal from 7.00 meters to 7.60 meters. However, ***DIREXE Resolution No. 65/2020, of November 20, 2020***, resolved to change the maximum operational draft of the Miramar Terminal from 7.60 meters to 7.30 meters.

The Terminal and its access points are shown on nautical charts No. 304 and 320 of the DHN (Directorate of Hydrography and Navigation). The Route Guide, Chapter IV, as well as the information published in Notices to Mariners, should be consulted.

### NAVIGATIONAL AIDS

The right bank of the Pará River is normally used for positioning sailors heading to the Port of Belém.

The most characteristic points of this margin are the following:

- **Chart 302**

**Coroa das Gaivotas Lighthouse**: (00°34.65'S – 048°01.81'W) 8 m high and green flashing light at an altitude of 8 m with a range of 8 m. It marks the western edge of the Gaivotas crown;

**Ponta Taipú:** (00°40'S – 048°03'W) – Can be seen from the bottom of Espadarte, initially appearing as an island; later, two distinct elevations can be observed. On the North side of the tip is located the Taipú lighthouse (0:60), white, 30 m high and with a group of 3 white flashes at an altitude of 39 m with a visibility of 16 m.

- **Chart 303**

**Ponta Maria Teresa Lighthouse** – 9.4 m SW of the Taipu lighthouse, near Maria Teresa point, white flashing light at an altitude of 42 m with a range of 15 m and a visibility sector of 164º (057º to 221°);

**Collars** (00°55,7'S – 048°17,3'W) – A town on the riverbank, where a white church stands out. Along the coast there are some islets; on Quati island is located the Colares lighthouse, a metallic tube with a visibility plate, on a reinforced concrete base, white, 10 m high and a group light of 2 white flashes at an altitude of 14 m with a range of 10 m.

- **Chart 304**

**Ilha do Mosqueiro** (01° 09' S – 048° 28' W) – At the tip of Chapéu Virado, in the northern part of Mosqueiro, stands the Chapéu Virado Lighthouse, a white metal tube on reinforced concrete, with a visibility plate with white and red stripes, 10 m high and a green isophasic light at a latitude of 11 m with a range of 13 m. 3m ENE of the lighthouse there is a notable tower.

**Tatuoca Island –** 4m SSW of the Chapeu Virado lighthouse, marks the northern end of the left bank of the canal that gives access to the port of Belém, called Mosqueiro canal. At the northern tip of the island is the Tatuoca lighthouse, 11 m high, with 2 groups of fast white lights at an altitude of 12 m with a range of 9 m and a visibility sector of 220° (081º to 301°);

**Icoaraci –** 8m south of Mosqueiro, a well-built and well-lit riverside location. With Icoarací on the ship's side, the tallest buildings, church towers and some notable chimneys of the city of Belém can be seen.

- **Charts 304 and 320**

**Forte da Barra Lighthouse** (01° 22.65' S – 048° 29.56' W) – 12 m high and fast white light at an altitude of 13 m with a range of 9 m, on a small rocky island, Forte da Barra Island, located next to the right bank of the access canal to the Port of Belém;

**Belém Lighthouse** (01° 27,92' S – 048° 30,32' W) – 42 m high and flashing white light at an altitude of 45 m with a range of 15 m, in Guajará Bay.

The left bank of the Pará River is normally used only by inland navigation vessels heading to the city of Soure and other locations on Ilha do Marajó.

The most characteristic features of the left margin are the following:

- **Chart 303**

**Soure** (00°44'S – 048°31'W) – city located on the Paracauari river (or Igarapé Grande), on the left bank of the river's mouth, which flows into the Pará river. It has several moorings for inland navigation vessels;

**Soure Lighthouse** (00°44,52'S – 048°30,32'W) – A 30-meter-high structure of two white flashes, altitude of 35 meters with a range of 14 meters with a range of 5 miles, on *Ilha dos Amores*, right bank of the mouth of the Paracauari river;

**Salvaterra Lighthouse** – 0.65 meters south of the Soure lighthouse, with a visibility sign, 8 meters high and a white flashing light at an altitude of 14 meters with a range of 5 miles, on *Ilha dos Amores*, right bank of the mouth of the Paracauari river;

**Ponta de Joanes** – 9 miles south of Soure, it is occupied by the city of Joanes. The Joanes lighthouse is located there, with a visibility plaque, 17 meters high, and a white flashing light at an altitude of 23 meters with a range of 14 miles.

- **Charts 303 and 304**

**Ilha Coroa Grande** – 10 miles SSW of Ponta de Joanes, at the southeastern tip of *Ilha de Marajó*. On its southern bank lies the **Coroa Grande lighthouse**, a group light of 3 white flashes at an altitude of 18 meters with a range of 10 miles and a visibility sector of 136° (255° to 031°);

- **Chart 320**

**Ilha das Onças** – This island occupies the entire left bank of the river opposite Belém. Its NNE bank, where several sunken hulls are visible, is marked by a luminous buoy pointing east.

## PORT LIMITS

According to Decree No. 5230, of October 5, 2004, the polygon of the Organized Port area of Belém has its vertices defined by the following geographic coordinates:

- ✓ Point A: Latitude 1°14'16,31" S Longitude 47°29'06,45" W
- ✓ Point B: Latitude 1°14'16,09" S Longitude 47°32'59,99" W
- ✓ Point C: Latitude 1°17'34,24" S Longitude 47°32'59,99" W
- ✓ Point D: Latitude 1°17'34,34" S Longitude 47°31'18,24" W
- ✓ Point E: Latitude 1°17'32,03" S Longitude 47°31'18,67" W
- ✓ Point F: Latitude 1°24'32,05" S Longitude 47°30'30,35" W
- ✓ Point G: Latitude 1°26'34,05" S Longitude 47°30'30,35" W
- ✓ Point H: Latitude 1°27'33,05" S Longitude 47°29'43,35" W
- ✓ Point I: Latitude 1°27'33,05" S Longitude 47°27'46,35" W
- ✓ Point J: Latitude 1°16'45,91" S Longitude 47°29'06,59" W

The Port and its access points are listed on Nautical Charts No. 304 and 320 of the DHN.

## 4.4 MANEUVERING AREAS

Waterway access to the Miramar Terminal is via the same canal as the Port of Belém, the Eastern Canal, and is operational throughout the year. Waterway access to the Port of Belém is via a canal called the Eastern Canal, with an average width of 90 to 180 m, a length of 6,000 m, and a depth of 9 m when dredged. This canal is the main maritime entrance to the port, located between Fortim island and Barra. There is little or no ship traffic along the access to the Organized Port of Belém, because the port's organization does not allow it.

The table below contains the main data for the access canal to the Port.

| CHARACTERISTICS OF ACCESS TO THE PORT OF BELÉM | |
|---|---|
| Length | 6,000 m |
| Width | 90 to 180 m |
| Depth | 5.10 to 7.92 m |
| Draft | 7 m |
| Annual silting average | 600,000 $m^3$ |

*Table 3*

**Source: PDZ, CDP, 2017.**

The maximum length of ships at the Miramar Terminal is limited to 185 m at pier number 1 (north) and 210 m at pier number 2 (south). Docking should only occur from the port side with the tide running upstream.

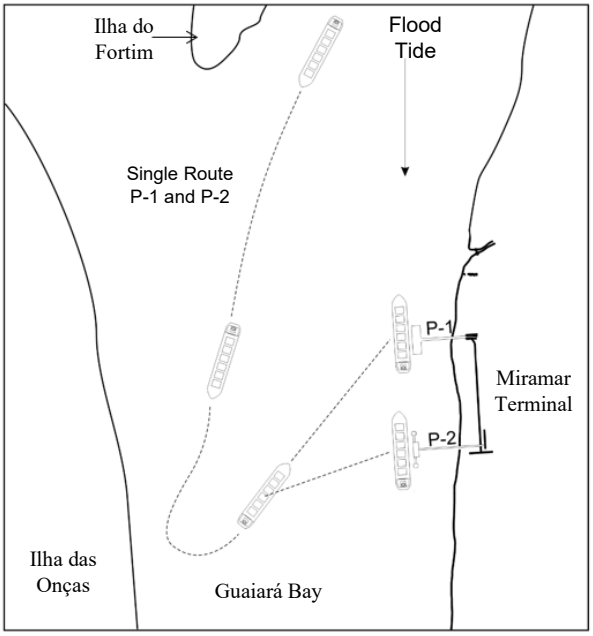



*Figure 1*

The maximum permitted bottom speed (Vf) for ships between ICOARACI and the PORT OF BELÉM is 8 knots, while in the access canal to the PORT OF BELÉM it is 6 knots.

- In the Madre de Deus, Piramanha/Nazário and Cavado bores, which cross Ilha das Onças, the maximum permitted speed is 5 knots.

The maximum permitted bottom speed (Vf) for ships between ICOARACI and the Miramar Terminal is 8 knots.

## 4.5 ENVIRONMENTAL FACTORS

Because it is located north of the Tropic of Capricorn, the region's climate is tropical. The average annual temperature is above 26 °C and the average temperature of the coldest month is above 18 °C. Relative humidity is high, generally above 85% in the early afternoon hours.

| Key weather information for the Port of Belém: | |
|---|---|
| Average Temperature | 25.7 °C |
| Atmospheric pressure | 1,009.5 mb |
| Relative moisture | 84.2% |
| Rains | 2,800 mm |
| Average water height (spring tide), high tide | 3.22 m |

| | |
|---|---|
| Average water height (spring tides), low tide | 2.42 m |
| Maximum high water height (18.03.80) | + 4.21 m |
| Minimum low tide height (16.07.20) | - 0.37 m |

*Table 4*

### Prevailing Winds

The winds are predominantly from the NE. The winds are generally moderate and visibility is good, except during equatorial showers, which can be preceded by strong winds and cause a sharp drop in visibility. Winds in the afternoon (generally) typically intensify, reaching gusts of force 4 to 5, especially during the months of September to December (weather known as “ber” weather).

### Waves and swells

There are no records of waves capable of hindering docking, undocking and ship operations.

### Rainfall

In winter, there is constant rain in the region. The period of greatest rainfall is from December to April, considered winter in the region, with maximum rainfall of 470 mm/month in April. In the summer, which runs from June to September, the level of precipitation decreases to a minimum of 48 mm/month in September.

### Lightning Storm

With few occurrences, however with greater frequency during the rainy season, which runs from December to April.

### Visibility

Normally considered good to excellent, rainfall can be drastically reduced during the rainy season, from December to April, when there are also, on average, 2 days of fog per month. We have no record of operations being affected by the limited visibility.

### Tidal Currents and Other Currents

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

In the Espadarte canal, the tidal current speed can reach 3.5 knots during spring tides. At the Port of Belém docks, the flood and ebb currents push the ship towards the quay and can reach up to 3.5 knots, lasting for two hours after high tide.

At the Miramar terminal, the speed at the bottom of the access canal should not exceed 8 knots. A speed of 4 knots should be used when approaching for berthing.

### Operational Wind and Current Monitoring

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

# 5. Description of the Miramar Petrochemical Terminal

Belonging to CDP – Companhia Docas do Pará. Located in the municipality of Belém-PA, on the right bank of the Guajará Bay downstream from the Port of Belém and upstream from the Val-de-Cães Naval Base, at a distance of 5 km from the Port of Belém.

The Miramar Terminal is an extension of the organized Port of Belém, specializing in petroleum derivatives, hydrated alcohol, liquefied petroleum gas, and other flammable liquid bulk cargo. The terminal and its access points are shown on nautical charts No. 304 and 320 of the DHN (Directorate of Hydrography and Navigation). The Route Guide, Chapter IV, as well as the information published in Notices to Mariners, should be consulted.

Waterway access can be made through two canals, separated by *Ilha da Barra*; the **Western canal** is called, from *Ilha da Barra* onwards, “Minas Gerais Canal” or “Ilhas das Onças canal”. And through the **Eastern canal**, known from the Miramar Terminal as the “Port of Belém Canal,” which allows ships to enter the Port of Belém.

The Miramar Terminal is dedicated exclusively to the implementation of facilities for handling liquid and gaseous fuels, where unloading has always predominated over loading of these products, since a large part is consumed in the city of Belém and part in the interior of the State of Pará. It is a “strategic” terminal because it handles all the fuel consumed in the State of Pará, through which all liquefied gas, gasoline, alcohol, kerosene, and diesel oil arrive, to be distributed in the regions of influence.

## 5.1 LOCATION OF THE TERMINAL

The Port is located in the city of Belém-PA, on the right bank of the Guajará Bay, downstream from the Ver-o-Peso Market and upstream from the Val-de-Cães Naval Base, at the Coordinates

- **01°26.76’S**
- **048°29.87’W**.

At an approximate distance of 75 nautical miles from the Atlantic Ocean.

The Port and its access points are listed on Nautical Charts No. 304 and 320 of the DHN, and the Route, Chapter IV, should be consulted, as well as the information published in the Notices to Mariners.


*Figure2*

## 5.2 TERMINAL LAYOUT

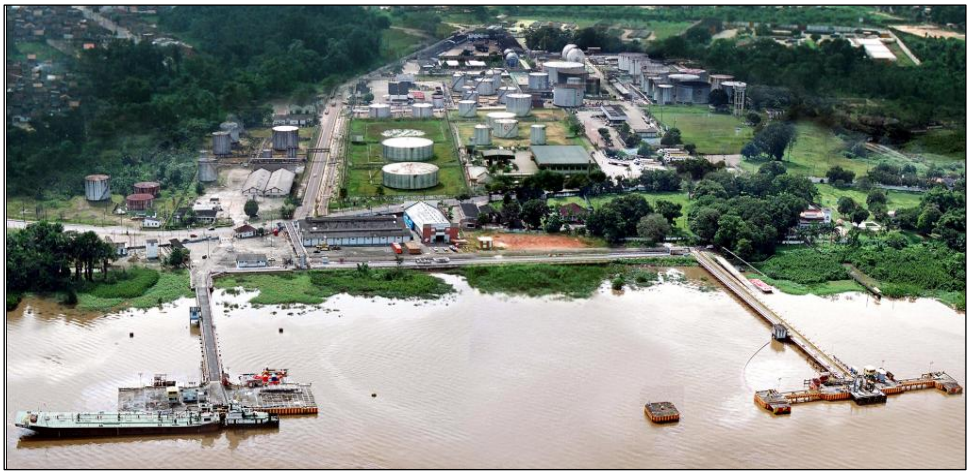


*Figure3*

## 5.3 SHIP ACCEPTANCE CONDITIONS

During the ship's stay in port, several risk management actions are carried out to minimize risks and enable safe operations.

Vessels that present previous and untreated problems will not be accepted and will be denied permission to operate at the petrochemical pier. Actions that fail to comply with the normal deadlines for this purpose will not be the responsibility of Petrobras/Transpetro.

At all phases, as described in the following sub-items, measures are taken to facilitate operations and plan them appropriately.

## 5.4 MANAGEMENT AND CONTROL

At piers 100 and 200 there are control cabins where, throughout the vessel's stay in port, operational assistants will be present, in charge of the operational aspects of the ship-terminal interface, such as pressure and flow measurement; sample collection; and safe positioning of hoses during operation.

There is the Terminal Control Room (Cargo Control Center) in the Transpetro administrative area near the tank area, occupied by Operational Supervisor Operators, in charge of terminal-ship communication during the vessel's stay in port; control of loading and unloading operations of petroleum products from the berths, through the computer system; control of product pumping to other companies; control of documentation inherent to the operation at the terminal.

Located near the Cargo Control Center are the Operations Programming and Logistics Room, the Technical Operations Coordinator's Office, as well as the Chemical Laboratory and Administrative Area.

In terms of operational safety, Nautical Inspectors (GIAONT) oversee operational safety, as established by ISGOTT and company standards, checking items related to connections, mooring lines, employee safety, and oil spill control, among others.

## 5.5 MAIN RISKS

- ✓ The passage of large ships, destined for or departing from the Port of Belém, in front of the Terminal without reducing engine power, causing strong tidal waves, throwing the ship against the pier, and potentially causing the rupture of mooring lines and product discharge hoses;
- ✓ Friction between the hoses used for unloading products and the concrete floor of the pier during operations, due to fluctuations in the river level caused by the tide, can cause them to get stuck and consequently break;
- ✓ Strong winds, although not very frequent, constitute a potential risk, as they can push the ship away from the pier, breaking cables and hoses used for unloading products;
- ✓ Increased currents due to so-called spring tides cause greater tension in the mooring lines, especially in the bow and stern lines.

There are no records of terrorist activity or piracy in the Terminal region.

## RISKS TO NAVIGATION

- ➢ **From Barra Norte of the Amazonas River to Barra do Rio Pará**

When navigating offshore, depths below 20 m should be avoided, due to frequent variations in depth and changes in the position of the banks. The existence of drifting vegetation and tree trunks uprooted from river banks, on the surface or submerged, constitutes another danger to navigation that requires special attention.

From the pilots' embarkation and disembarkation point, in front of the City of Salinópolis, to the mouth of the Pará River, one should not sail between the coast and the 10 m isobath; in this area there are numerous banks, the bottom is dirty and the sea breaks. At depths above 10 m the following hazards must be avoided (As per the North Coast Route):

- **Pedra da Corvina**
- **Banco Piraquembáua de Fora**
- **Baixo do Espadarte (or Banco do Bragança)**
- **C.S Rio Guaíba** (00°27,09´S – 047°52,85´W)
- **Bancos da Tijoca**.

- **Pará River, from Barra to the Port of Belém:**

**Chart 303**: The Pará river separates the east, southeast, and south coasts of *Ilha de Marajó* from the mainland. It is considerably wide, with stretches where a navigator in the middle of the river cannot see its banks. It connects with the Amazon river through canals called straits and bores that separate the numerous islands located between the southwest coast of *Ilha de Marajó* and the mainland. It is also the mouth of the Tocantins river and several smaller rivers.

**Chart 21300** Coming from the North, recognizing the coast for landing is made difficult by its characteristics (low-lying, with uniform vegetation and no notable geographical features) and by the muddy color of the waters of the Amazon and Pará rivers, which penetrate far out to sea, hindering the observation of shallower areas.

Navigation should be limited to depths greater than 20 meters to avoid the sandbanks located at the northern mouth of the Amazon river and at the mouth of the Pará river. A navigator coming from the East can safely position themselves 10 miles from the coast, in depths greater than 10 meters and within the range of the lighthouses, until they recognize Salinópolis.

**Chart 303**: Next to *Ilha de Marajó* there is an alternative canal, the Quiriri canal, which begins at the Quiriri (Safe Waters) luminous buoy and is marked by luminous buoys at starboard and port side, all the way to the southernmost point of Coroa Seca. Pilotage through this canal is optional for national and foreign vessels that are not carrying dangerous cargo, up to the anchorage off Mosqueiro.

Ships whose pilotage is not mandatory must navigate with great caution, because the depths of the canals and the positions of the sandbanks near the usual navigation areas change very frequently.

**Chart 302**: At the mouth of the Pará river, navigating the Espadarte canal, the critical section between the Espadarte shoal (Bragança bank) and the Tijoca banks is marked by 2 luminous buoys on the starboard side and 4 on the port side. The Poções canal should only be explored with local knowledge, as it is subject to variations. Between the Espadarte shoal and the Gaivotas crown, pay attention to the ship's pitch over the crown when the tide is going out.

**Chart 303**: In the Quiriri canal, luminous buoys 8, 10, 5, and 12 guide navigation.

**Charts 304 and 302:** In the Mosqueiro canal, avoid approaching the rocks northeast of Tatuoca Island, which are marked by a luminous buoy to starboard. In the canal parallel to Ilha da Barra, one must pay attention to the sandbar that surrounds the island, whose northern and eastern limits are marked by luminous starboard buoys.

**Chart 320**: When approaching the Val-de-Cães Naval Base, pay special attention to rocks around Barra and Forte rocks, marked by portside luminous buoys and to the rocks around Val-de-Cães, marked by port side luminous buoys, north and south cardinal directions.

When approaching the port dock, pay attention to the sandbanks that line the dredged canal, especially the Cidade sandbank, which occupies the entire area in front of the dock.

Navigators should be aware that the outline of the river's emerged parts, as represented on nautical charts, is subject to constant changes due to intense geomorphological, erosive, and sediment depositional activities, which can cause phenomena such as the emergence, growth, and displacement of sandbanks, the growth of islands, bank erosion, etc.

From the harbor entrance to the Port of Belém, the following hazards, located near the right bank and the navigable canal, should be avoided: (According to North Coast Route Guide)

- **Coroa das Gaivotas**
- **Recifes das Andorinhas**;
- **Pedras**;
- **Pedras**;
- **Pedras da Barra**;
- **Pedra Val-de-Cães**;
- **Alto-fundo**;
- **Casco soçobrado**.

## FREE PILOTAGE AND CLEARANCE BY PORT AUTHORITIES

The ship's master, six hours before arrival at the port, informs the ship's agent so that they can make arrangements regarding the scheduling of visits by the port authorities for the granting of Free pilotage. Ships coming from areas considered endemic will be visited at the anchorage before docking. In other situations, ships will be inspected at the terminal by both Port Health and Customs when there is imported cargo, and by the Federal Police when it is a foreign ship.

Coastal vessels originating from non-endemic areas must send a specific message to the Port Health through the agency in order to obtain authorization to navigate, attesting to their good sanitary condition, which will be transmitted via radio to the ship.

Ships arriving from a foreign port, even if they have already called at a national port, will also be inspected by Customs, and the agent must submit a request to that effect, providing the necessary details. They will also be subject to a visit from the Maritime Police, after being granted free pilotage, for verification of the seafarer's license or passports of all crew members and passengers.

In any situation, until free pilotage is granted, there may be no embarkation or disembarkation of any crew member and/or visits on board.

**Documents required for clearance by the Port Health:**

- List of crewmembers
- List of passengers
- Valid vaccination list for yellow fever.
- Declaration on International Maritime Health
- Photocopy of the rodent control certificate
- Photocopy of the cargo manifest
- List of the last visited port
- Ballast water report

**Documents required for clearance by the Federal Police:**

- List of crewmembers
- List of narcotics
- List of weapons and ammunition
- List of passengers
- List of the last visited port
- List of passengers in transit
- Passenger and cargo

**Documents required for customs clearance of the ship:**

- List of crewmembers
- List of passengers
- Ship's particulars

- List of the last visited port
- List of material existing on board
- List of crew members' belongings
- General baggage declaration
- Copy of the cargo manifest and bill of lading.

**Documents required for clearance of the ship by the Port Captaincy:**

- Declaration of the master
- General declaration
- List of crewmembers
- List of passengers
- Cargo declaration
- List of onboard materials
- Copy of the masters' logbook.
- Copy of the international tonnage certificate
- Copy of the international freight line

**To clear the ship for departure, the following documents must be obtained:**

- Customs Exit Pass
- Port Captaincy Exit Pass
- Exit pass from the Federal Police

When family members of crew members embark on ships destined for overseas destinations, in addition to the specific license granted by the Port Captaincy, their respective passports must be delivered to the agent 24 hours BEFORE THE SHIP'S DISPATCH, for the purpose of regularizing boarding visas and passenger lists with the Federal Police.

Upon returning from abroad, masters must send messages to the terminal, informing them of the number of passengers to be disembarked. Upon arrival, the respective passenger list, along with passports, must be presented to the Federal Police for inspection by police and health authorities.

**Remarks:**

- ✓ The Quebec flag should be raised when approaching the terminal and lowered when free pilotage is granted. The Brazilian national flag must remain packed up for the entire duration of its stay at the terminal.

- ✓ Smuggling – Brazilian laws are strict regarding smuggling. Therefore, masters should instruct their subordinates to avoid bringing ashore or trading cigarettes, cigars, tobacco, alcoholic beverages, souvenirs, and other imported items. Before arrival, they must be collected at the customs locker (seal), which will be the responsibility of the master for the entire duration of their stay at the terminal. Under no circumstances will any commercial transaction be permitted, whether between employees, crewmembers, or any other persons.

### GENERAL RESTRICTIONS

- ➢ Ships approaching the port must turn through the access canal at high tide, maneuver in the maneuvering basin, and dock on the port side.
- ➢ Ships with sufficient draft (maximum length 110 m) may dock on the port side during low tide. In this sense, maneuvers in the afternoon are restricted to being performed when the wind is greater than 20 knots.
- ➢ The use of speedboats equipped with VHF radios to hoist mooring lines is mandatory.
- ➢ Special situations: For ships longer than 180 m, the canal known as the “Tutoca canal” should be used, that is, limited to the north by the “Middle bank,” with a maximum recommended draft of 4.0 m plus the tidal increment minus the pilot’s foot, which varies according to the ship’s length and tonnage, thus avoiding the rotation of the maneuvering basin.
- ➢ Ships exceeding 180 m in length must use the canal known as the “Tatuoca Canal,” that is, limited to the north by the “Middle Bank”, with a maximum recommended draft of 7.00 m at high tide, thus avoiding turning in the maneuvering basin. This is a critical maneuver, and prior agreement from the pilots is essential.

### NAVIGATIONAL AND MOORING AIDS

Marking the entrance to the port is the buoy “Tatuoca”, located at Lat 01°11, 22’ S and Long 048° 29, 50’ W.

The ship must turn in the area adjacent to the Miramar terminal to begin docking, and at the Miramar terminal, a towing service is required to assist ships during docking.

# 6. Description of Berths

### 6.1 PHYSICAL DETAILS OF BERTHS

The Miramar Terminal encompasses a **territorial area of 870,270.75 m².** Its territory consists of two operational areas: a primary area where the piers, ramp, and administrative buildings of CDP are located, and a secondary area (backport) where several fuel distribution companies are supplied via pipelines that originate at the piers and subsequently interconnect.

**Docking structures:** It has two independent, T-shaped docking facilities (piers), allowing for three berths, where each docking platform is connected to an access bridge, all constructed of reinforced concrete and consisting of pre-cast reinforced concrete vertical piles in their infrastructure.

**Pier 100 - Liquid bulk:** It has a docking platform 77.50 m long, built in reinforced concrete, using pre-cast concrete caissons as the platform deck. Currently, only two berths are in operation: outer berth 101, primarily intended for the berthing of ships, mostly those transporting LPG, and inner berth 102, intended for the berthing of tank barges. It has two dolphins mounted on inclined piles, made of reinforced concrete, intended for mooring.

**Pier 200 - Liquid bulk:** it has a 40.00 m long docking platform and two adjacent mooring dolphins, made of reinforced concrete, interconnected by 18.50 m long bridges, as well as three operational support platforms, in metal structure, installed on the front face of the docking platform and berthing dolphins. Currently, only two berths are in operation: outer berth 201, primarily intended for the berthing of liquid bulk carriers, and inner berth 203, intended for the berthing of tank barges. It also has two mooring dolphins consisting of blocks resting on vertical piles, made of reinforced concrete.

Each pier at the Terminal allows only one ship to dock at a time. Pier No. 100 (North) handles only liquid bulk cargo - byproducts and LPG, allowing the berthing of ships with a maximum tonnage of 15,000 DWT and a length of up to 140 m. Pier No. 200 (South) also operates exclusively for liquid bulk cargo – Petroleum Derivatives and LPG, allowing the docking of ships up to 210 m in length, with a gross tonnage (GT) equal to or greater than 30,000 tons. There are no restrictions regarding the ship's beam for either pier. However, the docking of ships and more than one ferry alongside a ship docked at the terminal is not permitted (PDZ, 2017).

The following table shows the characteristics of the Terminal's berths.

| Berth Number | Type | Berth Length (m) | Depth (m) | Tide | | Breadth (max) | Vessel Length | Products | Displacement (maximum) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Syzygy | Drought | | | | |
| 1 | Pier | 76.3 | 7.30 | 3.22 | 2.42 | No restrictions | 140 | Byproducts, bunker and LPG | 4 KNOTS |
| 2 | Pier | 40.0 | 7.30 | 3.22 | 2.42 | No restrictions | 210 | Byproducts, bunker and LPG | 4 KNOTS |

*Table 5*

## DEPTH CONTROL

***Resolution DIREXE No. 65/2020, of November 20, 2020***, resolves to change the maximum operational draft of the Miramar Terminal from 7.60 meters to 7.30 meters, until further notice.

### MAX DIMENSIONS

Each pier at the Terminal allows only one ship to dock at a time. Pier No. 100 (North) handles only liquid bulk cargo - byproducts and LPG, allowing the berthing of ships with a maximum tonnage of 15,000 DWT and a length of up to 140 m. Pier No. 200 (South) also handles only liquid bulk cargo – byproducts and LPG, allowing the berthing of ships with a maximum tonnage of 30,000 DWT and a length of up to 210 m.

## 6.2 BERTHING AND MOORING ARRANGEMENT

- - Mooring at piers 100 and 200 is advisable on the port side, with the tide running upstream;
- The use of two suitable speedboats, equipped with VHF radio, is mandatory for hoisting the mooring lines;
- For ships that use wire rope for mooring/unmooring, the mooring/unmooring assistance boat must be manned by three (3) crew members;
- Maneuvers in the afternoon are restricted when the wind is greater than or equal to 20 knots;
- In all cases, prevailing wind conditions should be observed.

### PIER 100

| | |
|---|---|
| **- Access Bridge:** | C = 123.0 m; L = 6.0 m; |
| **- Docking Platform:** | C = 77.5 m; L = 23.5 m; |
| **- Number of Mooring Dolphins = 2** | C = 5.0 m; L = 5.0 m; |

*Table 6*

### PIER 200

| | |
|---|---|
| **- Docking platform:** | C = 40.0 m; L = 15.0 m; |
| **- Support Platforms (center):** | C = 15.0 m; L = 5.20 m; |
| **- Access Bridge:** | C = 180.0 m; L = 4.00 m; |
| **- Number of Mooring Dolphins = 2** | C = 11.0 m; L = 12.0 m; |
| **- Number of Mooring Dolphins = 2** | C = 11.0 m; L = 12.0 m; |
| **- Two support Platforms (side):** | C = 7.30 m; L = 4.50 m; |
| **- Two Access Bridges (side):** | C = 18.50 m; L = 4.50 m; |

*Table 7*

## 6.3 BERTHING

Mooring lines require constant maintenance to keep the ship moored at all times. All lines must be kept under proper tension during operation, with the winches under brake; the use of self-tensioning winches is not permitted.

All mooring cables must be of the same type, gauge and material (fiber or wire), and the use of mixed moorings is not permitted. Mixed mooring arrangements are those in which the lines that perform the same function are of different types, gauges, and materials. Mooring lines must be arranged as symmetrically as possible in relation to amidships.

Breadth lines must be oriented as perpendicularly as possible to the longitudinal axis of the ship and moved as far forward and aft as possible. Spring lines should be oriented as parallel as possible to the longitudinal axis of the ship.

If fiber braces are used on wire ropes, they must be of the same type, with a gauge 25% larger than the minimum breaking load of the wire rope, made of the same material and of the same length.

The horizontal angle of the bow and stern mooring lines in relation to the direction of a breadth line perpendicular to the longitudinal axis of the ship may not exceed 45°. The maximum tension applied to the lines should be 55% of their breaking strength.

Approach, mooring, and unmooring maneuvers must be performed at low speed, always against the current.

Care must be taken when passing mooring lines from the ship's stern to the mooring boats, in order to avoid accidents with the propellers of the ship and the mooring boats.

The recommended mooring arrangements assume that the ship's lines and winches are in good condition. While docked, ships must keep their engines on "standby," ready to go into operation.

CDP has personnel available and trained to handle ship mooring lines during docking and undocking maneuvers. All work required during berthing, cargo transfer and unberthing, opening and closing of hatches and deck cleaning, must be carried out by the ship's crew.

Every ship destined for TA-BELÉM must be equipped to perform the mooring described below. The safety of the mooring is the responsibility of the ship's master and will be assessed by a qualified safety inspector. TA-BELÉM may veto or interrupt an operation in which the ship's mooring is deemed unsatisfactory. Below is the minimum configuration for mooring:

| MOORING ARRANGEMENT - MIRAMAR TERMINAL | | | | | | |
|---|---|---|---|---|---|---|
| PIER | BOWLINES | | BREADTH LINE | | SPRINGS | |
| | Bow | Aft | Bow | Aft | Bow | Aft |
| 1 | 3 | 3 | 2 | 2 | 2 | 2 |
| 2 | 4 | 4 | 2 | 2 | 2 | 2 |

*Table 8*

Note: The ships that berth at Pier 2, which have a gross tonnage (GT) above 30,000 tons, followed the configuration described above. However, if the gross tonnage is less than 30,000 tons, the same configuration used by ships docking at pier 1 may be adopted.

| Berth Number | Does it require pilot to maneuver? | TPB | Approaching | | Mooring Points | | Mooring Lines | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Speed (max.) | Angle (max.) | Bollard | Cat | Bowline | Breadth Line | Spring |
| 1 | S | 15,000 | 4 | 45 ° | 8 | - | 3 | 2 | 2 |
| 2 | S | 30,000 | 4 | 45 ° | 8 | - | 4 | 2 | 2 |

*Table 9*

## 6.4 CHARACTERISTICS OF THE BERTH FOR LOADING, UNLOADING AND SUPPLY

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

**Notes:**

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

The positioning of the loading/unloading hoses is shown in Appendix C (Distribution of loading/unloading outlets in each berth).

| Berth Number | Products | | Hose (diameter) | Class (lbs/pol) | Receiving or Sending | Temperature | | Max flow rate | Max Pressure (kgf/cm²) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Min | Max | | |
| 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 |
| | | Ferry | 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 |
| | | Ferry | 6” | 150 | E / R | Amb | 90 | 450 | 7 |
| | MF-380 | | 8” | 150 | R | Amb | 90 | 900 | 7 |

*Table 10*

# 7. Communication Before Arrival

The Terminal sends to the ship the Terminal Port Information Booklet by means of the Agency after confirmation of the operation at the terminal. As well as the list of documents required for release with local authorities

## 7.1 INFORMATION FROM TERMINAL TO SHIP

At all phases, as described in the sub-items below, measures are taken to facilitate operations and plan them appropriately.

### 7.1.1 BEFORE ARRIVAL

Ships bound for the Miramar Terminal must inform the protecting agent of their Estimated Time of Arrival (ETA) 72 hours and 48 hours in advance, respectively, via email. The ship must confirm its arrival at port 24 hours in advance.

Before the ship arrives at port, the agency must exchange information via email with the Control Room, in order to instruct both the vessel and the CTO and Operational Supervision with the **Pre-operational Information**. It must contain all the necessary information to facilitate and expedite the ship's operation, such as: product, quantity, product density, bunker fuel, among others. The ship's information for the terminal is described in APPENDIX D.

Repairs on board and cleaning of the ship's cargo tanks must be carried out in the anchorage area. The port authority, CDP, prohibits the cleaning of tanks while the ship is docked.

### 7.1.2 UPON ARRIVAL

Port control at the Miramar terminal is the responsibility of Companhias Docas do Pará – CDP, and is carried out through communication via VHF radio channel 16, with one central unit and three mobile units.

Bunker supply requests should be sent to UN-Bunker by means of its Agent, who in turn forwards them to the terminal. The water request is made through the Agent to the Port Authority, in this case CDP, since the port is the one that supplies potable water. Water can be supplied to both piers using a 2 ½" hose and without the use of a pump; the supply is based on the difference in level, at a flow rate of 8 $m^3/h$.

Bunker fuel can also be replenished at both piers using 4" hoses. At pier 2, an 8" hose can be used for marine fuel bunkering, depending on the availability of the ship's onboard power outlets. The maximum supply pressures are 7.0 $kgf/cm^2$. TA-Belém is able to supply, in addition to MGO, mixtures of MF-30 to MF-380, for all ships docked at piers 1 or 2.

## 7.2 7.2 INFORMATION FROM SHIP TO TERMINAL

Terminal Form (ISGOTT Chapter 22)

# 8. Operational Information

## 8.1 SHIP/PORT ACCESS

The piers at TA-BELÉM do not have telescopic ladders for accessing docked ships. All ships must provide safe means of access for the embarkation and disembarkation of personnel, and must always keep their gangplanks and ladders ready to be lowered. If using a plank, there must be enough space for free movement and the board must be equipped with a safety net. Lifebuoys with tag lines should be available near access points. The gangway or ship's plank should be used when necessary.

Access to land using the terminal facilities is subject to the regulations of CDP – Companhia Docas do Pará, the Port Authority; therefore, crew members may disembark provided the formalities are completed. A request must be made by the agent, and each crew member disembarking must have their Registration Booklet and valid Passport. If the crew member does not return to the ship, they must present an airline ticket proving that they will be leaving the country by air.

## 8.2 MEASUREMENTS, CALCULATIONS, SAMPLING AND INITIAL RELEASE

Onboard measurements and calculations will be carried out by ship personnel and monitored by terminal representatives and other inspectors. The equipment used must be properly grounded to prevent ignition by static electricity sparks, and the measuring accessories must be explosion-proof. Whenever possible, ship inspections should be carried out without entering the tanks. If the cargo requires internal inspection of the tank, all safety precautions inherent to entering confined spaces must be taken. In this case, the ship must leave the tanks degassed after the unloading is complete and in a "free for man" condition. If TA-BELÉM or the Inspectorate rejects the inspected tanks, the delay will be charged to the ship.

The operation only begins after the Initial Letter has been completed during Initial Clearance by land and ship representatives, according to the information contained in APPENDIX "E". This procedure aims to establish an agreement between the terminal and the ship that can ensure the minimum safety conditions for the start of the cargo transfer.

## 8.3 SHIP/SHORE SAFETY CHECKLIST (LVSO)

Immediately after Berthing and before the Start of Operation, in order to verify its operational safety conditions, equipment and procedures, the GIAONT carries out the Safety Inspection, according to the Operational Safety Checklist, based on the latest edition of ISGOTT, and in accordance with the type of ship.

In the end, this must reflect the exact condition of the ship, when the Giaont Inspector must present the result to the ship's Master or his legal representative. If any non-conforming item is observed that could affect the safety of the operation, the operation will only begin after the issue has been resolved and the ship is considered safe to operate.

The Inspector must immediately inform the
Nautical Advisor and the Operational Supervisor of any issues found, and even if these have been resolved, they must be recorded in Annex IV of the PMO and service log.

## 8.4 BALLAST, DEBALLAST AND SLOP POLICY

The ships' ballast and deballast networks and tanks must be used only for this purpose, when they are isolated from other networks on board. Ballast water to be discharged into the sea must be completely free of oil, any oily waste, or any other substance capable of causing sea or river water pollution. All ballast water control regulations must be strictly adhered to by the Masters, and evidence of compliance may be requested at any time by the onshore team.

### SLOP

**TA-BELÉM does not receive SLOP from ships.**

## 8.5 CLEANING OF TANK

No COW operation is performed, as the terminal is characterized as being solely for discharging light derivatives.

## 8.6 PROCEDURES FOR CONNECTING/DISCONNECTING HOSES

### BEFORE CARGO TRANSFER

See item8.3 Operational Safety Checklist (LVSO).

### ELECTRICAL INSULATION

All Terminal connections that interface with ships are equipped with Electrical Isolation Joints (EIJ), in addition to the fact that all hose lines use electrically continuous type hoses, and the Port has grounding cable installed near the hose area.

### RESOURCES FOR CONNECTING HOSES

The resources required for connection are agreed upon the ship's first contact with the terminal. The ship must have the necessary sockets and install load reducers and connections to allow for the coupling of the hoses; the terminal does not have a loading arm, cranes are used at Pier 2 and only hoses at Pier 1.

The personnel hired by TRANSPETRO carry out the connections and disconnections of the hoses and grounding cables, assisted by the onboard personnel, who handle the winches and cargo booms when necessary. After the loading hoses are connected, they are tested for leaks using the static pressure of the terminal column for this purpose.

An onboard representative must monitor the entire operation and must be close to the ship's loading port. All connected hoses must be supported by brackets, especially those connected to reducers.

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

## 8.7 PROCEDURES FOR CARGO TRANSFER.

The operation only begins after the initial chart has been completed and signed by the Terminal and onboard representatives.

Pressures will be monitored during cargo transfer and recorded by ship and shore representatives on the ship's manifold on an hourly basis. The terminal controls the internal pressure variables, and the flow rates are monitored in real time through the supervisory system available in the control room. Since some diesel, gasoline, aviation fuel (GAV), and jet fuel (QAV) lines do not have mass balance or flow meters, in this case the terminal flow rates will be calculated from the receiving or shipping tanks.

The operational flow rates, measured on the ship and at the terminal, and the total volume handled are compared hourly between the parties, at most every 15 minutes, having, according to the system used, a limit parameter for operational control. Any changes in operating conditions must be communicated and documented between the parties.

During operation, it is expressly prohibited to close valves that cause back pressure in the system.

LPG carriers can dock at either pier 1 or pier 2, preferably pier 1, leaving pier 2 free for ships with a gross tonnage exceeding 30,000 GT. The terminal has a steam return line for pressurized ships, which may or may not be used, depending on the transfer operations to the LPG distribution companies.

No repairs or maintenance work of any kind that involves or may involve a risk of sparks or other ignition sources may be carried out while the ship is docked at the terminal piers. In extreme cases, all safety standards must be observed and met. Repairs involving pier facilities or that imply any restriction on the ship's stay must be previously authorized by TA-Belém and the port authority of the Miramar terminal, CDP.

Intermediate inspections, as per the ISGOTT Annex, will be carried out by GIAONT every 4 hours during the ship's operation.

The interruption of loading or unloading of the ship must be requested, via radio or other means of communication, whenever it occurs in any situation that may pose a danger, either to the ship or to the terminal.

Cargo transfer must be interrupted in any situation that may pose a danger, either to the ship or to the Terminal. Operations should also be temporarily suspended during storms, thunderstorms and/or strong winds. The onshore team is authorized to interrupt or suspend the cargo transfer operation in the event of noncompliance with any of the rules and regulations concerning safety universally accepted and adopted in the maritime transportation of oil. The ship's master has the right to interrupt the cargo transfer operation if he has reason to believe that operations on land are unsafe, provided he gives advance notice to the shore team.

In any emergency, the Terminal interrupts operations so that all resources are focused on mitigating the loss. The actions and contacts for each type of emergency are described in the TA-BELEM Emergency Response Plan (PRE) and the Individual Emergency Plan (PEI), and the main telephone numbers are provided in item **1. Emergency Procedures**

### RESTRICTION ON EXCESSIVE SMOKING AND BURNING

It is prohibited to perform branching or cleaning of boiler pipes with the ship docked. Precaution must be taken to prevent sparks from escaping up the chimney. Failure to comply with this regulation will result in one or more of the following sanctions: immediate interruption of operations; fine from the competent authorities; compulsory unberthing of the ship from the pier; communication of the violation to the shipowners; holding the ship responsible for fines, loss of time and all other related expenses arising from this fact.

### RESTRICTION / CONDITION OF VESSEL ON THE BROADSIDE

The prohibition on the presence of unauthorized small vessels on the broadside or in the vicinity of berthed ships must be strictly observed. Only terminal service vessels or authorized vessels may be in the vicinity of or alongside ships, provided they meet all safety conditions. Any breach of this rule must be reported to the competent authority.

### PROPELLER MOVEMENT RESTRICTION

Moored ships may not move their propeller(s) while they remain connected to the unloading and/or bunkering hoses. A ratchet may be used, after due notice to the terminal operator, but the propeller must be moved so slowly that absolute safety is achieved. Ships will be held liable for any damage resulting from these procedures.

### INTERMEDIATE INSPECTIONS

Intermediate inspections, as per the ISGOTT Annex, will be carried out by GIAONT every 4 hours during the ship's operation.

## 8.8 DRAINING, CARGO MEASUREMENT, SAMPLING AND DOCUMENTATION

### DRAINING HOSES

After the operation is complete, the hoses used should be drained. The terminal operators will provide drainage for the hoses used for the closed system on the pier. The ship's representative must arrange for the drainage of the section on board, according to the TA-BELÉM Operations Manual, item 11.1, paragraph "a", which states that - prior to disconnection, immediately after the end of operations with the ship, the operational assistant supports the CDP team in draining the hoses to the sump tank installed on the pier.

Finally, the operational assistant must ensure that all manifolds involved in the operation are properly flanged, as well as the hoses.

### FINAL ONBOARD MEASUREMENT

Final onboard measurements will be carried out by the ship's personnel and monitored by terminal representatives and other inspectors; when there is imported cargo, a customs representative will also be present. The material used must be properly grounded and the measuring accessories must be explosion-proof. The final release of the ship takes place after comparing the quantities moved and completing the stay documentation.

If there is any remaining fuel on board, the RMQB (*Measurement and Quantity Report on Board*) must be completed, signed, and stamped by both parties; otherwise, the ship must issue an Inspection Certificate, where both parties sign, agreeing that the ship's tanks have been inspected and are empty.

## 8.9 CLEANING AND ENTRY IN TANKS

No COW operation is performed, as the terminal is characterized as being solely for discharging light derivatives.

## 8.10 INERT GAS

In the event of difficulties or problems with the ship's inert gas system, operations will be suspended until the system meets the minimum acceptable standards.
Ships must have atmospheres inert to flammability and explosion in the tanks to be loaded.

## 8.11 BUNKERING

### Bunkering requests

Bunker supply requests should be sent to UN-Bunker by means of its Agent. **See item 7.1.2**

## 8.12 DRINKING WATER

The water request is made through the Agent to the Port Authority, in this case CDP, since the port is the one that supplies potable water. Water can be supplied to both piers using a 2 ½" hose and without the use of a pump; the supply is based on the difference in level, at a flow rate of 8 m³/h.

## 8.13 UNBERTHING AND DEPARTURE FROM PORT

During the unmooring and departure maneuver from the port, the canal limits and hazards described in section 5.3 and its sub-items must be observed. The presence of a pilot is indispensable during unmooring and departure maneuvers from the port.

The pilot typically disembarks at the same embarkation point for entry into the port, where a pilot boat from the port's pilot service will be waiting for him.

## 8.14 COMPLIANCE WITH THE ISPS CODE

See item: **2.3 SAFETY STATEMENT (ISPS CODE)**

# 9. Port or Anchorage Organization

## 9.1 PORT CONTROL OR VTS

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

For additional information, current regulations and notices, please consult the Port Authority website directly.: http://www.cpaor.mar.mil.br **or Email secom@cpaor.mar.mil.br.**

## 9.2 MARITIME AUTHORITY

The Maritime Authority to which the Terminal is subordinate is the Port Captaincy of Eastern Amazon.

Ships coming from areas considered endemic will be visited by the Health Surveillance at the anchorage before berthing. In other situations, ships will be inspected, when docked, by both Port Health and by Customs when there is imported cargo, and by the Federal Police when it is a foreign ship.

The Maritime Authority is responsible for determining the actions to be taken and penalizing those responsible for any incidents within the port's limits.

Contact with the port authority at the Miramar terminal is made via VHF radio channel 16 or telephone, number (91) 3213-6606, directly with the port supervisor or with the mobile unit, via VHF radio channel 9.

## 9.3 PILOTAGE

Pilotage is mandatory in all ports and terminals for oil tankers, propane carriers, and ships carrying explosive cargo with a gross tonnage exceeding 2000.

- Espadarte Canal – Mandatory use of pilotage for all ships up to a maximum draft of 11.0 m.

- Quiriri Canal – Mandatory use of pilotage for ships with drafts greater than 12.2 m and optional for ships with drafts up to 12.2 m. The maximum authorized dynamic draft is 13.8 m*, according to the current regulations*.

- Mosqueiro Canal, Tapanã sandbar, Jararaquinha and Guajará Bay – Pilotage is mandatory for all ships. The maximum draft will be the same as that permitted for the terminal or anchorage requiring it.

Note: Transport of dangerous goods – the use of pilotage is mandatory for all ships transporting dangerous goods, regardless of the access canal used and the draft. *Observe the recommendations in Item 6.1.6 of this NPCP-AOR.

## ZP-03 - Belém, Vila do Conde Port Complex and Surrounding Areas (PA)

- ZP-03 Features

It comprises access via the Quiriri (or Marajó) canal, or the Espadarte canal, on the Pará river, from the pilot waiting points located downstream from the outer edge of the Xingu bank and Cabeço do Norte, and from the one located downstream from Baixo Espadarte, to the port of Belém, the port of Vila do Conde, and access to the Straits region southwest of *Ilha de Marajó*. The Tocantins River is considered an extensive waterway within this protected area.

The Quiriri (or Marajó) canal is considered optional, given the existence of buoyage (according to Permanent Notice No. 065/02 of the DHN), for national and foreign vessels that do not carry dangerous cargo. Pilotage in this ZP is mandatory, except for the section considered optional.

The mandatory pilotage zone is limited to the following embarkation and disembarkation points for the pilot, as well as the ports of Belém and Vila do Conde and the timber yard at the Breves Strait.

| PILOT WAITING POINTS | | | |
|---|---|---|---|
| **ZP *** | **PORT/TERMINAL** | **LAT./LONG.** | **REMARKS** |
| 3 | Port of Belém, Vila do Conde and *Madeireira* of the Breves Strait. | 00° 17’ 00” S<br>047º 49’ 00” W | Point No. 01 – ships coming from the North and West directions, heading towards the Pará River. |
| 3 | Port of Belém, Vila do Conde and *Madeireira* of the Breves Strait. | 00° 24’ 30” S<br>047° 46’ 00” W | Point No. 02 – ships coming from the East, basically originating from Brazilian ports, that reach the Pará River. |
| 3 | Port of Belém, Vila do Conde and *Madeireira* of the Breves Strait. | 01° 06’ 00” S<br>048° 29’ 30” W | Ships coming from the high seas, which have not received a pilot for the optional section, receive a pilot off the Vila de Mosqueiro, marking the *Ponta do Chapéu Virado* lighthouse, at 146° true, at a distance of 2.5 NM. |

*Table 11*

**SOURCE: NORMAM 12/DPC Mod. 21; NPCP-CPAOR AND NORTE COAST ROUTE GUIDE, 2020 – 2024.**

*** PILOTAGE ZONE.**

- Pilotage Service in ZP-03 is performed by the following companies:

I) Baia do Marajó Serviços de Praticagem S/S Ltda – MARAJÓ PILOTS;

II) Espadarte Serviços de Praticagem S/S Ltda – ESPADARTE PILOTS;

III) Canal do Quiriri Serviços de Praticagem S/S Ltda – QUIRIRI PILOTS;

IV) Rio Pará Serviços de Praticagem S/S LTDA;

V) Empresa de Praticagem do Rio Pará and Portos da Região S/S Ltda (PARÁ RIVER PILOT);

VI) CRISTIAN ANTONIO CIPRIANO S/S LTDA

Ships heading to or coming from the Amazon Basin, through the straits region: will change pilots near *Ponta do Pinheiro*, in Icoaraci.

The request for a pilot to enter must be made by the company, its agent or representative, on a specific form, 48 hours before the ship's arrival in Salinópolis, the time of which must be confirmed 24 hours, 12 hours and 8 hours in advance. For departure from Belém or Vila do Conde, the request must be made 24 hours in advance.

## 9.4 TUGBOATS AND OTHER MARITIME SERVICES

NPCP-AOR, 2022, establishes that entry and exit maneuvers in the access canal to the Port of Belém for ships with a Length Overall (LOA) equal to or less than 160 meters must be compulsorily assisted by a tugboat if they do not have a bow thruster. Maneuvers for ships with a LOA (Length of Air) exceeding 160 m will be mandatorily assisted by at least one tugboat.

The use of a tugboat is mandatory for mooring and unmooring at the port of Miramar, and two tugboats are required for mooring and unmooring maneuvers at the Miramar Ponte Nova Terminal (pier 200).

TA-BELÉM does not have a speedboat service. The agent must arrange this service through service providers located in the port. Below is a list of some vessels and their characteristics that provide line mooring and crew transportation services in port:

| Mooring and Crew Transport Services | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Owner** | **Name:** | **Length (m)** | **Shafts** | **Power HP** | **Static Traction** | **Approved by Transpetro** | **NOTE** |
| Amarena | Amarena II | 9 | 1 | 130 | * | Yes | Transp. Passenger and cargo |
| Amarena | Amarena III | 10 | 1 | 130 | * | Yes | Transp. Passenger and cargo |
| Amarena | Celebrate | 14 | 1 | 155 | * | Yes | Transp. Passenger and cargo |
| Amarena | Novilho | 10 | 1 | 103 | * | Yes | Transp. Passenger and cargo |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Amarena | Zenith | 11 | 1 | 155 | * | Yes | Transp. Passenger and cargo |

*Table 12*

** Information not provided by the company*

## 9.5 OTHER OIL TERMINALS

The Outeiro Port Terminal is an extension of the organized port of Belém, located at *Ponta do Redentor*, on the *Ilha Fluvial* of Caratateua or Outeiro, a district of Belém, State of Pará, in the estuary of the Guajará-Açú river, on the right bank of the Guajará bay, at a river distance of 19 km from the Port of Belém.

The geographical coordinates of the Outeiro terminal are as follows:

| DATUM: WGS-84 | TERMINAL |
|---|---|
| Latitude S | 01º 16'40.8" |
| Longitude W | 048º29'39.0" |

*Table 13*

### Installations

The Outeiro Port Terminal encompasses a territorial area of 313,826.24 m². Its territory consists of paved and illuminated traffic lanes available for use in moving cargo.

**Docking structures**: It has two docking facilities (piers), interconnected by a single access bridge, and is entirely constructed of reinforced concrete, featuring precast reinforced concrete piles in its infrastructure.

**Pier 100** – Ships: built at the end of the access bridge, in an "L" shape, it has two mooring berths 101 and 102 to receive ships of up to 40,000 DWT and 16,000 DWT, respectively, intended to carry out operations with general cargo and solid bulk. The pier was designed for an overload of 4.0 t/m², with mooring bollards with capacities of 100 t and 60 t installed at berths 101 and 102, respectively.

**Pier 200** – Barges: built in the intermediate section of the access bridge and parallel to pier 100, it has two berthing berths 201 and 202 to receive vessels of up to 2,700 DWT, intended to carry out operations with general cargo and solid bulk. The pier was designed for an overload of 2.5 t/m², with mooring bollards with a capacity of 25 t installed at the berths.

## Storage

**Storehouse**: consisting of seven adjoining sheds measuring 21.50 m x 105.00 m, totaling a constructed area of 19,560 m², a load capacity of approximately 300 t and a shaft height of 3.10 m. The facade of the six central warehouses consists of an additional covered area with the same type of construction intended for the loading and unloading area, equipped with an elevated platform and access for trucks, with approximately 1,500 m². Inside the warehouse there are two three-story administrative buildings, measuring 10.00 m x 37.50 m and 10.00 m x 16.00 m, with total areas of 480 m² and 1,125 m² each.

**Storage Yards 03, 04, 05 and 06**:

Rectangular areas, each measuring 10,200 m², are located adjacent to the warehouse, 24.50 m away from it and 14.50 m apart from each other.

**Storage Yards 02 and 01**: Rectangular areas, each measuring 9,800 m², are located adjacent to warehouse number 03, 14.20 m away from it, and are set back laterally by 12.50 m from the alignment of the other areas.

## Cargo Handling

The Outeiro Port Terminal is geared towards handling solid bulk cargo and general cargo. The terminal also carries out cargo transshipment operations in support of the Port of Belém, in accordance with the Port Operating Regulations (REP).

River access to the SOTAVE terminal is the same as for the port of Belém and the Miramar Terminal, via the Mosqueiro Canal, where the minimum recorded depths are around 10.7 m, as can be seen on the DHN Nautical Chart No. 316, with depths ranging from 7.8 m to 9.0 m and some locations reaching 6.7 m. The depths ahead of the ship berth at Pier II Terminal, as shown on the nautical chart, measure between 12.0 m and 13.0 m, in a parallel strip 2.0 km long and approximately 1 km wide.

Road access is via the BL-010 municipal road, approximately 38 km from the port of Belém.

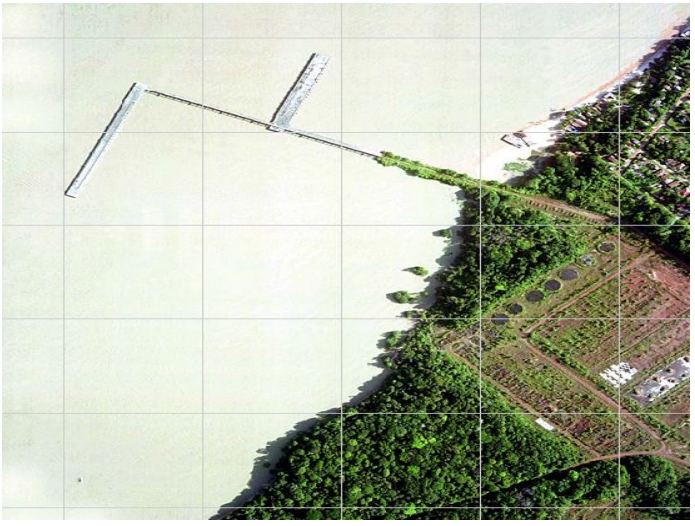


*Figure4* ***Outeiro Terminal (formerly known as SOTAVE).***

# 10. Contacts

See item: 1.1 **GENERAL** which contains a list of **Emergency Response** organizations.

- **TERMINAL**

| Location | Contact | Phone | Fax | VHF/UHF Channels | |
|---|---|---|---|---|---|
| | | | | Call | Conversation |
| **Pier 1** | Operator | 3211-6750 | ---- | 9 | 06 or 09 |
| **Pier 2** | Operator | 3211-6781 | ---- | 9 | 06 or 09 |
| **Control Room** | Operator | 3211-6725 | ----- | 9 | 06 or 09 |
| **Supervision Room** | Supervisor | 3211-6703 | ---- | 9 | 06 or 09 |
| **Workshop** | Supervisor | 3211-6743 | ---- | ---- | ---- |
| **Coordination of TA-BELÉM** | Coordinator | 3211-6701 | 211-6745 | ---- | ---- |
| **Safety (HSE)** | Safety Technician | 3211-6740 | ---- | 9 | 6 or 9 |
| **Gatehouse** | Security | 3211-6736 | ---- | ---- | ---- |
| **Administration** | Supervisor | 3213-6606 | 257-1900 | 16 | 6 or 9 |
| **Port - CDP** | | | | | |
| **Secretariat of TA-BELÉM** | Secretary | 3211-6702 | 211-6745 | ---- | ---- |

*Table 14*

## ➢ PORT SERVICES

| Organization | Contact | Phone | Fax | E-mail | VHF/UHF Channels |
|---|---|---|---|---|---|
| | | | | | Call |
| **Port Captaincy of Eastern Amazon** | Duty officer | 3218-3950 | 242-7690 | secom@cpaor.mar.mil.br | 16 |
| **Pilots Association** | Agency | 4006-6550 | 241-4372 | secretaria@pratbel.com.br | 16 |
| **Port Area** | On call | 3213-6606 | 257-1900 | kzan@cdp.com.br | 16 |

*Table 15*

## ➢ SELECTED SHIPPING AGENTS AND SUPPLIERS

| COMPANY | ACTIVITY | Phone | Fax | E-mail | VHF/UHF Channels | |
|---|---|---|---|---|---|---|
| | | | | | Call | Verbal |
| **Transpetro** | Agent | (91) 9292-8639 | - | Operations.bel@munizagmar.com.br<br>agents@munizagmar.com.br | 16 | 9 |
| **Val-de-Cães Naval Base** | Large-Scale Naval Repairs | (91) 216-4326 | 216-4254 | bnvc@canal13.com.br | 16 | 9 |
| **Amarena** | Mooring and Crew Transport | (91) 230-1860 | 230-1860 | amarenaportuarioltda@bol.com.br | 16 | 09,14,65 |
| **Expresso Mercantil** | Agent | (91) 212-4822 | 223-4353 | - | - | - |
| **Wison Sons** | Agent | 4009-0050 | 4009-0051 | opebe@wilsonsons.com.br | - | - |

*Table 16*

## ➢ MAIN AUTHORITIES

| CONTACT OF AUTHORITIES | |
|---|---|
| **AUTHORITY** | **TELEPHONE** |
| IBAMA | (91) 3210-4706 |
| Federal Police – Immigration Sector of the Port of Belém | (91) 3214-8000/8002 (91) 3214-8014/8016 |
| Internal Revenue Service – Port of Belém Customs | (91) 2183522/2183209 |
| Fire Department | (91) 4006-8399 |
| Val-de-Cães Naval Base | (91) 3216-4444 |
| Health surveillance | (91) 3344-1765 |
| Barra do Pará Pilotage | (91) 9920-60787/4006-6550 |
| União dos Práticos da Bacia Amazônica Oriental Ltda | (91) 3259-7879 |
| CDP – Companhia Docas do Pará – Port Authority | (91) 32136606 |
| Northern Nautical Signaling Service (4th Naval District) | (91) 3216-4006 |
| INFRAERO – Information - Aeroporto Internacional de Val-de-Cães (International Airport of Val-de-Cães) | (91) 3183-6000 / (91) 3210-6000 |
| Military and Civil Police (CIOPE) | 190 |
| Local Emergency Room | (91) 3184-6337 |

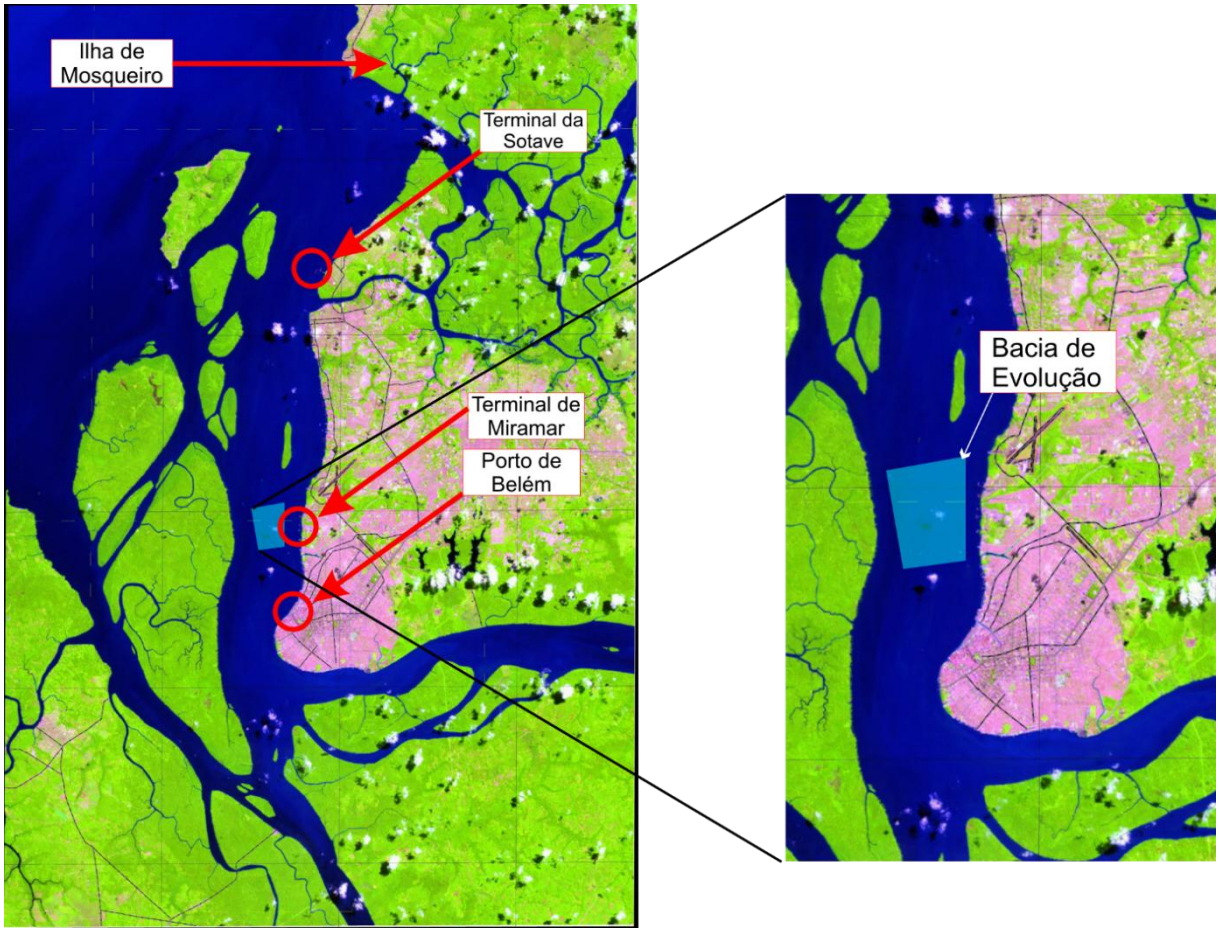
*Table 17*

# 11. DEFINITIONS

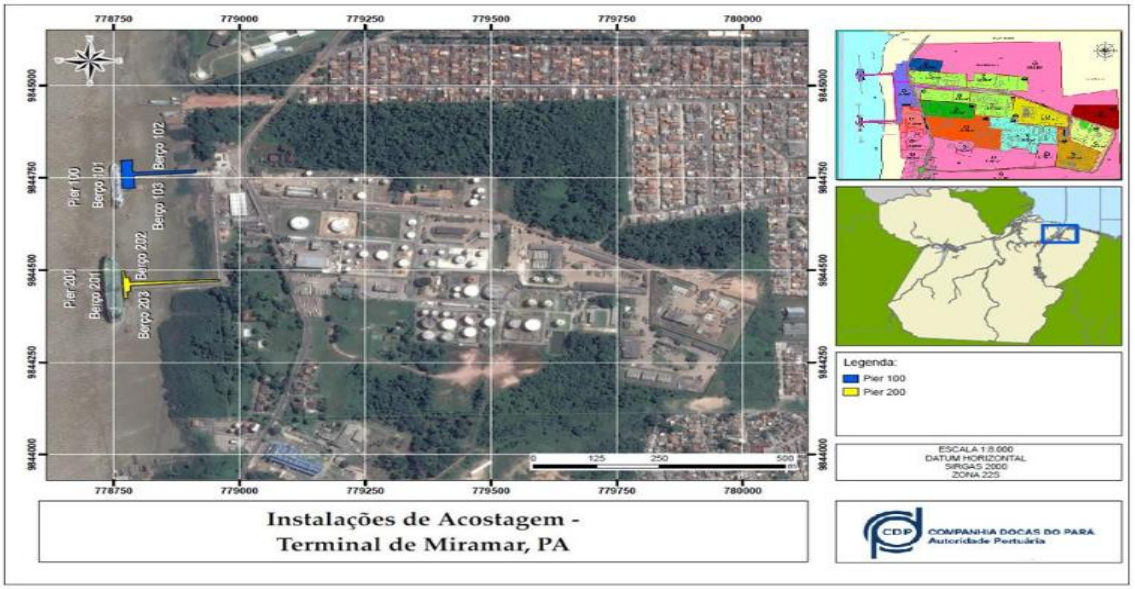
**ANP -** National Petroleum Agency.
**BP -** Bollard-Pull
**Bunker** – Marine fuel intended for ships.
**Port Captaincy** - Maritime authority.
**CIS** – International Signal Code.
**COW (Crude Oil Washing)** – Cleaning of the Ship's Cargo Tanks with the product it transports.
**CRE** – Emergency Response Center.
**Squat Effect –** Increase in a ship's draft as a result of an increase in its speed.
**Gangway ladder** – Straight metal structure, with side balusters and handrails. The steps are self-leveling, according to the slope, and have a non-slip tread. This type of ladder is placed parallel to the ship's broadside, from a retractable platform fixed to the deck.
**Chest-breaking ladder** – Flexible ladder made up of lines with wooden and/or rubber steps in accordance with the Safety of Life at Sea (SOLAS) convention.
**Beaufort Scale** – Scale that measures wind intensity based on sea conditions.
**ETA (Estimated Time of Arrival)** – Estimated time of arrival.
**FEPAM -** State Foundation for Environmental Protection.
**GIAONT** – Ship/Terminal Operational Inspection and Monitoring Group.
**IMO –** International Marine Organization.
**IBAMA -** Brazilian Institute of the Environment.
**ISGOTT** – International Safety Guide for Oil Tankers and Terminals.
**ISPS -** International Ship and Port Facility Code.
**Neap tide** – A small tide that follows the first quarter or last quarter.
**Spring tide** – The largest tidal ranges observed during new and full moons, producing the highest high tides and the lowest low tides.
**NPCP** – *Normas e Procedimentos da Capitania dos Portos* (Rules and Procedures of the Port Authority).
**NT** – Tanker.
**OCIMF** – Oil Companies International Marine Fórum
**PEI -** Individual Emergency Plan**.**
**PRE** – Emergency Response Plan.
**Pilotage** – Professional duly qualified and authorized by the maritime authority to carry out maneuvers.
**SIGTTO** – Society of International Gas Tanker & Terminal Operators
**Slop** – Waste tank.
**Safety of Life at Sea (Solas)** –– International Convention dealing with the safety of human life at sea.
**SIGTTO –** Society of International Gas tanker and Terminal Operators
**STCW** – (Standards of Training, Certification and Watchkeeping) – International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
**STS** – Ship to Ship, alongside transshipment operations
**STS SUPERINTENDENT -** Member of GIAONT (Ship and Terminal Operational Inspection and Monitoring Group), responsible for the full advisory control of STS/STB operations berthed or anchored in sheltered areas, and acting as IN when necessary.
**SUPRG** – Superintendence of the Port of Rio Grande, port authority.
**DWT** – Deadweight Tonnage
**VHF (Very High Frequency)** – Radio frequency used in maritime operations.
**VTS -** Vessel Traffic Service.

# 12. APPENDIXES

## APPENDIX A – Approach, Turning Basin and Wetlands

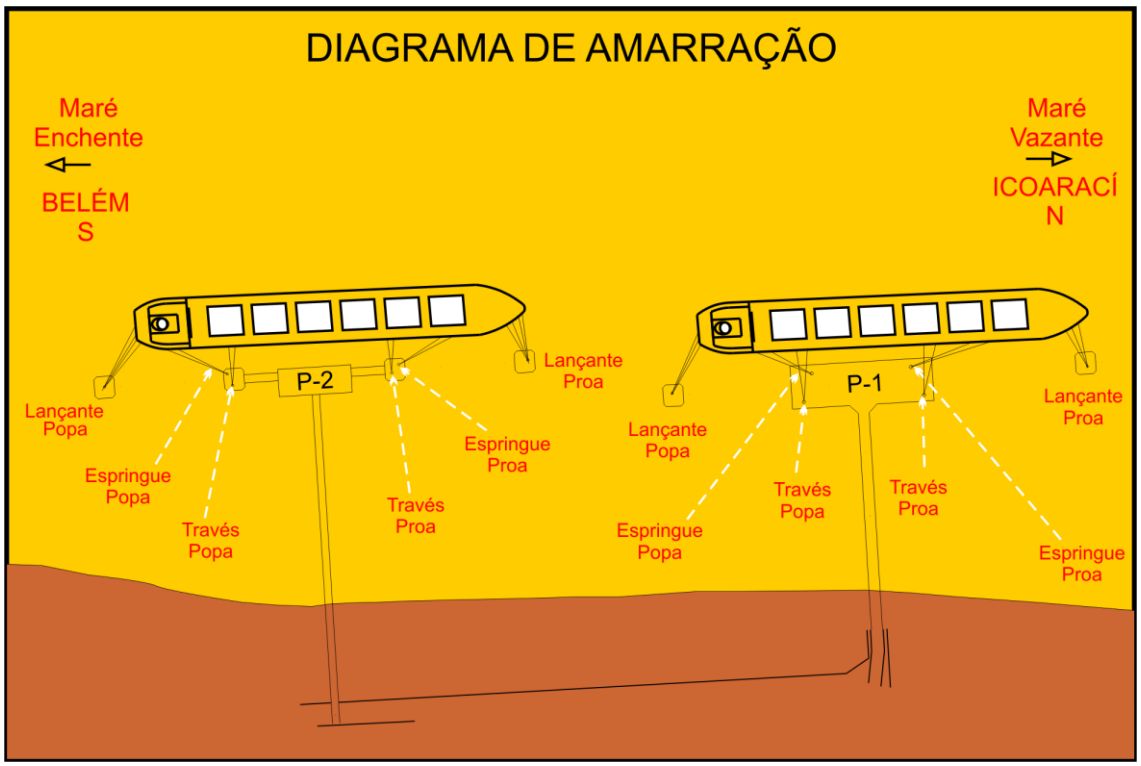


## DOCKING

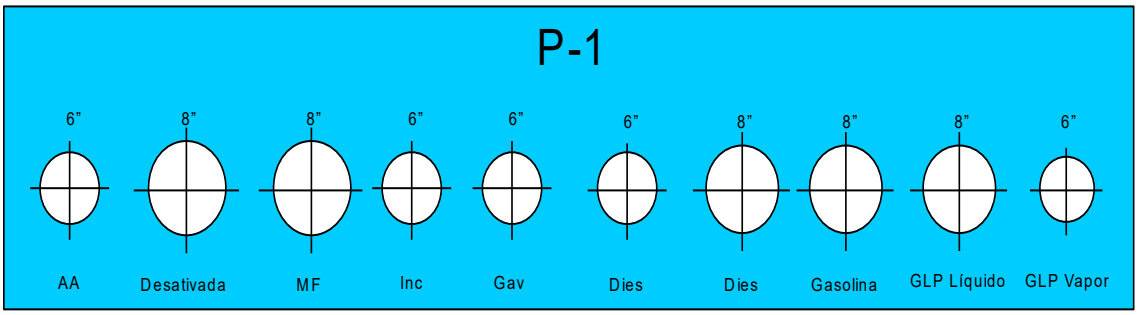


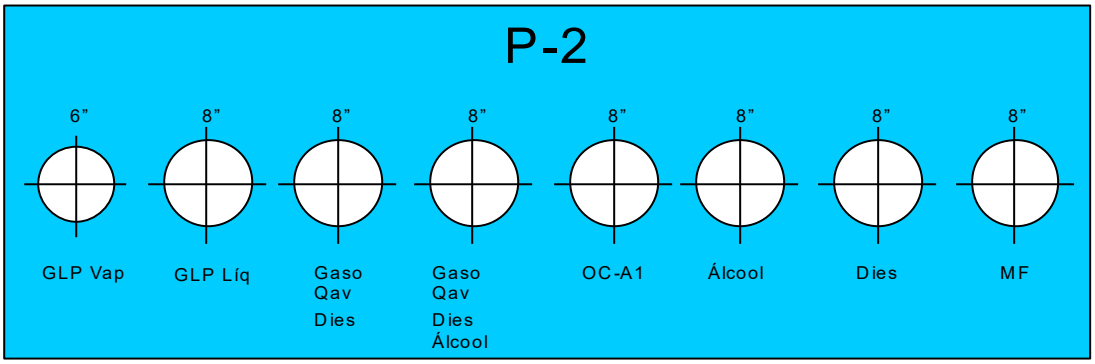

**SOURCE: TDZ, 2017**

## APPENDIX – B Diagram of the mooring points.



## APPENDIX C – Distribution of charging/discharging outlets in each berth



## APPENDIX D - Essential Vessel Information for the Terminal.

<table>
<tr><th colspan="4">REQUEST FOR INFORMATION ABOUT THE VESSEL</th></tr>
<tr><td colspan="2">Name of the Ship:<br>Flag:<br>Name of the Master:<br>Shipowners:</td><td colspan="2">Estimated Time of Arrival (ETA):<br>Last Port:<br>Next Port:<br>Agents:</td></tr>
<tr><td colspan="4">Does the ship have an inert gas system? Oxygen content:</td></tr>
<tr><td colspan="2">Length Overall (LOA):<br>Length between perpendiculars:<br>Breadth:</td><td colspan="2">Draft on arrival:<br>Max draft during transfer:<br>Draft on departure:</td></tr>
<tr><td>Number of engines:<br>Number of propellers:</td><td>Transverse propulsion:<br>Bow (No. & power)<br>Bow (No. & power)</td><td colspan="2">Tugboats – minimum number required:<br>(Number & static traction (bollard pull)</td></tr>
<tr><td colspan="2">Number and Size of Manifold Flanges:<br>Cargo<br>Ballast<br>Bunker</td><td colspan="2">Distances:<br>Bow to Manifold<br>Broadside to Manifold<br>Manifold Height to Main Deck</td></tr>
<tr><th colspan="4">LOAD SCHEDULING (fill in as applicable)</th></tr>
<tr><td>Naming:<br>Type and quantity<br>Type and quantity<br>Type and quantity</td><td>Ballast discharge overboard:<br>Quantity:<br>Estimated time:</td><td colspan="2">Slop/ballast discharge onshore:<br>Quantity:<br>Estimated time:</td></tr>
<tr><th colspan="4">REQUESTED BUNKERING</th></tr>
<tr><td colspan="2">Type and quantity</td><td colspan="2">Type and quantity</td></tr>
</table>

| Additional information (if any): |
| --- |
| Please send by fax or email to the Terminal Supervisor,<br>Fax No..... E mail..... |

## APPENDIX E – Information to be exchanged before cargo transfer

(a) Name of the Ship
(b) Voyage Number:
(c) Mooring berth:
(d) Berthing date:
(e) Contractual data:
- Number of existing pumps on board:
- 98% Volumetric capacity:
- Guaranteed pressure at discharge: (When performing discharge operations)
- Ballasting/deballasting capacity simultaneous with loading/unloading

(f) Information on voyage
- Type of charter (VCP, TCP, COA, etc.)
- Type of voyage (Cabotage/Long Haul)
- Ports or places of origin and destination

(g) Did the ship request bunkering?
(h) Means of communication between ship and terminal
(i) Information on cargo
- Product:
- Quantity:
- Temperature:
- API

(j) SLOP:
- Quantity,
- Temperature,
- API,
- Fluidity,
- Origin,
- Contaminants,

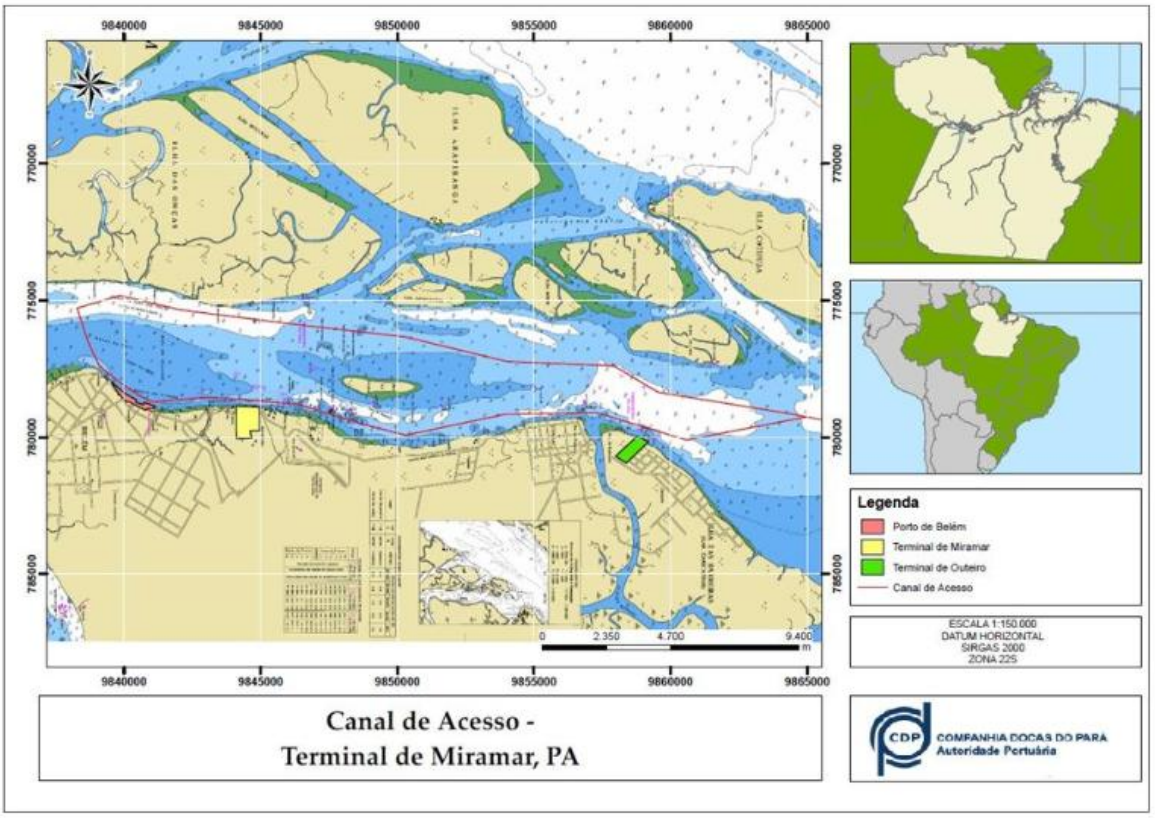
(k) Ballast:
- (Dirty Ballast) Quantity, Temperature.
- (Segregated Ballast) Quantity:

(l) Information on operation

- For discharges:
  - Will the ship carry out a special operation? (COW, Inerting, etc.) (operations not permitted when the ship is docked)
  - Estimated time for the special operation
  - Time required to stop pumps
- For Cargo:
  - Advance notice period for TOP
  - Flow rate for the TOP period
  - Quantity of ballast to be discharged
  - Maximum flow rate allowed for deballast
  - Are there any restrictions on electrostatic properties? Yes. The connections must take into account the discontinuity of at least one hose in each line, or the manifold must have an insulating flange.
  - Are there any restrictions on the use of self-closing valves? No. As long as it is monitored remotely.
- Ship/Terminal conditions for loading/unloading operations by product
  - Ship: Pressure, Flow rate, Temperature (Max. and Min)
  - Terminal: Pressure, Flow rate, Temperature (Max. and Min)
- Sequence of operations per product
- Quantity to be loaded/unloaded
- Origin / Destination tanks
- Board/shore lines
- Loading arms / hoses used
- Forecast for start and end of operation

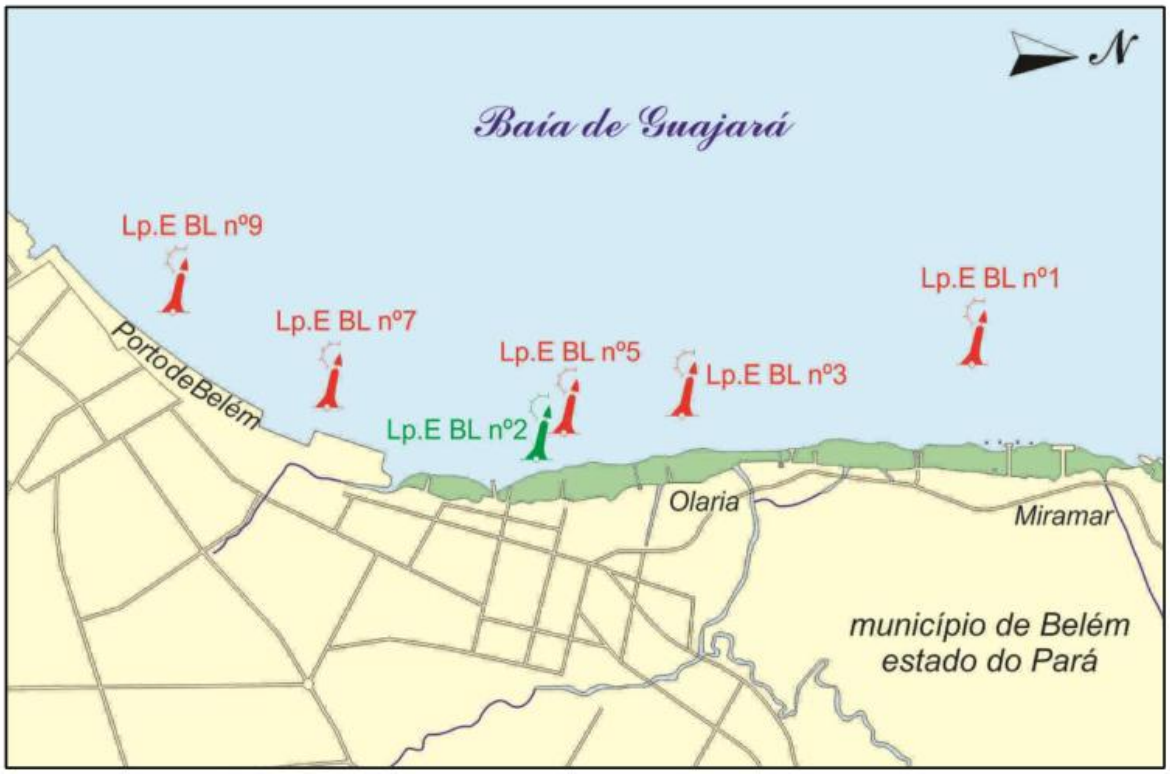
(m) Additional information on operation and safety

**ACCESS CANAL – MIRAMAR TERMINAL**




**SOURCE: PDZ, 2017.**

## BUOYAGE MARKING – AT THE PORT OF BELÉM




**SOURCE: PDZ, 2017.**

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- ✓ Ordinance 20-28/CPAOR-2012 (Amends Ordinance 20-16/CPAOR);
- ✓ Ordinance 20-48/CPAOR-2014 (Rotation Schedule in the Pilots' Service);
- ✓ Ordinance 18-2021-CPAOR (Amends Ordinance 20-58/CPAOR-2014 ZP-03);
- ✓ Ordinance 15/CPAOR, of February 18, 2019
- ✓ NORMAM 12/DPC – 1st Revision 2011, Mod. 23 - 2022;
- ✓ NORMAM 08/DPC – 1st Revision, 2013;
- ✓ Port Development and Zoning Plan - Organized Port of Belém/PA – PDZ, 2017.

**Note: All the information in this document was obtained from websites, publications, ordinances, regulations, etc.**