PORT INFORMATION

Port information

PARANAGUÁ / TEPAR Marine Terminal

TA- PARANAGUÁ

Complete Terminal Address:
AV. Coronel Santa Rita, s/nº - Paranaguá - Paraná - Brazil - CEP 83221-675
Phone numbers: (41) 3420-4000 / 3420-4104 / 3420-4114

us

Schedule	Organization	Telephone / Fax	Mobile	VHF/ UHF Call Channel	VHF / UHF Talk Channel
Port Authority	24 hours	(41) 3721 - 1500 (41) 3721-1542	X	16	X
Harbour Pilots (Paranaguá Pilots)	24 hours	(41) 3721-1000	X	16	13
Harbour Pilots (SINPRAPAR)	24 hours	(41) 3423-3693	X	16	13
Management (TEPAR)	07:30 to 16:30	(41) 3420-4254	X	X	X
Terminal Control Room	24 hours	(41) 3420-4104 (41) 3420-4105	(41) 99209 - 8254	16	09
IAT - Water and Land Institute	24 hours	(41) 3422-8233	X	X	X

INTRODUÇÃO

Introduction

This Port Information was prepared by Petrobras Transportes S.A. **(TRANSPETRO)**, which operates the **TEPAR** Marine Terminal in the port of **PARANAGUÁ.**

It contains essential information for ships seeking to operate at the terminal, and is distributed to the port's stakeholders, national and local authorities and the various branches of the company.

Port Information has versions in Portuguese and English.

The information contained in this publication is intended to supplement, never replace or alter any type of legislation, instructions, guidelines or official national or international publications. Therefore, anything that contradicts any of the aforementioned documents should not be taken into consideration.

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

TRANSPETRO will analyze any suggestions, recommendations or corrections to the subjects covered here in order to improve the information. If you find incorrect information that needs to be updated, please contact us:

Paranaguá Marine Terminal - TEPAR

Av. Coronel Santa Rita, s/n0 - Paranaguá - Paraná - Brazil - CEP 83221-675
Telephone: (41) 3420-4000 / 3420-4104 / 3420-4114

Petrobras Transportes S/A - Transpetro

Av. Presidente Vargas, nº 328, Centro, CEP 20091-060, Rio de Janeiro - RJ Communications Office

Telephone numbers (021) 3211-9039 and (021) 3211-9000.

The latest version of this Port Information and the other **Transpetro** terminals can be obtained at the following address:

https://transpetro.com.br/transpetro-institucional/nossas-atividades/dutos-e-terminais/informacoes-portuarias.htm

SUMMARY

1 **EMERGENCY PROCEDURES**

1.1 **GENERAL** .....*page 8.*

1.2 **OIL SPILLAGE AND VAPOR RELEASE** .....*page 10*

1.3 **FIRE AND EXPLOSIONS** .....*page 11*

1.4 **EVACUATIONS (EVACUATION ROUTE AND MEETING POINT MAP)** ....*page 11*

1.5 **COLLISION / BERTH DAMAGE**.....*page 11*

1.6 **MEDICAL EMERGENCY**.....*page 11*

1.7 **VIOLATION OF SECURITY**.....*page 12*

1.8 **MAN OVERBOARD**.....*page 12*

1.9 **SHIP DRIFTING AWAY FROM THE JETTY**.....*page 12*

1.10 **EMERGENCY STOP DEVICE (ESD)** .....*page 12*

1.11 **INCIDENT NOTIFICATION PROCEDURES**.....*page 12*

2 **SAFETY, ENVIRONMENT AND HEALTH POLICY**

2.1 **REQUIREMENTS FOR PERSONAL PROTECTION EQUIPMENT (PPE)** .....*page 12*

2.2 **ACCESS TO THE TERMINAL (CREWS AND VISITORS)** .....*page 12*

2.3 **DECLARATION OF SECURITY (ISPS CODE)** .....*page 13*

2.4 **ALCOHOL AND OTHER DRUGS**.....*page 13*

2.5 **SMOKE**.....*page 13*

2.6 **PORTABLE ELECTRONIC EQUIPMENT AND NAKED LIGHTS**.....*page 13*

2.7 **ON-BOARD MAINTENANCE WHILE BERTHED**.....*page 14*

2.8 **HANDLING OF EQUIPMENTS**.....*page 14*

2.9 **MATERIAL SAFETY DATA SHEET (MSDS)** .....*page 14*

2.10 **BENZENE AND H_2S**.....*page 14*

2.11 **STATIC ELECTRICITY**.....*page 14*

3 **GENERAL INFORMATION**

3.1 **LETTERS AND REFERENCE DOCUMENTS**.....*page 15*

3.2 **SHIP/TERMINAL COMMUNICATION PROCEDURES**.....*page 15*

3.3 **DOCUMENTS AND EXCHANGES OF INFORMATION**.....*page 15*

3.4 **OPERATING HOURS**.....*page 16*

3.5 **LOCAL TIME**.....*page 16*

3.6 **LANGUAGES OF COMMUNICATION**.....*page 16*

3.7 **USEFUL TELEPHONES**.....*page 16*

3.8 **ENVIRONMENTAL MONITORING PROCEDURE**.....*page 16*

4 **DESCRIPTION OF THE PORT AND ANCHORAGES**

4.1 **GENERAL DESCRIPTION**.....*page 17*

4.2 **LOCATION**.....*page 18*

4.3 **APROACHING TO THE TERMINAL**.....*page 19*

4.4 **MANAGEMENT OF AREAS**.....*page 21*

4.5 **ENVIRONMENTAL FACTORS**.....*page 24*

5 **TERMINAL DESCRIPTION**

5.1 **TERMINAL LOCATION**.....*page 26*

5.2 **TERMINAL LAYOUT**.....*page 26*

5.3 **VESSEL ACCEPTANCE CONDITIONS**.....*page 26*

5.4 **MANAGEMENT AND CONTROL**.....*page 26*

5.5 **MAIN RISKS**.....*page 27*

6 **DESCRIPTION OF THE CRIBS**

6.1 **BERTH DETAILS**.....*page 27*

6.2 **MOORING ARRANGEMENTS**.....*page 28*

6.3 **CHARACTERISTICS OF THE LOADING, UNLOADING AND BUNKERING**.....*page 29*

7 **COMMUNICATION BEFORE ARRIVAL**

7.1 **TERMINAL INFORMATION FOR THE SHIP**.....*page 30*

7.2 **SHIP INFORMATION TO THE TERMINAL**.....*page 33*

8 **OPERATIONAL INFORMATION**

8.1 **SHIP ACCESS / TERMINAL**.....*page 33*

8.2 **KEY MEETING (INITIAL INSPECTION)**.....*page 33*

8.3 **SHIP/SHORE SAFETY CHECK LIST (SSSCL)** .....*page 33*

8.4 **BALLAST AND DEBALLASTING PROCEDURES**.....*page 34*

8.5 **PROCEDURES FOR CONNECTING AND DISCONNECTING HOSE**.....*page 34*

8.6 **CARGO TRANSFER PROCEDURES** .....*page 34*

8.7 **CARGO MEASUREMENT, SAMPLING AND DOCUMENTATION**.....*page 35*

8.8 **ENVIRONMENTAL LIMITS**.....*page 35*

8.9 **TANK CLEANING AND ENCLOSED SPACE ENTRY PROCEDURES**.....*page 35*

8.10 **INERT GAS SYSTEM**.....*page 36*

8.11 **PROVISIONS PROCEDURES.....***page 36*

8.12 **POLLUTION PREVENTION.....***page 36*

8.13 **POTABLE WATER.....***page 36*

8.14 **UNBERTHING AND DEPARTING THE PORT.....***page 36*

8.15 **ISPS CODE COMPLIANCE.....***page 36*

9 **PORT ORGANIZATION**

9.1 **PORT CONTROL OR VTS.....***page 36*

9.2 **MARITIME AUTHORITY.....***page 37*

9.3 **HARBOUR PILOTS.....***page 37*

9.4 **TUGS AND OTHER MARITIME SERVICES***.....page 38*

9.5 **ANOTHER BERTHS FOR OIL PRODUCTS** *.....page 39*

10 *CONTACTS.....page 40*

11 *DEFINITIONS.....page 42*

12 *APPENDICES.....page 43*

REVIEWS

Review	Changes	Date	Elaboration	Approval
V.0	Initial version	06/12/2024	Capt. Rômulo Prazeres - Nautical Advisor ON Jacqueline Ferreira Vieira - C3JG Ives Marcelo Xavier - T2YN	Capt. Rômulo Prazeres Nautical Advisor

1. Emergency procedures

1.1 GENERAL

EMERGENCY CONTACTS

Schedule	Organization	Telephone / Fax	Mobile	VHF/ UHF Call Channel	VHF / UHF Talk Channel
Tugboats	24 hours	X	X	16	13
Terminal Control Room	24 hours	(41) 3420-4104 (41) 3420-4105	(41) 99209 - 8254	16	09
Harbour Pilots (Paranaguá Pilots)	24 hours	(41) 3721-1000	X	16	13
Harbour Pilots (SINPRAPAR)	24 hours	(41) 3423-3693	X	16	13
Management (TEPAR)	07:30 to 16:30	(41) 3420-4254	X	X	X
Terminal Control Room	24 hours	(41) 3420-4104 (41) 3420-4105	(41) 99209 - 8254	16	09
Fire Brigade	24 hours	193	X	X	X
Civil Defense	24 hours	(41) 3423-1202	X	X	X
IBAMA (Paranaguá)	24 hours	(41) 3423-1818	X	X	X
IAT - Water and Land Institute	24 hours	(41) 3422-8233	X	X	X

ENVIRONMENTALLY SENSITIVE AREAS

The project, involving the Paranaguá Terminal (TEPAR) and the Araucária Paranaguá Oil Pipeline (OLAPA), is located in a region of high environmental sensitivity: Paranaguá Bay, Antonina Bay and part of the Serra do Mar mountain range.

The Emergency Response Plan describes the other areas sensitive to an environmental impact involving the Terminal and the OLAPA System (Araucaria Paranaguá Pipeline).

GENERAL DESCRIPTION OF THE EMERGENCY RESPONSE ORGANIZATION

The responsibilities for dealing with possible emergencies involving vessels arriving at the Terminal are:

Type of Incident	Responsible Organization	Other Organizations Involved				
Collision in Terminal	Maritime Authority	Terminal	APPA	Agency	Civil Defense	ANP
Boat running aground	Maritime Authority	Terminal	APPA	Agency	Civil Defense	ANP
Sinking Vessel	Maritime Authority	Terminal	APPA	Agency	Civil Defense	Fire Brigade
Vessel fire	Maritime Authority	Terminal	APPA	Agency	Fire Brigade	-
Fire at Terminal	Maritime Authority	Terminal	APPA	Agency	Maritime Authority	Fire Brigade
Pollution	Maritime Authority	Terminal	APPA	IMA-SC	IBAMA	ANP

EMERGENCY PLANS

The PRE (Emergency Response Plan) is TEPAR's plan for dealing with emergencies at all its facilities. The local HSE (Health, Environment and Safety) is responsible for updating it.

Emergency and fire-fighting equipment must be kept ready for use and at hand while the ship is docked. Fire-fighting hoses should be extended, with one forward and one aft, unless fire-fighting monitors can replace this requirement.

In the event of a fire, the ship must have a universal flange so that the Terminal can help fight it. If the fire is not extinguished, the ship must be immediately removed from the berth (untied and towed).

The main pier has three shelters for fire-fighting equipment, with a constantly pressurized water network. Two portable dry chemical fire extinguishers must be kept ready next to the cargo manifold on board.

Steel cables for emergency towing should be left hanging down to the height of the water by the fore and aft fin of the opposite side of the mooring and passed through the bollards, with the hands of the cables remaining at the height of the water throughout the operation.

TEPAR keeps an emergency kit ready for use, containing some equipment and tools designed to combat small emergencies involving ships moored at the Quay (international connection for a fire-fighting flange, shovels, buckets, squeegees, wooden wedges and sledgehammers, etc.).

TEPAR has an Emergency Response Center (CRE) equipped with modern equipment and various facilities for use in accidental pollution. Intensive training sessions are held periodically to enable Terminal employees to act in accordance with the Emergency Response Plan (ERP).

The workboats, support vessels, tankers and collection vessels are moored at the floating pier near the APPA Flammables Pier in a state of readiness.

The terminal has an ambulance equipped for first aid. A nursing technician works in administrative hours, when there are more people due to maintenance and construction work. The most serious cases or those outside administrative hours will be referred to accredited hospitals.

PUBLIC RESOURCES TO COMBAT THE EMERGENCY

TRANSPETRO, through TEPAR and other operational units, will implement its Emergency Response Plan if necessary.

TRANSPETRO has resources that can be used to mitigate sea pollution events involving the Terminal or its ships.

For these and other emergencies, public organizations offer the resources for which they are intended.

LOCAL EMERGENCY SERVICES

The fire department, civil defense, environmental agencies and the other authorities involved have the resources for which they are intended and are called upon according to the table in section 1.1. Emergency contacts

MUTUAL AID PLAN

In the event of an emergency involving marine pollution in the Bay of Paranaguá and Antonina, it will be the responsibility of the Maritime Authority (if ships are involved) to develop measures with the APPA, environmental agencies and others involved, where appropriate, to deal with the emergency immediately.

The sub-items below describe the resources available to combat pollution in the areas adjacent to the Terminal.

1.2 OIL SPILLS AND VAPOUR RELEASE

Terminal Combat Capacity

The resources available at the Terminal to combat oil spills are listed in the PRE, which is available in all of TEPAR's administrative, operational and maintenance areas.

*** Combat Capacity of the Environment Agency**

When environmental accidents occur, IAT (Instituto Água e Terra) works together with Civil Defense, the Fire Department, the Highway Police, the Forestry Police Battalion and other public and non-governmental institutions, whenever it needs specialized support.

*** Resources available from the Mutual Support Plans of other Terminals**

The resources available at other **TRANSPETRO** terminals to deal with pollution emergencies occurring in the vicinity of the Terminal are listed in the PRE.

*** Level 2 Emergency Combat**

Emergency that goes beyond the limits of the Terminal and whose internal resources are not sufficient to control it, requiring the activation of the Regional Contingency Plan.

These resources, their readiness and how they are activated are described in the Emergency Response Plan.

*** Level 3 Emergency Combat**

An organization designed to combat major pollution

Accidental event that goes beyond the limits of the Terminal and its effects are expected to reach people, areas or facilities outside the Terminal area.

To combat them, the resources provided for in the Consolidated Contingency Plan will be needed.

*** Fighting a Major Incident**

TEPAR's PRE lists the actions and those responsible for each type of planned event, which may occur within its unit, pipeline strip or vessels and involve third parties. For events which are not provided for in this document, **TRANSPETRO** will make available all national or international resources within its reach.

1.3 FIRE AND EXPLOSION

See item 1.1 General /EMERGENCY PLANS

1.4 EVACUATIONS (EVACUATION ROUTE AND MAP OF ASSEMBLY POINTS)

See PRE (Emergency Response Plan)

1.5 COLLISION / BERTH DAMAGE

See PRE (Emergency Response Plan)

1.6 MEDICAL EMERGENCY

The terminal has an ambulance equipped for first aid. A nursing technician works in an administrative capacity.

1.7 SECURITY BREACH

In case of need, the corporate security protection measures applicable to ships and port facilities can be triggered by the ship through the Terminal Port Facility Security Officer (PFSO), via VHF radio, channel 09.

For more details see item 8.15 ISPS CODE COMPLIANCE

1.8 MAN OVERBOARD

If you need to know what resources are available at the Terminal, your representative will ask you for a copy of the document containing instructions for combating a particular emergency

1.9 SHIP DRIFTING AWAY FROM THE JETTY

If you need to know what resources are available at the Terminal, your representative will ask you for a copy of the document containing instructions for combating a particular emergency

1.10 EMERGENCY STOP (ESD)

The berth does not have an emergency shutdown (ESD) capability which can be

activated by the ship

1.11 ACCIDENT NOTIFICATION PROCEDURES

See PRE (Emergency Response Plan)

2. Safety, Environment and Health Policies

2.1 PERSONAL PROTECTION EQUIPMENT (PPE)

They must be used throughout the ship's stay.

2.2 ACCESS TO THE TERMINAL (CREW AND VISITORS)

Brazil's laws are strict when it comes to smuggling. For this reason, commanders should instruct their subordinates to avoid bringing ashore or trading in cigarettes, cigars, tobacco, alcoholic beverages, souvenirs and other imported items.

Before arrival, they must be collected in the bonded warehouse (seal), which will be under the responsibility of the captain for the duration of their stay at the Terminal. Under no circumstances will any commercial transactions be allowed, whether between employees, crew members or any other persons.

There is no visitation to the ship operating at the Terminal. Entry on board is restricted to company employees, port authorities, experts, technicians, etc., whose duties require their presence on board. However, family members of crew members may be authorized by the captain, in agreement with the Terminal.

2.3 DECLARATION of SECURITY - DoS (ISPS CODE)

The Paranaguá Terminal has implemented corporate security protection measures applicable to ships and port facilities, in accordance with the requirements of the International Maritime Organization - IMO, through the adoption of the ISPS - International Ship and Port Facility Security Code.

If necessary, these protection measures can be triggered by the ship through the Terminal's Port Facility Security Officer (PFSO), via VHF radio, channel 09.

The Paranaguá Terminal normally operates at security level 1. For further details, the Terminal's Port Facility Security Officer (PFSO), who is trained in accordance with the requirements of the IMO, can be contacted on the following telephone numbers:

Tel: 55 41 3420-4293 / 55 41 3420-4114

2.4 ALCOHOL AND OTHER DRUGS

According to ISGOTT, item 13.4, for reasons of personnel health and safety, the use of alcohol and drugs has a dangerous effect on performance, behavior and insecurity in the workplace. Therefore, the consumption of alcohol or the use of illicit drugs is not permitted at the **Transpetro** Terminal.

Transpetro, in order to support the efforts of international authorities to combat illicit drug trafficking and the use of alcohol in unauthorized places, complies with the relevant preventive measures to avoid the use, possession and distribution of these criminal substances.

2.5 SMOKE

Smoking is not allowed on the pier, and on ships at berth, except in compartments deemed approved for this purpose by the ship and terminal or duly certified for this purpose.

2.6 PORTABLE ELECTRONIC EQUIPMENT AND NAKED LIGHTS

Explosion-proof electric lighting will be allowed on deck while the ship is in operation.

Portable flashlights in use must be intrinsically safe, certified for use in explosion-risk environments.

Radio transceivers to be used on deck during loading and unloading operations must be shielded and intrinsically safe.

2.7 MAINTENANCE ON BOARD WHILE MOORED

No repairs or maintenance work of any kind involving the risk of sparks or other means of ignition may be carried out while the ship is moored at the pier, without the express authorization of the terminal.

In extreme cases, all safety regulations must be observed and complied with. Repairs involving pier facilities or implying any restriction on the ship during its stay must be authorized in advance by the Terminal.

On-board repairs and washing of the ship's cargo tanks should preferably be carried out in the anchorage area. If these services are to be carried out while the ship is docked, prior authorization from the Terminal will be required.

2.8 PROVISIONS AND EQUIPMENT HANDLING

Must be agreed with the terminal.

2.9 MATERIAL SAFETY DATA SHEET (MSDS)

The MSDS is compulsory for all chemical products classified as hazardous or whose intended or recommended uses give rise to risks to the health and safety of workers.

2.10 BENZENE AND H2S

The risks associated with toxic substances present in the cargo being handled must be properly identified and understood.

2.11 STATIC ELECTRICITY

Precautions must be taken to prevent the risk of ignition static electricity sparks during measurements, sampling, connections and charging/discharging operations.

3. General Information

3.1 LETTERS AND REFERENCE DOCUMENTS

Information about the Terminal can be found in the publications listed below. Appendix "A" illustrates the charts schematically, including the berths and approaches:

Letters

Area	Letter number		
	Brazil (DHN)	US Hydrographic Office	British Admiralty
Near Barra de Paranaguá	1820	-	-
Barra de Paranaguá	1821	-	-
Ports of Paranaguá and Antonina	1822	-	-

Other Publications

Type/Subject	Editor or Source		
	Brazil (DHN)	US Hydrographic Office	British Admiralty
Port Maritime Authority Rules and Procedures	NPCP	-	-
Support for navigation on the south coast	Itinerary - South Coast	-	-

3.2 SHIP/TERMINAL COMMUNICATION PROCEDURES

See items below

3.3 DOCUMENTS AND INFORMATION EXCHANGE

The items listed below must be provided by the terminal or the ship, as indicated in the table. The terminal makes use of a spreadsheet, supplied to ships via the agency, with the information needed for the operation.

Information	Prepared by:			Delivered to:			Comments
	Terminal	Ships	Both	Terminal	Ship	Both	
Before Arrival							
Estimated Time of Arrival (ETA) and vessel information		X		X			According to ISGOTT

Essential information about the Terminal	X				X		According to ISGOTT
Before Cargo or Bunker Transfer							
Cargo details / slop / on-board mast			X			X	According to ISGOTT
Information essential to the operation.			X			X	According to ISGOTT
Ship/Ground Safety Checklist			X			X	According to ISGOTT
During Cargo or Bunker Transfer							
Repeat the Ship/Ground Safety Checklist			X			X	According to ISGOTT
After Cargo or Bunker Transfer, Before Departure							
Information needed to unberth the ship			X			X	Quantity of fuel and water on board
After undocking, at the port exit							
Information on the output data of the Porto		X		X			Timetable for disembarking the pilot and leaving the port, via the shipping agent.

3.4 OPERATING HOURS

No restrictions

3.5 LOCAL TIME

Brasilia Time in UTC-03:00

3.6 COMMUNICATION LANGUAGES

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

3.7 USEFUL TELEPHONE NUMBERS

See item 10 Contacts

3.8 ENVIRONMENTAL MONITORING PROCEDURES

This terminal does not have a weather monitoring station.

4. Description of the port and anchorages

4.1 GENERAL DESCRIPTION

The Port of Paranaguá is the largest port in the south of Brazil, mainly involved in grain exports. It is also important for the transportation of bonded cargo to Paraguay (in both directions), in accordance with that country's treaty with Brazil.

The largest bulk port in Latin America has several restructuring and expansion projects, and today has 16 berths on the Commercial Quay, 4 berths on two liquid piers, 2 berths on a fertilizer pier, and 2 berths in Antonina

Regarding the location of the Port of Paranaguá, its position on the Brazilian coast places it in a strategic position, with minimal distances to access major production centers.

Considering the export data, the Port of Paranaguá covers an area of more than 800,000 square kilometers, currently handling cargo from the entire state of Paraná (PR), the states of Santa Catarina (SC), Mato Grosso (MT), Mato Grosso do Sul (MS), Rondônia (RO), São Paulo (SP), Rio Grande do Sul (RS), as well as Bolivia, Argentina and Paraguay.

At the Flammables Pier, separated from the Commercial Pier by a safe distance, we have the so-called Public Pier, which is shared with other Port Operators.

At the Public Pier (FLAMMABLE), the Paranaguá Marine Terminal (TEPAR) operates two different berths, PP1 (external) and PP2 (internal).

Another smaller pier (SECONDARY) is operated exclusively by **TRANSPETRO** to load barges to supply ships in the port and tugboats. We also have a Floating Pier, for emergency vessels, attached to the Public Pier.

These two piers are located one to the east and the other to the west of a central walkway that gives them access, from where a third pier also originates, called the Cattalini pier, which extends to the NW. However, this is not part of the APPA Public Pier facilities and is therefore not operated by **TRANSPETRO**, nor is it the subject of the port information dealt with here.

4.2 LOCATION

The planning and use of anchorage areas and their restrictions are established under the coordination of the Maritime Authority of the Ports of Paraná - CPPR, in official documents issued by the Port Authority, which must be published on their websites and also disclosed to sailors in nautical documents prepared by the Navy Hydrography Center (CHM).

The first anchorage available to ships bound for Paranaguá is the pilot boarding area referred to in item 4.4 of these instructions.

The site's reference coordinates are latitude 25º 31’10” S and longitude 048º 15’50” W and it is located between the entrances to the Sueste and Galheta channels, near buoy 01. It has a depth of 13 a18 metros and the bottom is sand, making it an unsheltered area for all winds in the open sea.

AREA 5 is intended for ships that are subject to visits from port health authorities or others, when the ship's condition so recommends.

They can anchor ships with a length of less than 200 meters and a draft of up to 11.4 meters, and they must also anchor on the west side.

Area 5 is delimited by the coordinate points below:

Anchorage No. 5		
Point	**Latitude**	**Longitude**
Point 1	25º 29.7924' S	048º 28.3517' W
Point 2	25º 29.7528' S	048º 27.2699' W
Point 3	25º 30.1500' S	048º 27.2701' W
Point 4	25º 30.0805' S	048º 28.3505' W

Area 11, **formerly known as area 12**, is intended for ships at anchor awaiting orders to enter Paranaguá Bay.

The waiting order for ships calling at the Galheta Channel will be subject to the date/time of the ships' anchoring.

Area 11 is delimited by the coordinate points below, according to Nautical Chart 1820:

Anchorage No. 11		
Point	**Latitude**	**Longitude**
Point 1	25º 47.0650' S	048º 18.9734'W
Point 2	25º 41.3192' S	048º 12.2143'W
Point 3	25º 43.2455' S	048º 10.0283'W
Point 4	25º 49.1014' S	048º 16.7208'W

- **Port limits**

The official boundaries of the port, coordinates: latitude 25º29'45"S and 25º30'12"S and longitude 048º32’ 06"W and 048º30’ 00"W.

- **Risks to Navigation**

As mentioned in section 4.2, regarding approach and access, the most important precaution for navigators seeking the Paranaguá bar is to keep their vessel away from the dangerous banks near the entrance to the Galheta channel. To do this, the most important measure is to always try to keep the ship out of the isobath of10 metros plotted on the charts.

When a support vessel is present, carrying out beaconing, Naval Police, dredging, underwater and hydro-oceanographic services, and others previously authorized by the Port and Maritime Authorities, the bottom speed of ships transiting the navigation channels must be reduced in such a way as not to compromise the safety of navigation (the Pilotage Office must be notified of such operations in advance).

Ships transiting the evolution basin of the Port of Paranaguá must sail at a maximum speed of 10 knots at the bottom.

4.3 APPROACHING THE TERMINAL

To access the Port of Paranaguá, navigators can use the nautical charts 1820, 1821 and 1822 published by the DHN.

At the entrance to the Galheta Channel bar, the intensity of the tidal current reaches around 4.0 knots during spring tides, sometimes transversely to the channel axis.

The height of the spring tide can reach an average of 2.20 meters, above the Brazilian Navy's Reduction Level (NR), and around 1.00 meter at high tides in the Paranaguá Bay area.

In Porto, during spring tides, the intensity of the flood and ebb currents is around 1.3 to 2.4 knots, and around 1.4 knots in quadratures.

Access to the port of Paranaguá is normally via the Galheta channel, which is12 milhas long,200 metros wide, marked by light buoys and dredged to a depth of12,5 metros . The critical points in this channel are located between buoy pairs 3-4 and 7-8, where there are strong cross currents.

During transit in the navigation channel, a ship seeking the port, after passing the pair of buoys No. 07 and 08, may vary its speed at the bottom between 14.0 and 8.0 knots. This speed may be altered if it does not compromise the safety of navigation. The captain and the pilot on board will assess this condition during the maneuver.

Vessels in tow may only enter the Galheta Channel with the express authorization of the Maritime Authority and the Port Authority, which must be informed in the event of an emergency.

Authorization for the entry of vessels in tow will only be granted with a specific Action Plan, after the delivery of an operational risk analysis to be drawn up by the interested party.

The ETA (Emergency Towing Arrangement) of the towing device must be communicated by the agent at least 72 hours in advance.

The Galheta Canal should only be invested in with a pilot on board.

Ships are not allowed to cross or overtake between the pairs of light buoys No. 1 A and 2 A to No. 05 and 06. In the other stretches of the Navigation Channel, ships with drafts compatible with the depths recorded on the Nautical Charts may cross or overtake another ship in transit through the channel.

Vessels in ballast must ensure minimum drafts that provide effective governance and adequate stability of the vessel, with sufficient speed to demand the Galheta Channel (entry and exit) safely.

The thrusters should preferably be submerged when transiting the channels (external and internal). When there are winds on the bar, ships in ballast must adjust their drafts as requested by the Pilotage Department, in order to guarantee the safe embarkation/disembarkation of the Pilot.

The maximum speed in the access channel to the port of Paranaguá is 14 knots, and between buoy pairs 9-10 and 13-14 it should be reduced to 12 knots, with a speed tolerance of 1 knot being accepted. In adverse weather and sea conditions, at the Pilot's discretion, in the interests of navigational safety, ships may travel at a higher speed than that established.

Throughout the navigation of the Galheta channel, the ship must keep its bow manned, with at least one crew member carrying communication equipment, in contact with the gangway and with the iron ready to release in the event of an emergency.

Maneuvers near the quay, i.e. berthing, unberthing, changing berths and/or changing sides, in any tidal situation, will be subject to the water depth below the keel.

The times of the maneuvers on the quay will be programmed by APPA's Port Operations Directorate, based on the information provided by the Pilotage and the appointed Maritime Agency, with the necessary advance notice, and once the schedules are in place APPA will make them available on the APPAWeb system.

When maneuvering ships near public and private berths, during berthing or unberthing and pulling, the shore cranes and gantry cranes must be as far away as possible from the end of the ships in order to provide an adequate and safe area for maneuvering the cables handled by the team.

The following may not be stored on the quay: cargo, containers and any other materials/equipment that could interfere with mooring activities and other maneuvers. Only the personnel needed for the mooring work are allowed on site.

Ships of any "Flag", depending on their external presentation or suspected irregularities, moored or at anchor, regardless of communication, may be inspected at random by Naval Inspectors appointed by the respective Maritime Authorities ("Port State Control or Flag State Control").

Ships at berth and detained to comply with requirements prior to departure will be moved, as soon as conditions permit, to the appropriate anchorage.

4.4 MANEUVERING AREAS - EVOLUTION BASIN

This is the area used for maneuvering ships, with an approximate width of700 metros along the entire length of the flammables pier and quay at the port of Paranaguá.

This maneuvering area is limited to the north by the isobath of10 metros and to the west by Pedra de Palangana, with varying depths.

The transhipment operation is carried out with the vessels docked, using the Terminal's berth interconnection alignments.

NAVIGATION AND MOORING AIDS

A terminal representative will accompany and assist the ship during berthing to position it so that the loading arms and hoses can be connected.

GENERAL RESTRICTIONS

- Maneuvers at the Terminal pier must be carried out with the mandatory use of tugboats.

- During berthing maneuvers at the Terminal Pier's Inner Berth, a minimum distance of ten (10) meters must be maintained from the bow of the ships to the pipeline bridge.

- Berthing and unberthing at the Inner Berth should take place between one hour before high tide and one hour after low tide, i.e. using the water depth resulting from the increase in the height of the tidal range, the depth of the site and the low intensity of the tidal current (less than 0.4 knots). The best recommended time for approaching and mooring, as well as for unmooring, is one hour before high tide.

• Ships berthed on the starboard side of the Inner Berth of the Terminal Pier may, when authorized by the Port Authority, project their stern beyond the end of the Pier. Ships berthed in the Outer Berth may project their bow or stern beyond the end of the Pier, when berthed on the port or starboard side respectively, provided they are authorized by the Port Authority.

• Ships berthed on the starboard side of the Inner Berth of the Terminal Pier may, when authorized by the Port Authority, project their stern beyond the end of the Pier. Ships berthed in the Outer Berth may project their bow or stern beyond the end of the Pier, when berthed on the port or starboard side respectively, provided they are authorized by the Port Authority.

• Ships berthed on the starboard side of the Inner Berth of the Terminal Pier may, when authorized by the Port Authority, project their stern beyond the end of the Pier. Ships berthed in the Outer Berth may project their bow or stern beyond the end of the Pier, when berthed on the port or starboard side respectively, provided they are authorized by the Port Authority.

• The conditioning factors for access to the critical area of the Galheta Channel, between the alignment of the pair of light buoys No. 01 and No. 02, up to the pair of buoys No. 07 and No. 08, are shown in Appendix E.

• Brazil's laws are strict when it comes to smuggling. For this reason, captains should instruct their subordinates to avoid taking ashore or trading in cigarettes, cigars, tobacco, alcoholic beverages, souvenirs and other imported items. Before arrival, they must be collected in the bonded warehouse (seal), which will remain under the responsibility of the captain throughout their stay at the Terminal. Under no circumstances will any commercial transactions be allowed, whether between employees, crew members or any other persons.

• Brazilian laws are quite strict when it comes to water pollution along the coast. It is forbidden to throw any type of material, debris, garbage, oil or polluting substance into the waters of the port of Paranaguá. Heavy fines will be imposed on offenders by the port authorities, in addition to the imprisonment provided for by law. It is the responsibility of ship captains to ensure that no oil or contaminated water is pumped or spilled from their ship.

• While ships are in port, at anchor or at berth, garbage must be collected in suitable, closed containers and kept that way until it is collected by a company providing this service. It is forbidden to keep trunks or other garbage containers hanging over the edge, or next to the edge, at risk of falling overboard.

• It is forbidden to dispose of any type of sewage or discharge it directly into the sea while in the port. The removal of chemical products, oils or polluting substances may be carried out using oil chutes or trucks, as long as they are carried out by companies authorized by the port authority.

• *Ship captains must inform the Port Authority of the occurrence of any spillage of a polluting substance in the area of the organized port. Pollution is a crime under Law No. 6.938, of August 31, 1981, which provides for national environmental policy and establishes penalties for both those who pollute and the authority that fails to prevent it.

• The Brazilian flag must be hoisted at the top of the forward mast when the ship enters or leaves the port or when in the port, from 8 a.m. to sunset. Ships calling at Brazilian ports should be provided with this flag in advance, but if this is not possible, the flag should be obtained through their agent.

• According to international practice, when approaching the coast, ships must hoist and keep atop the QUEBEC flag until they are cleared by the port authorities. During the night, i.e. from sunset to sunrise, the quarantine signal will be given by a red light above the white light. Throughout their stay, tankers must keep the BRAVO flag flying during the day and a red light at night.

• Untying moorings is not allowed on ships moored to the Public Flammables Pier, nor is any

movement with the mooring capable of producing a spark.

- *. Passengers can go ashore as long as they are in good standing and have their passports with them. Ask the agent.
- . While they remain moored at the Public Flammables Pier, operating with the **Transpetro** Terminal, ships must keep their machinery in a condition for immediate use, so that they can leave the pier at full strength as soon as they are notified to do so. The ship must be compensating at all times. At no time should the propulsion machinery be deactivated.
- There is no visitation to the ship operating at the Terminal. Entry on board is restricted to company employees, port authorities, experts, technicians, etc. whose duties require their presence on board. However, family members of crew members may be authorized by the captain, in agreement with the Terminal.
- Smoking is not allowed on the pier, and on ships at berth, except in compartments deemed approved for this purpose by the ship and terminal or duly certified for this purpose.
- Explosion-proof electric lighting will be allowed on deck while the ship is in operation.
- Portable flashlights in use must be intrinsically safe, certified for use in explosion-risk environments.
- Radio transceivers to be used on deck during loading and unloading operations must be shielded and intrinsically safe.
- All the doors and portholes of the habitable compartments at midships must remain closed during loading and unloading. Care must be taken to prevent gases from entering these compartments.
- All doors, portholes and openings in the aft habitable compartments that lead onto the deck must be kept closed. Openings and doors to the leeward side of the operating deck that could allow gases to pass into the interior of the ship must be kept closed. If the Terminal representative so requests, his warnings and suggestions must be heeded and measures taken to prevent gases from entering areas of the ship where there may be sources of ignition.
- Fans and pipes must be properly oriented in relation to the tank vents and the prevailing wind, so that they do not pick up flammable vapors.
- Any intakes of atmospheric air that could pick up hydrocarbon vapors must be kept closed. All openings up to 25 meters (82 feet) vertically or horizontally from any cargo tank openings or overhangs shall be kept closed.
- All unit air conditioners, of the window installation type, will be switched off when the ship is operating with low flash point products.
- Before the ship docks, it must be confirmed that all manholes and gauges are closed and locked. During the operation, the cargo and fuel tank openings will be used in accordance with the tank relief safety system. The same applies to permanent ballast tanks.
- Measuring ports or manholes must be kept closed during the period of operation, except for their intended use, i.e. for the purpose of taking measurements, obtaining samples, temperatures or observing the tanks. Measuring ports must be protected by clean flame screens of the approved type and in perfect condition.
- The loading flow rate must be controlled to avoid excess pressure inside the loading tanks, respecting the design limits of the tanks and other equipment.
- The fire protector mounted on the relief pole will be used in accordance with the tank sump system guidelines.
- Ships equipped with an Inert Gas System (SGI) must prove by measurement that the cargo tanks (including ballast tanks) have a maximum of 8% oxygen by volume before operations.

• The inert atmosphere of the cargo tanks must be maintained during operations. If the Inert Gas System fails, altering the quality or volume of the inert gas produced, and has difficulty maintaining positive pressure in the cargo tanks, the operation must be stopped immediately, even before informing the duty officer on board and the Terminal representative. Operations may only resume when the Inert Gas System is in full working order.
• Tank degassing and inertization is not permitted on ships moored at the Public Flammables Pier.
• No repairs or maintenance work of any kind involving the risk of sparks or other means of ignition may be carried out while the ship is moored at the pier, without the express authorization of the terminal.
• In extreme cases, all safety regulations must be observed and complied with. Repairs involving pier facilities or implying any restriction on the ship during its stay must be authorized in advance by the Terminal.
• When approaching or leaving the NT, a pilot ladder, such as a rope breaker, must be available for immediate use and of sufficient length to reach the boat. At night, the ladder should be illuminated so that the boat can approach and the pilot can climb up or down safely. A lifebuoy with a lanyard should be close at hand, and a spyglass for small boats should be to leeward.
• When moored at night, the side opposite the quay must be illuminated for safety reasons.

4.5 ENVIRONMENTAL FACTORS

There are no weather stations in the area. The winds, in general, have a regular cycle throughout the year, following the coastal wind regime. The relative humidity is around 80%.

Temperatures throughout the year fluctuate between a minimum of 15ºC in June/July and a maximum of 30ºC in January/February.

Weather information can be obtained from the website of the Navy Hydrography Center ( ).www.dhn.mar.mil.br/chm/meteo/prev/meteoro/boletim.htm

• PREVAILING WINDS

The prevailing wind in the region is from the SW. From January to March, winds blow from the NE and SW; from April to July, from the W and SW; from July to September from the S and SE; and from October to December from the E, NE and SW. The intensity of the winds varies from weak to moderate.

• WAVES AND WAVES

The wave regime at the entrance to the bar depends on the local wind regime. The biggest restriction on boarding is the condition of the sea, which in the Galheta channel, with a wind above 6 on the Beaufort Scale, makes it difficult for pilot boats to pass.

• RAINFALL

The heaviest rainfall in the region occurs in the evening and sometimes lasts through the night, and is most frequent in the spring and summer seasons. Historically, there has been no snowfall in the region.

• LIGHTNING STORM

Lightning storms are more frequent in the spring and summer seasons, in the afternoon and early evening. The elements that contribute to their incidence are cold fronts and high temperatures during the day.

• VISIBILITY

In general, it's good during the summer and can be over 4 miles. It can decline with fall and spring fogs, as well as occasional heavy snowfall.

• TIDES AND CURRENTS

The tides in Paranaguá Bay are semi-diurnal, showing inequalities with additional influence caused by meteorological effects, both in the port and on the bar. There is a difference of approximately one hour between the tides in the port and on the bar, with later tides occurring on the bar.

The tide tables draw attention to this fact, informing us that there may be exceptions to the rules contained in these tables when it comes to tide predictions on the south coast of Brazil.

Currently, APPA and the Centro de Estudos do Mar are carrying out current and tide studies, with simultaneous measurements in the Galheta channel and in the port, in order to arrive at the values for the direction and intensity of the current at the critical points in the channel, as well as the depth at any moment, above the reduction level established by the DHN.

It is important to know the height of the tide at any location and at any time because this parameter directly influences the maximum draft to be set by the Port Authority.

With regard to Paranaguá Bay, the following aspects stand out:

At the Galheta channel bar, the current reaches around 4 knots on spring tides;

The average height of the syzygy tides is 1.80 meters, and of the quadrature tides, 0.80 meters;

In Porto, during spring tides, the flood and ebb currents reach between 1.3 and 2.4 knots, and during quadrature tides, around 1.0 knot;

The average density of the water in Paranaguá Bay, considered brackish, is 1.020 g/cm^3 at low tides and 1.030 g/cm^3 at high tides.

5. Terminal Description

Founded on February 1, 1977, by Petrobras, it has a physical area of 182,841 m², all of which is used for operational purposes, within a perimeter of around 1,800 m, operating uninterruptedly, 24 hours a day.

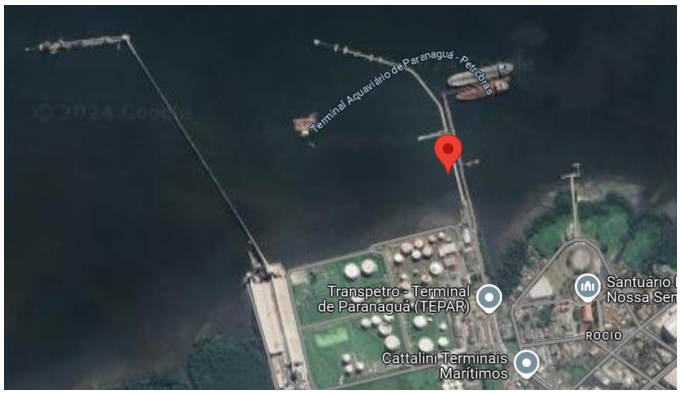
Transpetro operates petroleum products, LPG, Naphtha, Diesel Oil, Fuel Oil, Gasoline, and others, in the loading and unloading of ships, regulating the fuel market in the states of Paraná, Santa Catarina and southern São Paulo, served by the Presidente Getúlio Vargas refinery.

The Terminal is connected to the Araucária Refinery via a pipeline at12 polegadas and97,6 km , which operates in both directions. Approximately 165,000 m³ of oil products can be stored in the tank farm, and the pressurized LPG storage tank, made up of three spheres, has an operational capacity of 7,638 m³.

5.1 LOCATION OF THE TERMINAL

The Terminal's facilities are located at the following coordinates: latitude 25º30'12" S and longitude 048º32'06" W.

5.2 TERMINAL LAYOUT



See APPENDIX A

- **General Geographical Location**

The Paranaguá Marine Terminal (TEPAR) is located to the NW of the city of Paranaguá, next to the south bank of the dredged channel that gives access to the port, about 13 miles from the entrance to the bar. It is located in the state of Paraná, on the stretch of the southern coast of Brazil between Bom Abrigo Island and the Arvoredo Islands.

5.3 CONDITIONS FOR ACCEPTANCE OF THE VESSEL

See item 7 COMMUNICATION BEFORE ARRIVAL

5.4 MANAGEMENT AND CONTROL

In the Terminal's "Control Room" is the Operations Technician responsible for controlling all Terminal operations via the supervisory system.

On the pier, another room with an Operations Technician carries out all the work needed to carry out the operations, as well as taking care of communication from berthing, the ship's position, and throughout the operation until unberthing.

Communications are carried out with the ships via VHF radios (channel 9), on a maritime frequency that has been previously agreed and registered. A secondary means, via UHF radio (terrestrial channel 3), provided by the terminal, is used in the event of a failure in the main system.

5.5 MAIN RISKS

The main dangers associated with ships staying at TEPAR berths are:

- Removal of the outer (PP-1) and inner (PP-2) berths, due to the occurrence of sudden gales, which are more frequent in the spring and summer seasons, in the afternoon and early evening.

- When unprotected by the absence of a ship in the other berth, the ship that is moored is more vulnerable to the winds and runs the risk of drifting away. When operating a single ship at berth, the crew needs to pay more attention to the mooring lines.

- Lightning storms occur more frequently in the spring and summer seasons, in the afternoon and early evening. The elements that contribute to their incidence are cold fronts and high temperatures during the day.

6. Description of the berths

6.1 DETAILS OF THE BERTHS: PP-1, PP-2 and PS

TERMINAL: TEPAR									PORT OF PARANAGUÁ	
Pier number	Type	Berth length (meters)	Draft	Tide (meters)		Mouth (maximum meters)	LOA (meters)	Products	DWT (maximum tons)	
				Syzygy	Drought					
PP-1	Pier "L"	190	11,60	1,8	0,8	40,0	190	Gasoline, Diesel Oil, Kerosene, Methanol, MTBE, Alcohol, Naphtha, Fuel Oil, Bunker, LPG	110.000	-
PP-2	Pier "L"	190	11,60	1,8	0,8	35,0	190	Gasoline, Diesel Oil, Kerosene, Methanol, MTBE, Alcohol, Naphtha, Fuel Oil, Bunker, LPG	80.000	-
PS	Pier "L"	100	5,80	1,8	0,8	-	-	Bunker	-	-

Note: The Secondary Pier is only used for barge loading and tugboat supply operations.

DEPTH CONTROL

The berths are deep enough to accommodate boats according to the table below

BERCH	BOAT	SHUT UP	LOA
PP-1	Ships	11.60 meters (38 feet)	190
PP-2	Ships	11.60 meters (38 feet)	190
Secondary Pier	Barges	19 feet	

Water density

The density of the water in Paranaguá Bay varies dynamically with the direction of the tidal currents, the reference values being between 1.020 and 1.030g/cm³@20° C.

Requirements for Load Handling Equipment

The requirements for cargo handling equipment are a crane capacity of 5 tons or more and a boom length of at least 20m for connections made in the inner cradle and 25m for connections in the outer cradle.

Mooring Equipment SWL

Each cradle at APPA's flammables pier has five bollards with a capacity of 100 tons each.

6.2 MOORING AND BERTHING ARRANGEMENTS

Maneuvers take place 24 hours a day, with berthing and unberthing maneuvers observing the drafts allowed during low ebb tides (a maximum of 0.4 knots).

The mooring company is called in by the pilotage, which is carried out under the guidance of the pilot on board the ship. The pilot will also indicate the VHF channel for communication with the moorers and terminal staff for the correct positioning and mooring of the ship.

In the port of Paranaguá there are also speedboats to support maneuvers, which are requested by the pilot from companies that provide this service.

Berthing and unberthing maneuvers are monitored by cameras installed on the pier

Cradle No.	Requires Practical	Maximum deadweight	Nº & BP (Bollard - Pull) of Tugs				Approach (Maximum)		Lashing points		Lashing Ropes (Minimum quantity)		
			Mooring		Unmooring		Speed (cm/s)	Angle (º)	Bollards	Cats	Launcher	Cross bars	Splurge
			NO.	BP	NO.	BP							
PP-1	Yes	110.000	2 a 3	58	2 a 3	58	20	10º	5	X	4	See Note 3	2
PP-2	Yes	80.000	2	53	2	53	20	10º	5	X	4	See Note 3	2
PS	No	Ferry / Tug	N/A	N/A	N/A	N/A	20	N/A	2	X	2	N/A	N/A

Note1: For ships with a gross tonnage above 2,000 TDW, the use of pilotage services is mandatory.

Pilotage will be optional for ships with a gross tonnage of less than 2,000 TDW, as long as they are commanded by a Brazilian seafarer in the category of Nautical Officer or Cabotage Master.

Note2: The recommended number of tugs is defined in the rules and procedures by the Port Authority (NPCP) and will depend on the gross size of the ships and the static traction force of the tugs. At the discretion of APPA / PRATICAGEM, the recommended number may be altered, taking into account the characteristics of the ship to be towed and the risks of berthing.

Note3: If the positioning and mooring arrangement of the ship in relation to the Pier's bollards are favorable, it is recommended to lay cross cables, especially if strong winds are forecast.

Note4: Add a splash against the west wind and ebb tide on the outer (PP1) and inner (PP2) piers.

6.3 CHARACTERISTICS OF THE BERTH FOR LOADING, UNLOADING AND BUNKERING

There are two berths at the ship pier, one external and one internal (PP1 and PP2), equipped for loading and unloading light products such as gasoline, diesel, naphtha, LPG, and dark products such as marine fuel (VLFSO) and fuel oil (see Appendices C and D).

PP-1 (external berth) is196 metros long and deep enough to accommodate ships with a maximum draft of 11.60 meters (38 pés) and LOA of up to 190 meters.

The PP-2 (internal berth) is186 metros long and deep enough to accommodate ships with a maximum draft of 11.60 meters (38 feet) and LOA of .190 metros

On the main pier there are five bollards for each berth, 46 meters apart.

The PP-1 has three arms that serve the ships moored at the outer berth, two of which are 10" in diameter and operate with light products and another 12" that operates with dark products.

The pier also has hoses from8” , which can operate with ships moored in the outer or inner berth, with up to 800 m³/h per hose line. For LPG, a flight of hoses at6” discharges into the liquid phase, with a flow rate limited by the pressure of 15.0 Kgf/cm2.

The secondary pier is100 metros long and deep enough to accommodate barges with a maximum draft of19 pés , which are loaded with MGO (Marine Gas Oil) and VLSFO (very low sulfur fuel oil), which supply the ships operating in the port of Paranaguá.

The pier is equipped with a fire-fighting system, and the terminal has containment booms in place to help combat pollution at sea.

Appendix C shows a simplified diagram of the arms, hoses and lines for loading and unloading products.

7. Communication before arrival

Ships destined for the APPA Flammables Pier must inform the ETA via the agent at least 24 hours in advance so that they can be included in the schedule.

The ETA information must specify whether the time is local time or UTC. Local time is three hours behind the Greenwich meridian. Be aware of the possible use of "daylight saving time", moving the time zone to two hours behind Greenwich.

The NOR (Notice of Readiness to Operate) must be issued by the ship at the usual port anchorage when the ship is in all respects ready to operate.

The docking schedule at the Paranaguá Terminal is regulated by APPA.

Ships destined for the Paranaguá Terminal must have Free Practice Granted (Clearance of the Ship by Port Health and Port Authorities). Ships can be visited in the anchorage area by Health, Customs and Maritime Police agents. The ship's agent must make the necessary arrangements.

Occasionally, the visit may take place at the pier, before the other workers have access, but all ships must send a specific message to the National Health Surveillance Agency (ANVISA) before calling at the port of Paranaguá, in order to obtain a Free Practice certificate attesting to their good health status

Clearance for any activity will only take place after ANVISA clearance, which is provided by the ship's agent.

Ships coming from a foreign port, even if they have already called at a national port, will be inspected by Customs, and the agent must make a request to this effect, giving the necessary details.

They will also be subject to a visit from the Maritime Police, after being granted the Freedom of Practice, to check the seaman's license or passports of all crew members and passengers.

On-board repairs and washing of the ship's cargo tanks should preferably be carried out in the anchorage area. If these services are to be carried out while the ship is docked, prior authorization from the Terminal will be required.

Requests for bunker supply must be sent to Petrobras, via its agent. The Terminal can supply ships berthed at the pier directly via pipeline, pumping through hoses with a diameter of 4" for MGO (Marine Gasoil) and 8" for MF (Marine Fuel) at a flow rate of 100 m^3/h and 600 m^3/h respectively, or via barge for ships anchored offshore.

Requests for supplies of water, food, lubricants, parts and other materials for use on the ship are made through the agent, using supplier companies with no ties to the terminal.

See item 10 Contacts

7.1 INFORMATION FROM THE TERMINAL TO THE SHIP

See items below

7.1.1 MOORING

DRAFTS

In the outer berth of the main pier, known as PP-1, the maximum draft allowed for the ship is 11.60 meters (38 feet). At PP-2, or the inner berth, the maximum draft is 11.60 meters (38 feet).

DIMENSIONS - LOA

What limits ships' access to the main pier is the length (LOA) of 190 meters and a maximum width of 40 meters for PP1 and 190 meters in length (LOA) and a maximum width of 35 meters for PP2.

PROCEDURES BEFORE MOORING

The crane or load stick (for a minimum of 5t) must be in usable condition, and provide safety to help connect hoses to the on-board manifold;

Have the windlasses, winches, brakes, jaws and other equipment in perfect working order, guaranteeing the safety of the mooring;

Leave tow ropes, messengers, guide ropes and lanyards ready at the bow and stern;

All mooring equipment used at the Terminal follows the OCIMF Mooring Equipment Guidelines (MEG).

MOORING TASKS

Mooring work will always be carried out under the guidance of the pilot (see Appendix C). The Terminal, however, checks the directives defined in item 6.2 ATTACHMENT AND LOOPING RACKS

MOORING LINES

Under no circumstances should the mooring lines become soft or loose. If this happens, the ship could move along the pier or away from the berth. In this case, the operation must be stopped as a safety measure and the hoses and arms disconnected.

The lashing ropes must be made of the same material, fiber or wire. It is not permitted to use "mixed" lashings, i.e. ropes that perform the same function must not be made of different materials. They must be of the same type, gauge and material.

MOORING SYSTEM

Ships docking to operate at the Terminal's flammables quay must adopt the following mooring criteria:

1. - The mooring lines should be arranged as symmetrically as possible in relation to the middle of the ship.
2. - The beams, when used, should be oriented as perpendicular as possible to the ship's longitudinal axis and passed as far forward and aft as possible.
3. - The sprues should be oriented as parallel as possible to the longitudinal axis of the ship.
4. - If fiber harnesses are used in the wire ropes, the harnesses must be of the same type, with a gauge 25% greater than the minimum breaking load of the wire rope, in accordance with OCIMF/ISGOTT, of the same material and of the same length.
5. - The mooring lines must be arranged in such a way that those performing the same functions are the same length from the onboard winch (or bollard) to the quay bollard.

The diagrams shown in Appendix C indicate the mooring for the most unfavorable conditions, as they represent the acceptable boundary conditions.

The horizontal angle of the bow and stern lines in relation to the direction of a beam perpendicular to the longitudinal axis of the ship may not exceed 45º.

For shuttles, the number of mooring lines has to be increased due to the deficiency that such an arrangement provides in terms of restricting the ship's movements.

SEQUENCE FOR MOORING WORK

Approach the oil pier with the drift necessary for the ship to be steered.

Pass the towing cables through the central stern horn to the tugboat that will assist in mooring, as instructed by the pilot.

Throw the line to the support boat, allowing the mooring lines to be thrown to the pier, as instructed by the pilot.

Sequentially, the remaining spikes will be passed on to the bollards pointed out by the pilot.

At least the scheme shown in Appendix C must be observed for mooring the vessel, i.e. four bow and stern launches and two fore-aft crossed sprinters and two fore-aft crossed sprinters, adding a sprinter counteracting the westerly wind and ebb tide at the Outer - PP1 and Inner - PP2 piers.

If possible, also use trailing cables, depending on the wind forecast.

BEFORE CARGO TRANSFER

The terminal has insulating joints on both the loading arms and the hoses.

Hose connections and disconnections at the ship's loading and unloading outlets, as well as at the loading arms, are made by Terminal staff, with the help of the ship's crane when using hoses.

The ship must arrange the diameter of the loading sockets in such a way as to make it possible to connect the loading arms and hoses.

An on-board representative must accompany the entire operation and must be close to the ship's loading socket.

The Terminal Operation Technician will carry out a visual inspection of the deck and around the vessel upon initial release and at regular periods during the operation.

On-board measurements will be carried out by the ship's personnel and monitored by representatives of the Terminal and other inspectors. The material used must be duly certified, grounded and the measuring accessories must be explosion-proof.

Operations can only begin once the initial letter has been completed by the shore and on-board representatives and the latest edition of the ISGOTT Ship/Shore Safety Checklist has been checked and completed by the Terminal's Nautical Inspector together with a Ship's Representative during the initial clearance.

It is forbidden to clean boiler pipes while the ship is moored. Care must be taken to ensure that no sparks escape from the chimney. Failure to comply with these regulations may result in:

- Immediate cessation of operations;
- Fines from the competent authorities;
- Compulsory unmooring of the ship from the pier;
- Reporting the infringement to the shipowners;
- Liability of the ship for fines, loss of time and all other related expenses arising from this fact.

It is forbidden for unauthorized vessels to stay on the side of or near moored ships.

Only vessels previously authorized by the terminal will be allowed to stay in the vicinity or alongside, provided they meet all the safety conditions, and outside the ship's operating period.

Any breach of this rule will result in the immediate interruption of the operation and will be reported to the competent authority.

Ships at berth will not be able to move their propeller(s) as long as they remain connected to the Terminal.

7.2 INFORMATION FROM THE SHIP TO THE TERMINAL

Terminal form (ISGOTT chapter 22)

8. Operational Information

8.1 SHIP / TERMINAL ACCESS

The piers at the APPA Flammables Pier do not have stairs to access the ship, but there are suitable places to use the ship's stairs (gangway with or without plank). Crew members using the Terminal's facilities when disembarking must wear closed-toe leather shoes, long pants and shirts with sleeves.

8.2 KET MEETING (INITIAL INSPECTION)

*** ARRIVAL**

When docking, after the safety inspection carried out by the Nautical Inspector, based on the ISGOTT Operational Safety Checklist, if there are any pending issues that have not been resolved by the crew, the ship will not be authorized by the Terminal to begin operations.

The port authorities are called upon by the ships' agents depending on their arrival and expected berthing.

In order to receive authorization to dock, the ship must, through its agent, pay all the port fees and tariffs stipulated by the Port Authority, in the manner established and in force, as well as become aware of the ordinances and rules issued by the Port Authority Council (CAP), which is the normative body for promotion and deliberation on matters relating to the operation of the organized port.

8.3 SHIP/SHORE SAFETY CHECKLIST (SSSCL)

The Ship/Terminal Safety Checklist (ISGOTT Safety Checklist) is checked and completed by the terminal representative (Safety Inspector) during the initial release of the ship, when all safety recommendations are addressed.

8.4 BALLAST AND DEBALLAST PROCEDURES

The requirements for ballasting and deballasting must comply with current legislation. The terminal has no facilities for receiving ballast water.

8.5 HOSE CONNECTION / DISCONNECTION PROCEDURES

The terminal has insulating joints on both the loading arms and the hoses.

Hose connections and disconnections at the ship's loading and unloading outlets, as well as at the loading arms, are made by Terminal staff, with the help of the ship's crane when using hoses.

The arms and hoses are drained using a positive displacement pump on the pier. If the LPG hoses are disconnected, they can be blown off using the on-board compressor.

The ship must arrange the diameter of the loading sockets in such a way as to make it possible to connect the loading arms and hoses.

An on-board representative must accompany the entire operation and must be close to the ship's loading socket.

8.6 CARGO TRANSFER PROCEDURE

Operations are carried out through pipelines designated for each type of product and prepared by the Terminal Operations Technician, after the connections have been rigorously checked.

The ships' ballast and deballast nets and tanks must be used solely for this purpose, and isolated from the other nets on board. The water ballast to be discharged into the sea must be completely free of oil, without any oily residue or other substance capable of causing pollution of sea waters.

The terminal has a line and tank for receiving "SLOP". The ship must request the schedule in advance, and the agency must check the availability of space.

SLOP is discharged through hoses from8” at a maximum flow rate of 600 m^3/h and a maximum pressure of 7 kgf/cm^2.

The ship's load sockets that are not in operation must be properly flanged.

Operations will only begin after the authorizations have been duly understood between the Ship and the Terminal.

The monitoring of the pressures in the ship's manifold during operations will be recorded by the on-board and terminal representatives every full hour.

The volumes handled will be shared every full hour, and compared, with the aim of ensuring that the receiving side is aligned with the sending side, as agreed in the initial letter.

It is strictly forbidden to block or restrict valves during operation.

The maximum pressure and flow rate established in the Initial Letter, in agreement with both parties, must be maintained throughout the transfer, adopting the lowest operational capacity as the limit.

The ship must keep a crew member observing the cargo intake and mooring lines throughout the operation, in a position to establish contact with the Terminal team whenever necessary.

Firefighting equipment must be ready for any emergency, as must the fire mains, which must always be pressurized.

The load sockets must be equipped with flanges of a diameter previously agreed with the Terminal.

Flame screens must be kept over the mouths of the ulage pipes, the hatches of the lids (sight glasses) and similar openings.

The loading or unloading of the ship may be interrupted in the event of a fire, or the start of a fire on board, on land, on another ship that is docked or is passing at a distance considered dangerous or in any other situation that may pose a risk to the ship or the Terminal.

Transfer operations will be interrupted in sustained wind conditions exceeding 20 knots (~37 km/h) or in the presence of electrical discharges within a radius of less than 15km. Criterion recommended by the Port Authority following a climate study and public consultation. Terminal operating personnel are authorized to interrupt/suspend operations in the event of non-compliance with any of the universally accepted safety rules and regulations adopted in the maritime transport of oil and oil products.

The ship's captain has the right to stop the operation if he has reason to believe that operations ashore are unsafe.

In an emergency situation, the Terminal will interrupt ongoing operations so that all resources are focused on mitigating the incident. The actions and contacts for each type of emergency are described in the ERP.

8.7 CARGO MEASUREMENT, SAMPLING AND DOCUMENTATION

Once the operation is complete, the loading arms/hoses used must be drained. The Terminal Operations Technicians will arrange for the arms/hoses used for the closed system on the pier to be drained. The ship's representative must arrange for the on-board section to be drained.

The final on-board measurements will be carried out by the ship's personnel and monitored by representatives of the Terminal and other inspectors. The equipment used must be properly grounded and the measuring accessories must be explosion-proof. The ship must be finally released after the quantities handled have been compared and the documentation for the stay has been completed.

8.8 ENVIRONMENTAL LIMITS

See item 4.5

8.9 TANK CLEANING AND ENCLOSED SPACE ENTRY PROCEDURES

No form of tank, deck, chimney or similar cleaning is permitted. In case of extreme need, the Terminal must be consulted for assessment. The authorities will always be notified before any authorization is issued by the Terminal.

8.10 INERT GAS SYSTEM

In the event of difficulties or problems with the ship's inert gas system, operation will be suspended until the system is up to the minimum acceptable standard.

8.11 PROVISIONS PROCEDURES

See item 7

8.12 POLLUTION PREVENTION

The ship will send a summary of its emergency plans in advance.

8.13 POTABLE WATER

Drinking water and other supplies must be ordered through the Agent. Suppliers have no connection with the Terminal.

8.14 UNMOORING AND DEPARTING THE PORT

The agent must be told when the ship has finished so that the pilot can be scheduled. Once the final clearance has been completed, without any terminal employees and with the pilot on board, the ship removes the ladder and then, as instructed by the pilot, begins to unberth the ship.

The pilot, depending on the wind and current conditions, proceeds to determine the mooring of the tug and the removal of the cables that will be taken on board. When the last line of the mooring is uncoiled, the ship begins to move away, according to the criteria set by the pilot.

8.15 COMPLIANCE WITH THE ISPS CODE

See item 2.3 SECURITY DECLARATION (ISPS CODE)

9 Port or anchorage organization

9.1 PORT CONTROL OR VTS

Not applicable to TEPAR.

9.2 MARITIME AUTHORITY

The maritime authority to which the Terminal is subordinate is the Paraná Port Authority - CPPR.

The Port Captaincy is the Maritime Authority in the maritime space of the State of Paraná, which encompasses the areas of the Organized Ports of Paranaguá and Antonina.

It is the Port Captain's responsibility to determine the actions and prosecute those responsible for any incident within the confines of the port.

9.3 HARBOUR PILOT

The pilotage service is compulsory for foreign ships and for oil tankers, propane carriers and explosive cargo carriers flying the Brazilian flag, of any size in terms of gross tonnage.

The pilot embarks at the place marked on the 1821 chart, sailing into the port via the Sueste or Galheta canals, guiding the ship to its berth.

The pilot's embarkation point is next to buoy no. 1, regardless of which channel is used, Galheta or Sueste. The circular maritime area, with a radius of 1 mile, marked on the 1821 chart with a 1-second white light buoy, is the pilot's waiting area.

The request for a pilot can be made by the vessel's shipping agent at least three hours in advance, when the vessel's time of entry or departure must be specified.

Ships calling at Paranaguá must contact the pilotage on channel 16 VHF two hours before reaching the pilotage waiting area. The Pilots' Association maintains permanent listening on channel 16 VHF and traffic on channels 12 and 14 VHF.

The biggest restriction on boarding is the sea conditions, which in the Galheta channel, with winds above grade 6 on the Beaufort scale, make it difficult for pilot boats to pass.

At the suggestion of the agent responsible for Pilotage, in the event of unfavorable weather conditions or sea state, the access Bar to the Organized Port may be temporarily closed by the Maritime Authority Agent, with the Port Authority's knowledge.

In order for the ship to enter the canal, the current maximum draft is 41 feet.

The captain is solely responsible for the maneuvers and must provide all information to the pilot on any peculiarities, specific conditions or existing difficulties, such as: deficiencies in machinery, boilers, problems or malfunctions in navigational aids, mooring lines or any element that could lead to danger with regard to mooring, letting go of lines, loading and unloading the ship.

The pilot shall only leave the ship after making sure that the ship is safely moored or anchored, and when, at the time the ship leaves the Organized Port Area, it has reached the Pilots' Waiting Area established by the Maritime Authority.

When the Pilots notice any operational restrictions on the vessels they are maneuvering, they will inform the Maritime Authority Agent, informing the Port Authority, so that they can determine whether or not to impose restrictions on the vessel's transit through the area. This will make it possible to plan a program of vessel inspections.

If there are any restrictions, either on the bar or when unmooring, the pilot must consult the Maritime Authority before starting the maneuver.

9.4 TUGS AND OTHER MARITIME SERVICES

REBOUKERS

The use of tugboats will comply with the following guidelines:

a) The use of tugboats is mandatory in the area of the organized port, according to

NORMAM-08/DPC and Norms for Maritime Traffic and Permanence in the Ports of Paranaguá and

Antonina, of the Port Authority, and it is up to the ship's captain to define the device that will provide adequate security.

b) Mandatory use for moving ships unable to maneuver with their own resources to or from the anchorage area. In this case, the work must be carried out using a special tugboat device, suitable for the situation of a tugboat without propulsion. If there are conditions to be observed, these must be indicated by the CPPR, in response to the request of the interested party.

In the event of situations involving a greater risk to safety, recommendations on the use and deployment of tugboats should be presented by representatives of the port facilities and duly assessed by the CPPR.

Should the need arise, these situations will be established and publicized on the website of the CPPR, the Port Authority and the port facility, as well as the type, method of use of tugboats, the minimum number of tugboats to deal with the situation considered to pose the greatest risk per maneuver.

However, the final decision on the method of using the tugs will be made by the captain of the assisted vessel, after hearing the pilot, as well as the number of tugs used, as long as there is no imposing determination by the Maritime Authority, Port Authority or specific Terminal/Port procedure.

The Port Authority, together with the representative of the Maritime Authority, must establish, in consultation with the representatives of the local pilotage companies, the minimum number of tugboats to be used during port maneuvers, in order to protect the facilities and the marine environment in the event of any accidents.

In order to guarantee the safety of navigation and the environment when manoeuvring ships in the area of the Organized Port of Paranaguá and Antonina, the technical literature (Tug Use in Ports) describes the formulations for sizing the minimum power requirements and towing devices needed to satisfactorily move the ship to be manoeuvred, under the meteoceanographic conditions of the manoeuvring location.

Thus, the minimum number of tugs to be used in the various maneuvers should be based on the Gross *Tonnage* (AB) of the ships and the Longitudinal Static Pull ("Bollard Pull") of the tugs, as defined by the ICTM 1969 (*International Convention on Tonnage Measurement of Ships*, 1969).

Vessels that have an auxiliary maneuvering device of the "Bow and/or Stern Thruster" type in perfect working order will be able, at the discretion of the ship's captain and duly accepted by the pilot on board, to reduce (compensate) the required "Bollard Pull" values, depending on the nominal power values of their organic devices, following the practical rule of correspondence: subtract from the required "Bollard Pull" the value corresponding to the nominal power of the "Thruster" multiplied by 0.014 ton/kW (Ton/ Kilowatt), as recommended in the IMCA (International Marine Contractors Association) publication "Specification for DP Capability Plots". **This rule does not apply to maneuvers at the Liquid Bulk Pier (PGL**) and the Commercial Quay of the Port of Paranaguá, which must comply with a specific Port Authority Ordinance, in consultation with the Maritime Authority.

The tow ropes and other materials to be used in maneuvers with the tugs must meet the safety requirements for the maneuver. Their supply must be the product of an agreement between the contracting party, the shipowner or agent, and the contractor, the tugboat company.

The ship's captain will make the final decision on the use of the appropriate maneuvering materials and devices, as long as they do not conflict with port regulations.

When tugboats are maneuvering near the bow of ships, it is forbidden to pass the tow line by lowering it over the bow, so that it can be caught with a croque by the tugboat crew.

The cable must be routed through a reel, launched from the forecastle towards the tug's deck, in order to avoid excessive tug/ship closeness, reducing the effects of hydrodynamic interaction between the vessels.

OTHER SERVICES

Requests for repairs should be communicated to the ship's agency, which will respond according to local resources.

9.5 OTHER OIL PRODUCT BERTHS

The Cattalini pier extends to the NW in relation to the Paranaguá Terminal Pier and has the capacity to berth up to two ships simultaneously of up to 50,000 DWT.

- **Other Operators at the Pier**

The two berths at APPA's Public Flammables Pier are operated by **TRANSPETRO**, and also by the operators below:

- CATTALINI - Terminais Marítimos LTDA (chemical products, vegetable oils and petroleum products);
- União Liquipar (chemical products and vegetable oil);
- Paraná Alcohol Terminal (different types of alcohol);
- TERIN (different types of alcohol, petroleum derivatives);
- CBL (petroleum products)

10 Contact us

TERMINAL

Location	Contact	Telephone	VHF channels	
Cradle P-1 and P-2	Operator	(41) 3420-4268	09/16	09/16
Secondary Pier	Operator	(41) 3420-4269	09/16	09/16
Control Room	Operator	(41) 3420-4105	09/16	09/16
Shift Supervisor	Shift Supervisor	(41) 3420-4104	09/16	09/16

PETROBRAS TRANSPORTE S.A. - TRANSPETRO	AV. Santa Rita s/n - Bairro Rocio - Paranaguá ZIP CODE 83221-675 Website: www.transpetro.com.br e-mail: tepar-sutur@transpetro.com.br Telephone: 55 41 3420-4104 / 55 41 3420-4105
ADMINISTRATION OF THE PORTS OF PARANAGUÁ AND ANTONINA - APPA	AV. Ayrton Senna da Silva, 161 - Bairro Dom Pedro II - Paranaguá CEP 83203-800 Website: www.portosdoparana.pr.gov.br Phone: 55 41 3420-1143
PARANAGUÁ PILOTS PILOTAGE SERVICES	Rua Benjamin Constant, 339 - Bairro Oceania - Paranaguá ZIP CODE 83203-190 Website: www.paranaguapilots.com.br e-mail: plantao@paranaguapilots.com.br Phone: 55 41 3721-1036 radio: ch16 / ch12
NATIONAL HEALTH SURVEILLANCE AGENCY - ANVISA	Rua Rodrigues Alves, 606 - Historic Center - Paranaguá CEP 83203-170 Website: www.gov.br/pt-br/orgaos/agencia-nacional-de-vigilancia-sanitaria e-mail: embarcações.paranaguá.pr@anvisa.gov.br

MARITIME AUTHORITY PARANÁ PORTS- CPPR	Rua Benjamin Constant, 707 - Bairro Oceania - Paranaguá ZIP CODE 83203-190 Telephone: 55 41 3721-1500 / 55 41 3721-1542 Website: www.marinha.mil.br e-mail: cppr.secom@marinha.mil.br
FEDERAL POLICE	Rua Manoel Bonifácio 309 - Center - Paranaguá ZIP CODE 83203-150 Phone: 55 41 3038-8563 Website: www.gov.br/pf/pt-br/acesso-a-informacao/institucional/quem-e-quem/superintendencias-e-delegacias/parana e-mail: gab.png.pr@pf.gov.br

Local Authorities, State and National Agencies

See table on page 2 and section 1. Emergency Procedures for a list of these authorities and their respective contacts.

Emergency Response Organizations

The emergency response organizations available in the port are listed in section 1 Emergency Procedures.

11 Definitions

Port Authority - This is the Port Administration in the Organized Port area, which performs its function in an integrated and harmonious manner, together with all the segments that operate there.

Maritime Authority - Captain of the Ports of Paraná , who, within the maritime space of the State of Paraná, which encompasses the areas of the Organized Ports of Paranaguá and Antonina, is responsible for the Captaincy of the Ports of Paraná, based in Paranaguá.

APPA - Administration of the Ports of Paranaguá and Antonina.

BP - "Bollard Pull" - Static longitudinal vessel pull.

DHN - Directorate of Hydrography and Navigation.

SQUAT Effect - An increase in a ship's draught as a result of an increase in speed, especially in restricted waters.

IMO - "International Maritime Organization".

IAT - Instituto Água e Terra (Water and Land Institute**) -** an environmental authority operating in the state of Paraná, currently linked to the state's Secretariat for Sustainable Development and Tourism

ISGOTT - "International Safety Guide for Oil Tankers and Terminals".

Quadrature (Dry) Tide - A sequence of low **tides** and high **tides** on the surface of the water, with the smallest amplitudes of variation, occurring at the times of the Waning Quarter and the Rising Quarter.

Syzygy Tide - A sequence of low **tides** and high tides on the surface of the water, with the greatest amplitudes of variation, occurring at the time of the Full Moon and New Moon.

NOR - "Notice of readness".

OCIMF - Oil Companies International Marine Forum.

PRE - Emergency Response Plan.

TEPAR - Paranaguá Terminal.

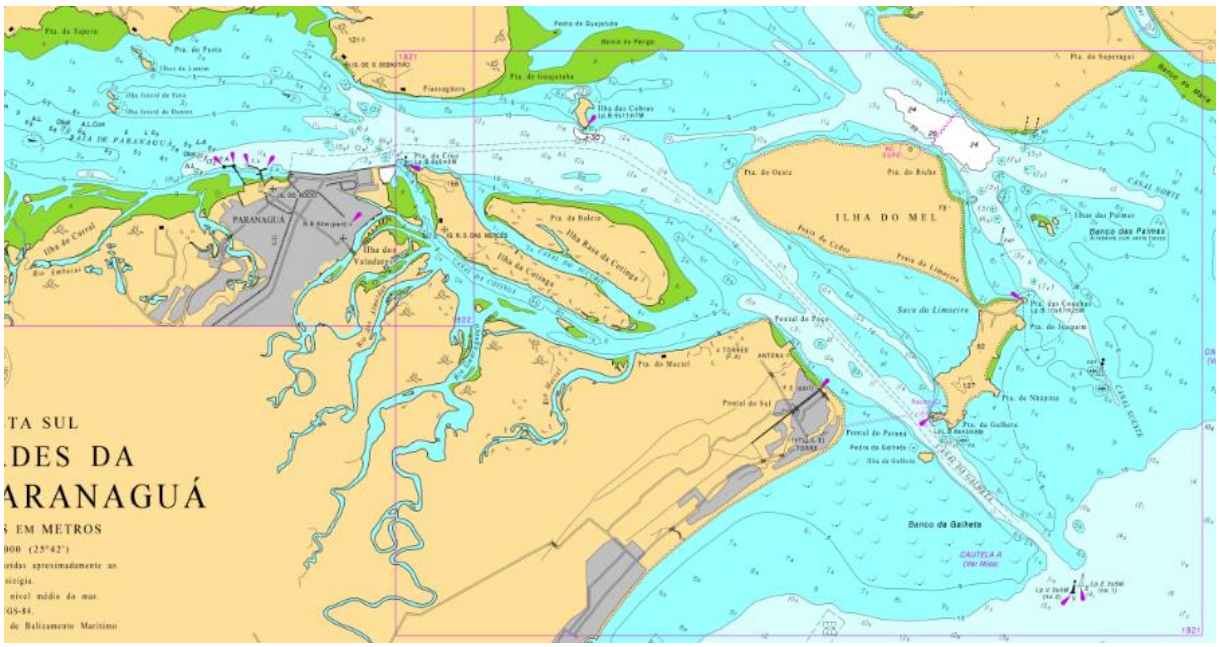
DWT - Gross Tonnage.

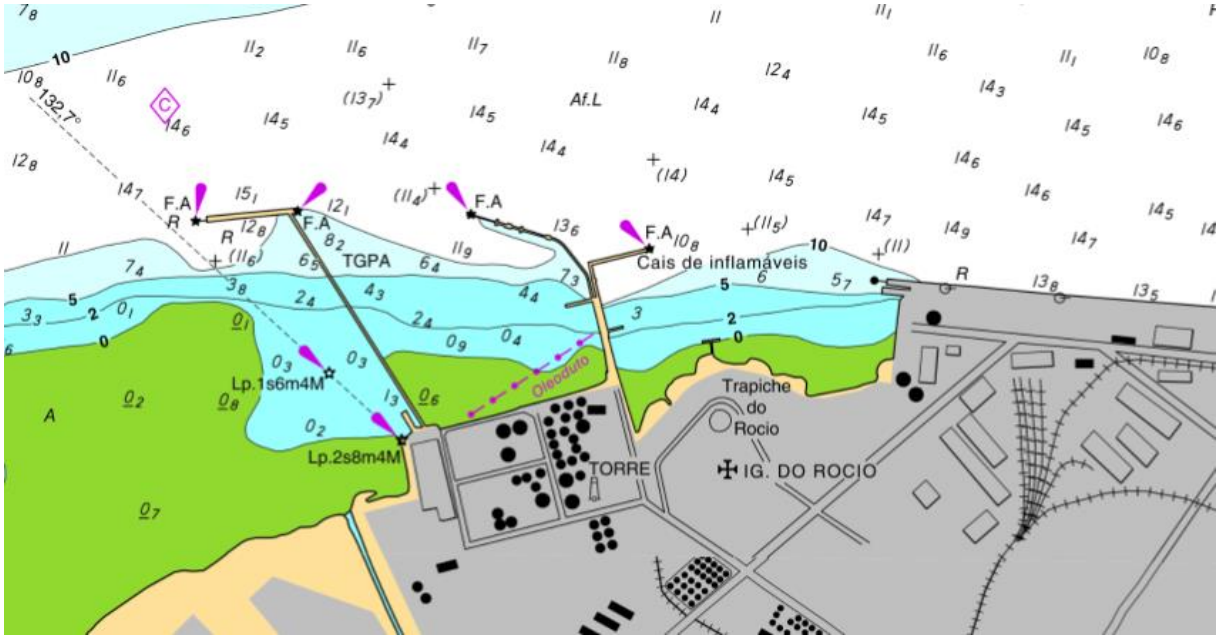
UTC - "Universal time coordinated" (Universal Standard Time)

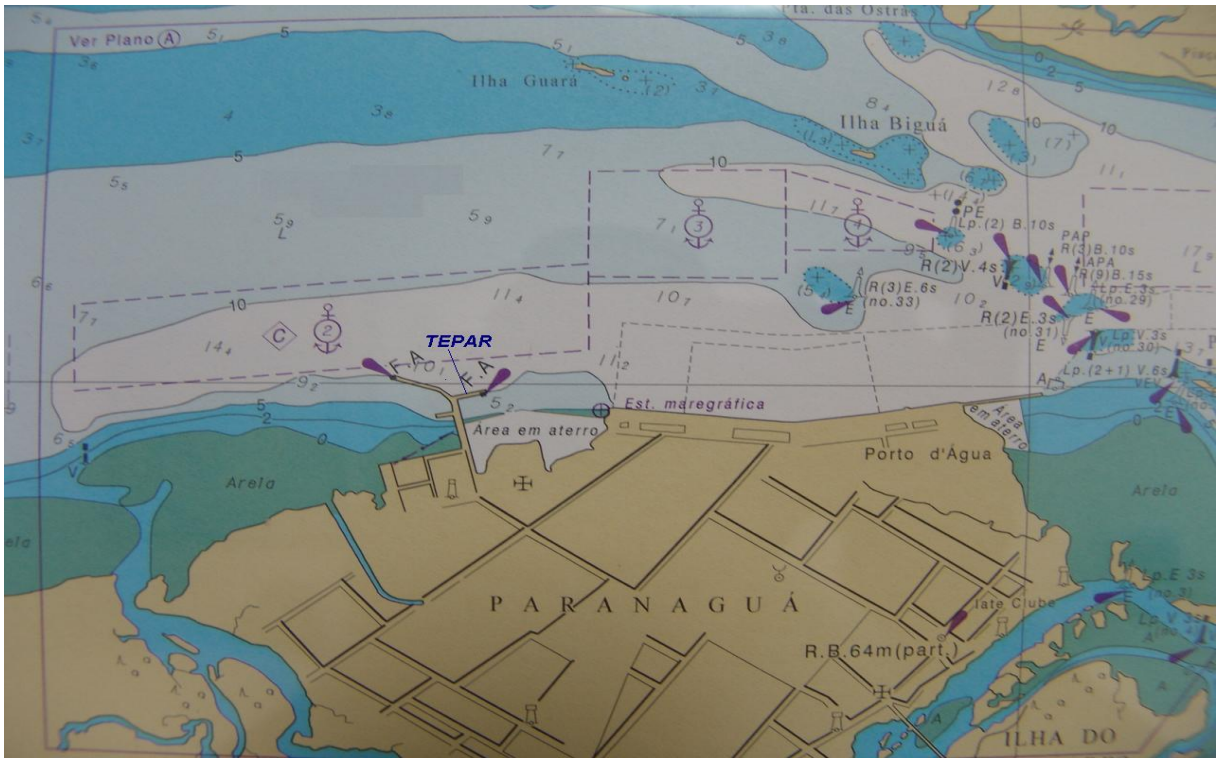
APPENDICES

APPENDIX A

Charts and photos including cradles and approaches



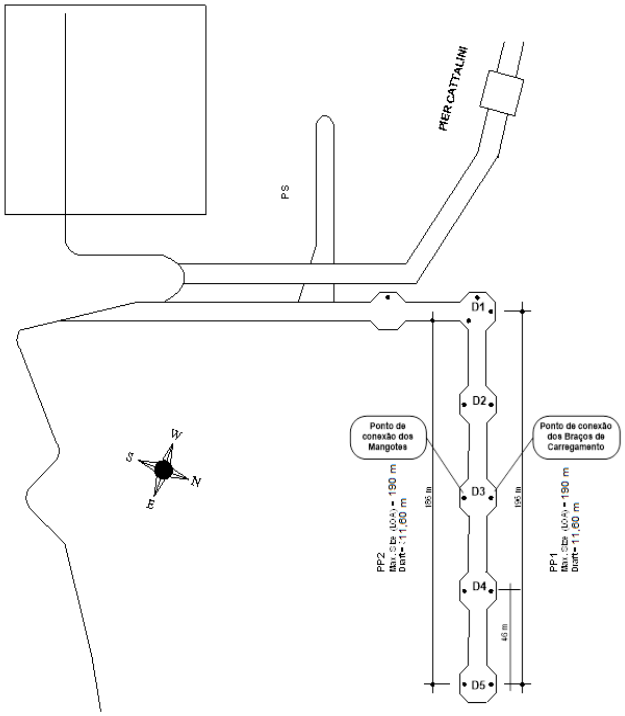



Ver Plano (A)
Ilha Guará
Ilha Biguá
TEPAR
Est. maregráfica
Area em aterro
Porto d'Água
Arela
PARANAGUÁ
R.B. 64m(part.)
ILHA DO


Private Pier
PP-1
Main Pier
PP-2
Pier
Secondary
Floating Pier
Emergency boats

APPENDIX B

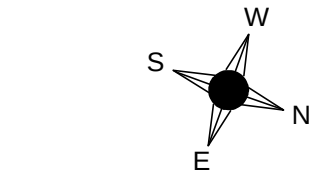
Terminal Pier Configuration

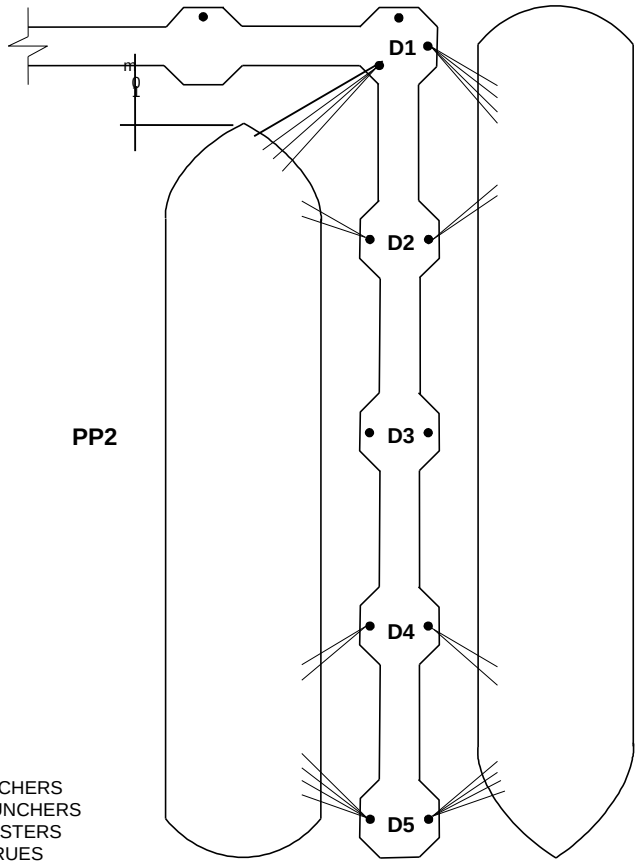


According to decree 334/2023, the maximum length of the two berths is 190 meters. LOA = 190 m. The drafts must also be the same: 11.60 meters.

APPENDIX C

Mooring arrangement on PP-1 and PP-2





PP1 : 4 BOW LAUNCHERS
4 STERN LAUNCHERS
2 BOW THRUSTERS
2 STERN SPRUES

PP2 : 4 BOW LAUNCHERS
4 STERN LAUNCHERS
2 BOW THRUSTERS
2 STERN SPRUES

NOTE: The basic mooring scheme can be reinforced in adverse wind and sea conditions.

Add a SPRING to counteract the westerly wind and ebb tide at the Outer - PP1 and Inner - PP2 piers.

APPENDIX D

Typical Loading and Unloading Flows

NOTE: FLOW RATES CAN BE ALTERED ACCORDING TO THE COMBINATION OF LINES, HOSES AND TERMINAL ARMS AND THE SHIP'S CAPACITY

Berço	Produtos	Mangotes / Braço	Especificações	Sentido de Operação	Temperatura (°C)		Vazão (m^3/h)	Pressão (kgf/cm^2)	Observações
					(mín)	(máx)	(máx)	(máx)	
PP1	Claros: Gasolinas, óleos Diesel e naftas	02 Braços	10" ANSI 150psi	Recebimento	20	40	1250	7,0	Vazão de recebimento por braço
				Envio	20	40	1000	7,0	Vazão de envio por braço
	Escuros: Óleos combustíveis e bunker	01 Braço	12" ANSI 150psi	Recebimento	40	70	1250	7,0	Vazão de recebimento por braço
				Envio	40	70	1000	7,0	Vazão de envio por braço
	Escuros: Óleos combustíveis e lastro	01 Lance de 3 Mangotes	08" ANSI 150psi	Recebimento	40	70	800	7,0	Vazão para óleos combustíveis
				Envio	40	70	650	7,0	Vazão para óleos combustíveis
				Recebimento	15	40	300	5,0	Vazão para recebimento de lastro
PP2	Escuros: Óleos combustíveis e bunker	01 Lance de 3 Mangotes	08" ANSI 150psi	Recebimento	40	70	800	7,0	Vazão para recebimento de escuros
				Envio	40	70	650	7,0	Vazão para envio de escuros
	Claros: Óleos diesel marítmos	01 Lance de 3 Mangotes	04" ANSI 150psi	Envio	15	40	100	7,0	Vazão para abastecimento direto
	GLP	01 Lance de 3 Mangotes	06" ANSI 300psi	Recebimento	+5	40	-	15,0	Vazão máxima limitada pela pressão (aprox. 400 m^3/h)
	Claros: Gasolinas, óleos Diesel e naftas	04 Lances de 3 Mangotes	08" ANSI 150psi	Recebimento e envio	15	40	800	7,0	Vazão por lance de mangotes

APPENDIX E

Conditioning factors access to the critical area of the Galheta channel for ships with drafts between 37.0 and 41.0 feet.

1 - Drafts over 37.0 feet and up to 39.0 feet

1.1 - Daytime Traffic

- No restrictions on operation in any tidal range conditions;
- Close to the top of the high tide or one hour after the low tide;
- Ship speed at the bottom between 8.0 and 14.0 knots;
- Visibility of 2.0 miles; and
- Level 4 on the Beaufort Scale.

1.2 - Night traffic

- No restrictions on operation in any tidal range conditions;
- Near the top of the preamares;
- Minimum bottom speed of 10.0 knots for entry and 12.0 knots for exit;
- Visibility of 4.0 miles;
- Level 4 of the Beaufort Scale; and
- The special buoys (BL-E) must be free of irregularities.

2 - Drafts of more than 39.0 feet and up to 41.0 feet

2.1 - Daytime traffic

- No restrictions on operation in any tidal range conditions;
- Next to the Preamares upholstery;
- Minimum bottom speed of 10.0 knots for Entry and 12.0 knots for Exit;
- Visibility of 2.0 miles; and
- Level 3 of the Beaufort Scale;
- Without the presence of waves or noise caused by wind gusts; and
- Light to moderate wind.

2.2 - Night traffic

- No restrictions on operation in any tidal range conditions;
- Next to the Preamares upholstery;
- Minimum bottom speed of 12.0 knots for Entry and 14.0 knots for Exit;
- Visibility of 4.0 miles;
- Level 4 of the Beaufort Scale; and
- The special buoys (BL - E) must be free of irregularities.

Note: In favorable weather and sea conditions, at the discretion of the Pilot on board, previously authorized by the Maritime and Port Authorities, the ship may travel in the Navigation Channels, in and out of the bar, at speeds lower than those stipulated in items 1.1, 1.2, 2.1 and 2.2.