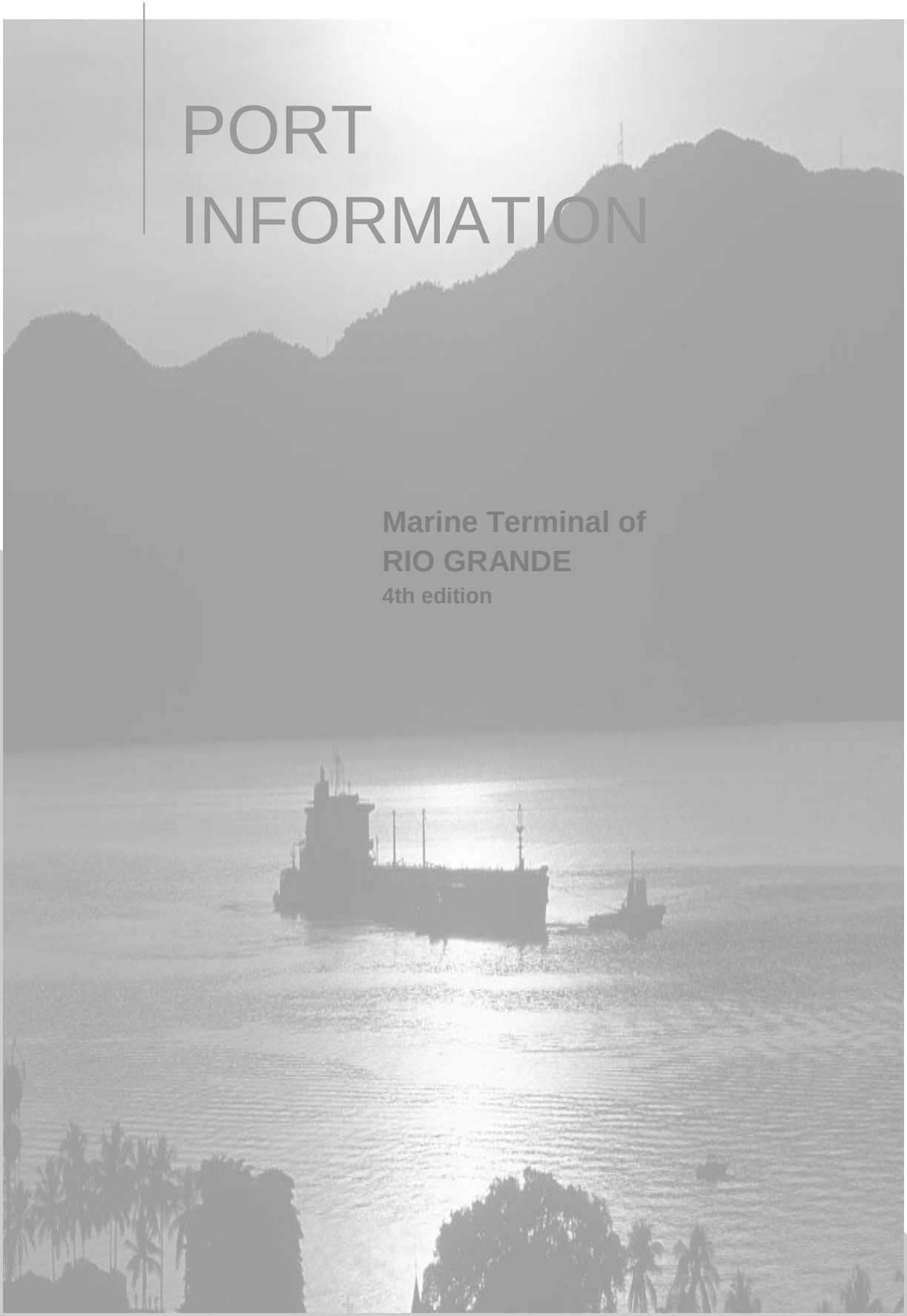
TRANSPETRO

PORT INFORMATION

Marine Terminal of RIO GRANDE

4th edition



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1 INTRODUCTION

The port information presented in this document is prepared by Petrobras Transportes S.A. (Transpetro), which operates the Rio Grande Marine Terminal – TERIG, in the Port of Rio Grande.

Ships that intend to carry out operations at this Terminal must comply with the recommendations contained in the International Safety Guide for Oil Tankers and Terminals (ISGOTT), International Maritime Organization (IMO) agreements, and adhere to the Terminal's operating regulations.

Port Information is available in both Portuguese and English versions and is distributed to ships that intend to carry out operations at the Terminal, as well as to Local and National Authorities.

The information contained in this publication is intended to supplement and not to replace or alter any type of national or international legislation, instructions, guidelines or official publications. Information that contradicts any item contained in the above-mentioned documents must therefore not be taken into consideration.

The Terminal reserves the right to alter any of the operational characteristics presented herein without prior notice.

It is important to note that the Terminal will gladly receive any suggestions, corrections or recommendations with regards to the matters addressed in this document in order to improve the quality of information provided. Therefore, if information is found that requires updating, please contact the Terminal's Administration or TRANSPETRO S.A.'s head office at the following addresses and telephone numbers:

Av. Maximiano da Fonseca, s/n – 2ªsecção da Barra
Píer Petroleiro - Distrito Industrial
96204-020 – Rio Grande – RS
Tel.: (53) 3234-3200

TRANSPETRO - Headquarters
Telephone: (55 21) 3211-9060
Address: Avenida Presidente Vargas, nº 328 – 9º andar - Rio de Janeiro - RJ.

The most recent version of this Port Information can be obtained through the following electronic address: (https://transpetro.com.br/en_us/transpetro-institucional/business-areas/terminals-and-pipelines/port-informations.htm)

2 DEFINITIONS

ANP - National Oil Agency.
BP (Bollard-Pull) – Static traction.
BTX – Benzene, Toluene and Xylene.
Bunker – Marine fuel for ships.
Port Authority – Maritime Authority.
CIS – International Code of Signals.
COW (Crude Oil Washing) – Cleaning of the Ship's Cargo Tanks with the product transported by it.
CRE – Emergency Response Center.
Squat Effect – Increased draft of a ship as a result of increased displacement speed.
Gangway – Straight metal structure, with side balusters and handrails. The steps are self-leveling, according to the inclination, and have a non-slip tread. This type of ladder is placed parallel to the ship's side, from a retractable platform fixed on the deck.
Breaststroke ladder – Flexible ladder composed of cables with wooden and/or rubber steps according to the Safety of Life at Sea (Solas) convention.
Beaufort Scale – Scale that measures the intensity of the wind from the state of the sea.
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 (Guia Internacional para Operações Seguras de Navios-Tanque e Terminais).
ISPS (International Ship and Port Facility Code)– Código Internacional de para Proteção de Navios e Instalações Portuárias.
Quadrature tide –Tide of small amplitude, which follows a quarter rising or waning day.
Spring tide – The largest tidal amplitudes verified during the new and full moons, producing the highest high tides and the lowest low tides.
NPCP – Standards and Procedures of the Port Authority.
NT – Tanker.
OCIMF – (Oil Companies International Marine Fórum) – Forum Internacional das Companhias de Petróleo.
PRE – Emergency Response Plan.
Pilot – Professional duly qualified and authorized by the maritime authority to perform ship maneuvers at a port.
SIGTTO – (Society of International Gás Tanker & Terminal Operators) – Sociedade Internacional dos Operadores de Navios e Terminais de Gás
Slop – Waste tank.
Safety of Life at Sea (Solas) — International Convention on the Safety of Life at Sea.

SIGTTO – Society of International Gas tanker and Terminal Operators **–** Sociedade Internacional de Operadores de Navios e Terminais Gaseiros
STCW – (Standards of Training, Certification and Watchkeeping) – Convenção Internacional para Padrões de Treinamento, Certificação e Serviços de Quarto para Aquaviários
SUPRG – Superintendence of the Port of Rio Grande, port authority.
TPB – Gross Shipping Ton.
VHF (Very High Frequency) – Radio frequency used in maritime operations.
VTS (Ship Traffic Service) – Traffic Service for the Ship.

3 CHARTS AND REFERENCE DOCUMENTS

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

3.1 CHARTS

Charts 2.100, 2.101, 2.110, 2.112 and 2.140.

Area	Chart Number
	Brazil (DHN)
Anchoring and approaching the port	2101
Port entrance and canals	2100

3.2 OTHER PUBLICATIONS

Type / Subject	Editor or Font
NPCP-RS – Standards and Procedures of the Port Authority of Rio Grande do Sul	CPRS - Port Authority of Rio Grande do Sul - http://www.mar.mil.br/cprs/
Operating Regulations of the Port of Rio Grande	SUPRG

4 DOCUMENTS AND INFORMATION EXCHANGES

Information	Prepared by			Delyvered by			Comments
	Terminal	Vessel	Both	Terminal	Vessel	Both	
Before arrival							
Estimated Time of Arrival (ETA) and vessel information		X		X			ISGOTT compliant
Terminal essential information	X				X		ISGOTT compliant
Before Load or Bunker Transfer							
Details of cargo/slop / ballast on board		X		X			ISGOTT compliant
Operation Essential Information	X				X		ISGOTT compliant
Ship/shore safety checklist			X			X	ISGOTT compliant
During Cargo or Bunker Transfer							
Repeat Ship/Ground Safety Checklist			X			X	ISGOTT compliant
After Cargo or Bunker Transfer Before Departure							
Information necessary to undock the vessel			X			X	Quantity of fuel and water on board
After undocking, on leaving port							
Information related to Port Departure data		X			X		Time of disembarkation of the boat and departure from the port

5 PORT AND ANCHORAGE DESCRIPTIONS

5.1 GENERAL DESCRIPTION

Located at 32 degrees 7 minutes and 20 seconds south latitude and 52 degrees 5 minutes and 36 seconds west longitude from Greenwich It is the southernmost port in Brazil, located on the west bank of the North Channel, which is the natural outlet of the entire Laguna dos Patos river basin.

Of the three organized ports of the state, Rio Grande is the most important, as the only sea port.

The geographic location of the Port of Rio Grande, by means of nautical charts, is made by Chart 2.101, from the Directorate of Hydrography and Navigation of the Brazilian Navy.

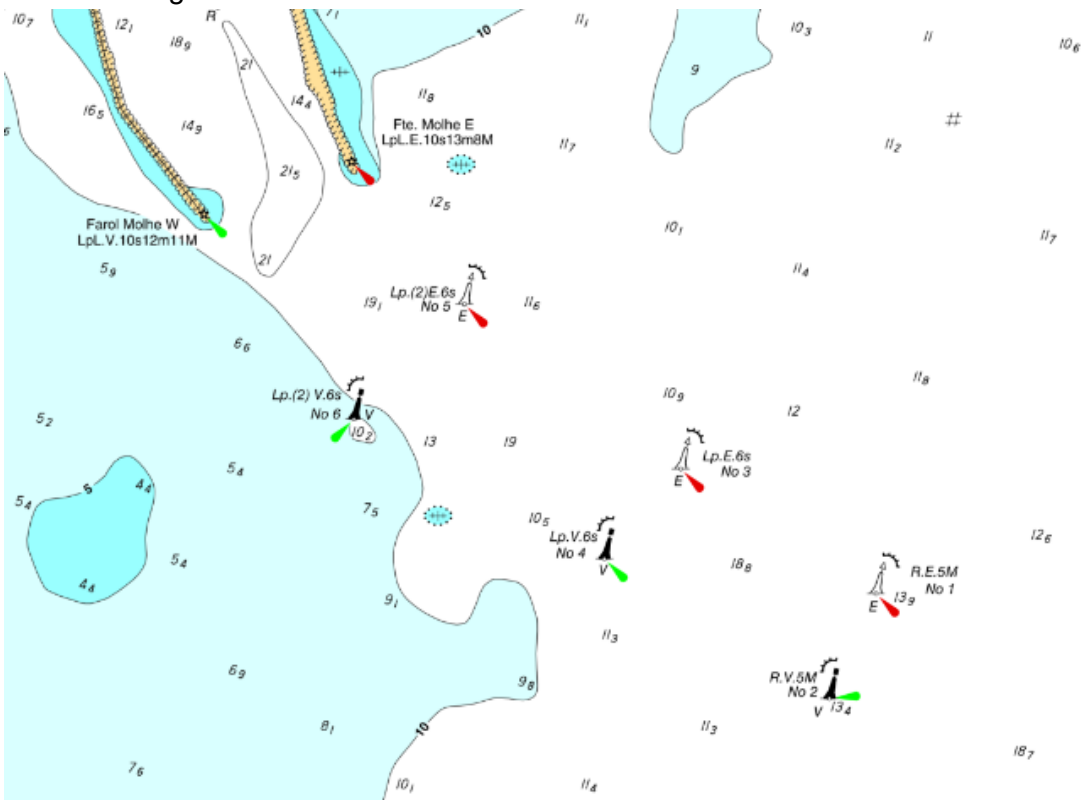
The demand for the Port of Rio Grande should be the object of redoubled attention by the navigator, since its coast is low and without natural accidents, presenting incidence of fog and foggy conditions The proliferation of banks and high-bottoms is observed both to the north and south of the bar. It is advisable for the navigator to use the echo sounder continuously, especially when navigating under a fog or fog.

5.2 LOCATION

5.2.1 Coordinates

The position of buoy 1 of the access channel is given by the coordinates:

- Latitude: 32° 12’ 04” S
- Longitude: 052° 03’ 00” W



5.3 APPROACHING THE TERMINAL

5.3.1 General Description

Ships larger than 15,000 DWT are not recommended to keep within the 15 m isobath. Ships larger than 20,000 DWT should keep their course in places deeper than 30 m until the bar points are recognized, when it will be possible to demand the channel.

The most notable landmarks of the Port of Rio Grande are the Porto Novo and the Wheat and Soy Terminal silos, the CEEE Tower, the Barra Lighthouse, the former Atalaia tower, and the Rio Grande (RG) radio tower. Gantry of the Dry Dike (Rio Grande Shipyard).

The sailor coming from the south will see more prominently the Cathedral, the Balneário do Cassino, the tower of the Rio Grande radio beacon, the Barra Lighthouse, and especially the Mostardas and Conceição lighthouses, whose ranges are 40 miles and 15 miles, respectively.

The Barra approach in cases of bad weather must be done with the aid of the Rio Grande beacon radio (RG) and the Barra (K) lighthouse racon.

There is, yet another aid for access, since the pilotage has, in its facilities, a tower to monitor the movements of ships at a distance of up to 40 miles from the bar of the Port of Rio Grande.

Located on the east bank of the port access channel, the tower is 25 m high, allowing visual and radar monitoring. It is equipped with radar with video plotter, allowing the simultaneous plotting of 12 targets.

The tower also has three VHF radios, conventional and cell phones, with operators on call 24 hours a day, throughout the year.

In times of bad weather when the pilot cannot touch the boat to board the ship, the boat hoists the CIS signal: "I have a pilot on board, follow the waters".

In this case, the ship must demand the marked channel and, when arriving inside the jetties, where the pilot will embark.

Ships with low machine power will have great difficulty in demanding this bar when the wind is from quadrant N.

The access channel marked in chart 2.101 is a strip of the oil pier from 200 m to 300 m wide, oriented in the general direction N–S. Starting in the light buoys of numbers 1 and 2, there is an extension of about 9 miles to the area called Foxtrot. It is dredged to a depth of 12.20 m (to be confirmed with local pilotage) to the Terminal.

The maximum draft for access to the oil tanker pier is 40 feet at Ponta Sul and 33 feet at Ponta Norte and Pier de Barcaça.

Radar approach is precarious, due to the lack of good reflection obstacles.

It is advisable to use the echo sounder continuously to control the water depth below the keel.

5.3.2.0 Characteristic Points

The following points assist the demand and anchoring in the bar and inside the port:

- Barra Lighthouse (32° 07’ 10” S – 052° 04’ 65” W) – Metal trunk tower, with black and white horizontal stripes, concealment light at an altitude of 32 m with a range of 30 nautical miles and racon Morse code letter K. Next to the lighthouse, there is a remarkable quadrangular tower, from the old Watchtower.

- East water lighthouse – 4 nautical miles to the S of Barra Lighthouse, a square tower of white reinforced concrete, with flashing light at an altitude of 13 m and a range of 8 nautical miles, located at the end of the jetty and the access channel.

- West water lighthouse – 0.4 nautical mile to W of the east water lighthouse, a triangular tower on a white reinforced concrete base, with flashing light at an altitude of 10 m and a range of 11 nautical miles, located at the end of the W jetty of the access channel.

- Rio Grande Lighthouse Tower – 2.3 nautical miles to NNW of the west water lighthouse, a metallic lattice tower with fixed light at an altitude of 76 m and a range of 10 nautical miles.

- Embratel Tower (32° 02'00" S – 052° 05' 96" W) – Cylindrical tower, white, 63 m high and particular mounted light on the top. It has indirect lighting with fluorescent lamps, which produce a strong flash, visible 20 nautical miles away.

5.3.3 Anchors allowed

Areas for Anchoring

The areas used for anchoring in the Organized Port of Rio Grande are regulated and managed by the Port Authority, and CPRS is responsible for issuing an opinion on the safety of navigation in the anchoring authorizations provided by the port administration. The areas have the following delimitations and conditioning restrictions of anchoring request:

ALFA AREA
Anchorage for refueling is allowed, for Ships up to 240 meters and maximum draft of 12.20 meters, during the day, between buoys No. 9 and 11. For Ships larger than 190 meters the following measures are mandatory:

The permanence of a Pilot on board during the entire anchoring period; and
The permanence of a tugboat in "STAND BY", alongside, appropriate to the need of the Ship. (If it is necessary to suspend and turn the ship in an emergency). For Ships greater than 240 meters, provided that under prior consultation and evaluation of the current situation. For visit/inspection by the Port Authorities, when necessary before mooring.
The Captain of the Ship at anchor must be alerted by the Agent representing him to keep the machines in readiness, due to the strong current and the lack of space to carry out the turnover. If there is a need to use tugboats to push the anchored ship, in order to facilitate traffic in the channel, it will be the responsibility of the Agent representing the ship to hire these tugboats.

The ALFA area is bounded by the polygon with the following vertices:

- Latitude 32° 07' 57" S Longitude 052° 06' 08" W
- Latitude 32° 07' 57" S Longitude 052° 05' 46" W
- Latitude 32° 08' 23" S Longitude 052° 05' 43" W
- Latitude 32° 08' 49" S Longitude 052° 05' 35" W
- Latitude 32° 09' 57" S Longitude 052° 05' 05" W
- Latitude 32° 09' 57" S Longitude 052° 05' 29" W
- Latitude 32° 08' 37" S Longitude 052° 06' 02" W
- Latitude 32° 08' 04" S Longitude 052° 06' 08" W

BRAVO Area

Only authorized anchoring, on a precarious basis, by authorization and control of SUPRG and the favorable opinion of CPRS. The BRAVO area is delimited by the polygon with the following vertices:

- Latitude 32° 07' 57" S Longitude 052° 06' 08" W
- Latitude 32° 07' 57" S Longitude 052° 05' 46" W
- Latitude 32° 05' 57" S Longitude 052° 06' 08" W
- Latitude 32° 05' 57" S Longitude 052° 05' 46" W

CHARLIE Area

Only authorized anchoring, on a precarious basis, by authorization and control of SUPRG and the favorable opinion of CPRS. The CHARLIE area is bounded by the polygon with the following vertices:

- Latitude 32° 05' 57" S Longitude 052° 06' 08" W
- Latitude 32° 05' 57" S Longitude 052° 05' 46" W
- Latitude 32° 04' 57" S Longitude 052° 05' 46" W
- Latitude 32° 05' 07" S Longitude 052° 05' 27" W

DELTA AREA

Only authorized anchoring, on a precarious basis, by authorization and control of SUPRG and the favorable opinion of CPRS. The DELTA area is bounded by the polygon with the following vertices:

- Latitude 32° 04' 57" S Longitude 052° 05' 46" W
- Latitude 32° 05' 07" S Longitude 052° 05' 27" W
- Latitude 32° 04' 35" S Longitude 052° 05' 22" W

- Latitude 32° 04' 47" S Longitude 052° 05' 02" W

ECHO area
Anchorage area for Ships up to 9.45 m draft, in the following cases:

I) Ships up to 190 meters in length, transporting dangerous cargo or being refueled, which require (or come from) ports or internal terminals; and
II) loading of Ships with dangerous cargo, using a ferry after compliance with the rules in 2) (b) below. Anchorage for transhipment or refueling shall be authorized for one Ship at a time. The anchoring of a second ship may be authorized, which may not tranship or refuel until the first one finishes its own.

The ECHO area is delimited by the polygon with the following vertices:

- Latitude 32° 03' 58" S Longitude 052° 04' 34" W
- Latitude 32° 04' 13" S Longitude 052° 04' 04" W
- Latitude 32° 04' 47" S Longitude 052° 05' 02" W
- Latitude 32° 04' 35" S Longitude 052° 05' 22" W

FOXTROT AREA
Only authorized anchoring, on a precarious basis, by authorization and control of SUPRG and the favorable opinion of CPRS. The **FOXTROT** area is delimited by the polygon with the following vertices:

- Latitude 32° 03' 29" S Longitude 052° 04' 27" W
- Latitude 32° 03' 30" S Longitude 052° 03' 32" W
- Latitude 32° 03' 32" S Longitude 052° 03' 23" W
- Latitude 32° 04' 13" S Longitude 052° 04' 04" W
- Latitude 32° 03' 58" S Longitude 052° 04' 34" W

GOLF AREAS
Anchorage areas allowed, in the following cases:

I) Ships used in inland navigation, as well as those that demand (or come from) ports or inland terminals and Ships coming from the high seas only for supply or repairs; and
II) loading of Ships using a ferry and a flat. Anchoring for Ship in refueling in this area will be allowed for a maximum of two Ships simultaneously. The maximum draft allowed for these areas is 6.7 meters.

GOLF I Area

Anchorage area allowed for Ships up to 150 meters in length.

The **GOLF I** area is delimited by the polygon with the following vertices:

- Latitude 32° 02' 47" S Longitude 052° 02' 58" W
- Latitude 32° 02' 47" S Longitude 052° 02' 43" W
- Latitude 32° 03' 26" S Longitude 052° 03' 07" W
- Latitude 32° 03' 26" S Longitude 052° 03' 22" W

GOLF II Area

Anchorage area allowed for Ships up to 240 meters in length.
The **GOLF II** area is delimited by the polygon with the following vertices:

- Latitude 32° 01' 54" S Longitude 052° 02' 47" W
- Latitude 32° 01' 54" S Longitude 052° 02' 29" W
- Latitude 32° 02' 30" S Longitude 052° 02' 32" W
- Latitude 32° 02' 47" S Longitude 052° 02' 43" W
- Latitude 32° 02' 47" S Longitude 052° 02' 58" W
- Latitude 32° 02' 30" S Longitude 052° 02' 50" W

GOLF III Area

Anchorage area allowed for Ships over 240 meters in length.
The **GOLF III** area is delimited by the polygon with the following vertices:

- Latitude 32° 01' 00" S Longitude 052° 03' 05" W
- Latitude 32° 01' 00" S Longitude 052° 02' 39" W
- Latitude 32° 01' 54" S Longitude 052° 02' 29" W
- Latitude 32° 01' 54" S Longitude 052° 02' 47" W

HOTEL AREA

Permitted anchorage area for ships that cannot travel, at night, through the artificial channels of Lagoa dos Patos.
The **HOTEL** area is delimited by the polygon with the following vertices:

- Latitude 31° 47' 10" S Longitude 052° 20' 40" W
- Latitude 31° 47' 05" S Longitude 052° 20' 18" W
- Latitude 31° 47' 14" S Longitude 052° 20' 15" W

- Latitude 31° 47' 20" S Longitude 052° 20' 34" W

Emergency Anchorage
It is reserved, within the **ALFA** area, a sub-area **"EXCLUSIVE FOR EMERGENCY ANCHORING"**, to be used by Ships moored in the ports and terminals of Rio Grande, delimited by the polygon with the following vertices:

- Latitude 32° 09' 12" S Longitude 052° 05' 36" W
- Latitude 32° 09' 10" S Longitude 052° 05' 33" W
- Latitude 32° 09' 23" S Longitude 052° 05' 28" W
- Latitude 32° 09' 26" S Longitude 052° 05' 31" W

CPRS will establish, if necessary, the additional safety requirements to be met depending on the nature of the emergency.

Military Security Area (Southern Naval Patrol Group)
Anchoring within the military security area bounded by the polygon with the following vertices is prohibited:

- Latitude 32° 08' 12" S Longitude 052° 06' 13" W
- Latitude 32° 08' 12" S Longitude 052° 06' 06" W
- Latitude 32° 08' 29" S Longitude 052° 06' 03" W
- Latitude 32° 08' 30" S Longitude 052° 06' 11" W
-

The ship that is anchored in an area adjacent to the military security area must correctly calculate the filament necessary for the anchorage, in order to avoid entering the military security area. If such a situation occurs, it must immediately suspend and anchor at another location.

Remarks

a) Anchoring in the areas considered above must be requested at least **3 hours** in advance;
b) Anchoring in the ECHO area for transhipment of dangerous cargo between Ships must be requested from SUPRG and an opinion from CPRS must be obtained at least **72 hours** in advance. Normally, this type of operation must be carried out at the pier of the Petrochemical Terminal and, eventually, at the Oil Terminal, adopting the appropriate safety standards. The carrying out of transhipment operations between anchored ships must meet the requirements established in NORMAM-08/DPC, chapter 6 and in areas previously approved by CPRS.
c) Ship-to-ship operations with wind intensity greater than 20 knots should not occur.

5.3.4 Navigation Aids

The port has the service of tugboats and speedboats.
The access and navigation channel is signaled.
At the entrance of the bar, there are signal lights.

5.3.5 Port Control or VTS

The traffic control service is currently performed by Pilotage of Barra, which can be contacted by radio on channels 16 or 9 or by telephone (53) 3231-2233.

5.3.6 Pilotage

The pilotage in the Port of Rio Grande is:

- Mandatory: for foreign ships; Brazilian oil tankers, propane tankers and explosive cargo carriers of any gross tonnage value; other Brazilian ships of gross tonnage value greater than 500 and foreign fishing boats.

- Optional: for Brazilian ships of gross tonnage value up to 500; Brazilian maritime support ships or foreign leased ships that are operating in the Port of Rio Grande, provided that they are commanded by a Brazilian seafarer or that have in their crew a Brazilian seafarer of the official category of nautical or captain of cabotage; and ships of any flag, in movements along the pier under cable, to change mooring.

The mandatory pilotage area has as limits the place of embarkation and disembarkation of pilot, in the bar, and the docking at the dock of the port or Terminals.

To provide the pilotage service, it has: uninterrupted bilingual phonic operation, radar with a range of 50 miles and monitoring of 20 mobile targets, GPS, FAX-MODEM, VHF radio listening on channels 16, 09 and 83 and speedboats.
The Barra do Rio Grande Pilots Association is headquartered at Travessa kenedy, 238 - Centro, Rio Grande, RS, CEP 96200-330, Phone (Fax) 53 3293-4700, and maintains permanent listening by maritime VHF radio, channel 16. The disclosure of information is through the electronic address *http://www.rgpilots.com.br*

The pilot's embarkation location is indicated on the DHN 2101 Nautical Chart and has the following coordinates:

- Latitude: 32°12’ 12” S
- Longitude: 052° 01’ 45” W

The pilot's embarkation position will always be combined with the pilotage tower.

Whenever the ship arrives at the port, it must contact the Terminal and the pilotage tower by radio.

The captain is solely responsible for the maneuvers, being responsible for all the information to be provided to the pilot about any peculiarities, specific conditions or existing difficulties, such as deficiency of machinery, boilers, problems or breakdowns of navigational aids, mooring cables or any element that may cause danger with regard to mooring, laying of cables, loading and unloading of the ship.

5.3.7 Tugs and Services. Port

There are companies that provide tugboat services, speedboats, supplies, ship repair services and related services necessary to support the ships.

Additional information should be requested from the ship's agent.

The mooring support services and the people necessary to place cables on the bollards located at the ends of the oil pier are the responsibility of the ship and its representative agent.

5.3.8 Navigation Risks

In the vicinity of Barra do Rio Grande there are numerous hazards, with depths ranging from 13.7 m to 20 m, and navigation should be avoided less than 20 nautical miles from the coast, between the parallels of 32° 00’ S and 32° 18’ S.

5.3.9 General Restrictions

Navigation rules are edited and updated regionally by local authorities and the Terminal.

Maneuvers cannot occur with winds above 25 knots of speed.

The maximum speed for movement in the access channel is 5 knots.

With winds above 32 knots, loading and unloading operations at the pier are suspended until the wind reaches lower values. With lightning strikes, operations are halted until they cease altogether.

5.4 MANEUVERING AREAS

It is recommended to consult local standards (NPCP's) and pilotage.

5.4.1 Navigation and Mooring Aids

It is recommended to consult local standards (NPCP's) and pilotage

5.4.2 Depth Control

Depth control shall be monitored during ship movement and berthing operation at the oil pier. The characteristics for the mooring of the oil pier are as follows:

- Ponta Sul (South Point)
  - Maximum deadweight of ships: 55,000t
  - Maximum length of ships: 225 m
  - Minimum length of parallel side ("light ship" condition): 70 m
  - Mouth: 35 m
  - Draft: 40 ft (12.19 meters)
- Ponta Norte
  - Maximum deadweight of ships: 22,000 t
  - Maximum length of ships: 140 m
  - Draft: 33 ft (10.06 meters)
- Barge Pier
  - Maximum > deadweight of ships: 5,000 t
  - Maximum > length of ships: 100 m
  - Draft: 33 ft (10.06 meters)

5.4.3 Maximum dimensions

The maximum size for a ship coming to the oil pier is 225 m long and 55,000 tpb. With these dimensions, the ship will be able to operate only at Ponta Sul. For Ponta Norte (North Point), the ship should have a maximum length of 140 m and 22,000 tpb.

For the Barge Pier, the maximum length is 100 m and 5,000 tpb.

5.5 ENVIRONMENTAL FACTORS

The winds obey the coastal wind system The prevailing wind in the region is the northeast, in spring and summer, and the southwest, in autumn and winter. Its average speed is 30 km/h (16 knots), and is therefore of moderate range.

There are, however, strong wind flows, with gusts that reach 60 km/h (32 knots), wind force 7 of the Beaufort scale, described as strong wind, a situation in which the interruption of the loading or unloading operation will be provided. If conditions worsen, that is, in the case of very strong wind (force 8 on the Beaufort scale) above 39 knots (72 km/h), the unberthing of the ship from the pier will be carried out.

The arrival of the SW wind is also predictable, due to the sharp rise in sea level on the bar. Another harbinger of violent SW is the sudden change in wind direction, counterclockwise.

5.5.1 Waves and Vacancies

The wave system in the Port of Rio Grande depends closely on the local wind system.

The waves have orientation perpendicular to the coast, being attenuated in the Terminal due to the location of the pier being inside the channel.

Measurements and local observations indicate that, rarely, amplitudes are greater than 2 m and that periods are usually short (7 seconds).

5.5.2 Lightning Storms

It usually happens mainly in the winter and summer seasons. During these occurrences, operations are interrupted.

5.5.3 Visibility

In general, it is good during the summer, although it is severely hampered by heavy clay and fog in autumn and spring.

5.5.4 Tidal currents and other currents

The tide has mixed tide characteristics suffering great meteorological influence, that is, caused by local winds.

With wind S, the tide usually fills and dams the water in Lagoa dos Patos; with wind N, the opposite occurs.

In calm, the tide is zero, because this region of the globe is of zero tide.

In the vicinity of the jetties, with wind S the flood current can reach 3 knots; with wind N, the leakage current can reach 5 knots.

In the proximity of the pairs of buoys 1-2 and 3-4 of the access channel to Porto Novo, the strong flowing current brings the ship closer to the buoys numbers 1 and 3.

5.5.5 Variation of tide levels

Tidal variations can reach up to 1.5 m, combined with lunar and meteorological tides.

5.5.6 Measurements

The Barra do Rio Grande Pilotage Station releases updated meteorological information on its website. Alternatively, ships operating in the terminal can also be consulted. This Terminal does not have a weather monitoring station.

6 TERMINAL DESCRIPTION

6.1 GENERAL DESCRIPTION

The oil pier has three berths.

They are called berths of Ponta Sul, Ponta Norte and Pier de Barcaças. To the south of the oil pier is the pier of the company Yara, active in the area of fertilizers. To the north is the pier of Braskem.

6.2 PHYSICAL DETAILS OF BERTHS

Berth Name and No.	Type	Berth Lenght (m)	Maximum Draught (m)	Maximum Breadth (m)	Maximum Ship Lenght (m)	Distance Between Fenders (m) and Quantity	Products Handled	Maximum SDWT
1 SUL	Píer	240	12,19	35	225	50 2	Oil, gas, ammonia, chemical products, oil products.	55.000
2 NORTE	Cais	100	10	25	140	22,5 3	Oil, gas, ammonia, chemical products, oil products.	22.000
3 BARCAÇA	Píer	100	10	20	100	30 2	Oil products.	5.000

6.3 MOORING AND BERTHING ARRANGEMENTS

Berth No	Requires practice for maneuvering	Maximum Deadweight	N & BP tugs				Approach (maximum)		Mooring Points		Mooring Cables Minimum Quatity		
			Mooring		Unberthing		Speed (m/s)	Angle (°)	Bollards	Hooks	Shuttle	Beams	Spring
			N°	BP	N°	BP							
1 PS	Yes	55.000	2	TBC	2	TBC	0,1	3	4	14	4	2	2
2 PN	Yes	22.000	2	TBC	2	TBC	0,1	5	5	3	4	0	2
3 PB	No	5.000	2	TBC	2	TBC	0,1	3	5		4	0	2

6.4 BERTH CHARACTERISTICS FOR LOADING, UNLOADING AND FUELING

Berth No.	Products	Berth Hose/ Flange	Receives and/or Sends	Temperature (ºC)		Flow (max) m³/h	Pressure (max) kgf/cm2
				(min)	(max)		
PS	Oil	2 x 8”	R	20	50	1500	7
	Chemicals	2 x 6”	R/E	20	40	400	7
	Acids	2 x 6”	R	15	30	400	7
	Ammonia	2 x 6”	R	-34	-32	300	7
	LPG	2 x 6”	R	0	10	300	12
	Oil Derivatives	2 x 6”	R/E	10	40	800	7
	Petrochemicals	2 x 6”	R/E	10	40	300	7
	Bunker	2 x 6”	R/E	40	70	800	7
PN	Oil	2 x 8”	R/E	20	50	1500	7
	Chemicals	2 x 6”	R/E	20	40	400	7
	Acids	2 x 6”	R	15	30	400	7
	Ammonia	2 x 6”	R	-34	-32	300	7
	LPG	2 x 6”	R	0	10	300	12
	Oil Derivatives	2 x 6”	R/E	10	40	800	7
	Petrochemicals	2 x 6”	R/E	10	40	300	7
PB	Bunker: Heavy Diesel	2 x 6”	R/E	-	-	800 800	7
PB	Oil Derivatives	2 x 6”	R/E	10	40	800	7

6.5 MANAGEMENT AND CONTROL

There is an operations control center located in the Terminal.

The control is carried out via closed television circuit and with the presence of a representative of the Terminal next to the manifold connection of the ship. The ship must have a VHF radio system for communication with the Terminal.

Mandatorily, every hour the information regarding the quantity handled in that period, the forecast for the end of the operation are exchanged, as well as any others that are considered relevant. An accredited crew member shall be placed on deck duty in order to ensure the maintenance of communications, or remain in visual contact with the shore operator during operation.

This crew member is responsible for notifying the Terminal operator when it is necessary to change the loading or unloading flows.

VHF radios or voice may be used directly for this purpose.

A responsible ship's officer with adequate command of the English language will be equipped, as agreed, to serve as a spokesperson for communication.

A responsible ship's officer and a sufficient number of crew members shall be on duty in order to maintain safety in the operation of the ship.

In addition to fixed and portable radio systems, the ship must have an alternative means of communication, for example, cellular telephone.

6.6 KEY RISKS

The main risks during the stay of the moored ship are:

- Removal of the pier due to ship crossings along the channel;
- Strong winds, including sudden winds;
- Strong current;
- Attacks by thieves and pirates on the sea side;
- Static electricity in cargo handling;
- Ballast handling; and
- Electrical discharges.

7 PROCEDURES

During the ship's stay in port, several actions are carried out to enable safe operation and manage risks in order to minimize them.

Ships that present previous problems will not be accepted, being denied permission to operate on the oil pier. Actions that do not respect the normal deadlines for this purpose will not be the responsibility of Petrobras.

In all phases, as desberthed in the following sub-items, the measures are taken in order to facilitate the operations and plan them properly.

7.1 BEFORE ARRIVAL

The ship that intends to operate in the Terminal must send in advance and complete, through the Agent, the information contained in Appendix E, given that this information is essential for the preparation of the operation.

The Terminal reserves the right to refuse the mooring of any ship considered inadequate or that does not meet the conditions of safety, mooring or that presents any circumstance that may create a risk to its assets, which includes personnel, equipment and the environment.

In order to have the acceptance of operation at the oil pier, the information contained in Appendix F must be sent in advance to Petrobras, in Rio Grande, for its due evaluation. For ships intending to unload at the oil pier, the questionnaire must be sent one week before loading the ship at the port of origin, in order to avoid inconvenience that will not be the responsibility of Petrobras.

The ships destined for the oil pier of the Rio Grande Terminal will be visited in the anchoring area by the Port Health, Customs and Maritime Police. It is the ship's agent who takes the necessary steps in this direction.

Eventually, the visit can be made at the oil pier.

When the sanitary conditions are not satisfactory (free circulation not having been granted), the ship must wait, at the anchorage, in a state of quarantine established by the Port Authority, maintaining the CIS quarantine signal, being prohibited the landing of any person.

The Terminal will refuse the operation of moored ships that have their situation different from that informed in the Vetting questionnaire, as well as those that do not meet the safety issues and good practices of the global industry recommended by IMO, OCIMF, STCW, Marpol and other applicable legal regulations. Likewise, the Terminal will refuse the operation of the ships, when any pre-established or informed condition is modified.

No form of tank, deck, chimney or similar cleaning is permitted. In case of extreme need, the Terminal must be consulted for evaluation. Authorities will always be notified prior to the issuance of authorization by the Terminal.

Ships destined for the Terminal's facilities must provide the ship's agent with an estimated time of arrival (ETA) 72, 48 and 24 hours in advance, respectively. The ship's Agent, in possession of this ETA, will inform the Terminal by telephone/fax (53) 3234-3214 or (53) 99963-1586 or by sending an electronic message (e-mail), to the following address: op.terig@transpetro.com.br Failure to comply with this condition prevents the maintenance of the mooring guarantee in the order of arrival.

7.2 ARRIVAL

Before scheduling the ship at the oil pier, your representative should do so with the Superintendence of the Port of Rio Grande. Only schedules that have their previous acceptance will be accepted. Legal and mandatory fees must be paid in advance.

Water supplies and bunker must be requested in advance.

During operations alongside, especially when these operations involve a product with a flash point below 60 ° C, the loading and unloading of bulk materials and lubricants may only occur at the intervals of operations and provided that it is previously required by the ship and duly authorized by the Nautical Advisor or Nautical Inspector upon prior analysis of the risks and conditions existing at the time of release and with safety recommendations provided for by the existing Conventions, Legislation, Standards and Procedures.

Exceptions will only be considered after carrying out Risk Analysis and establishing complementary actions to minimize the detected risks. Even in exceptional situations, the full responsibility of the captains of the ships involved is maintained, even if authorized by the Nautical Advisor or Safety Inspector.

The Terminal does not have a mounted ladder to access the ships. The ladder or plank should be at an angle appropriate to the horizontal. The ladder must have a network to prevent people from falling.

7.3 MOORING

7.3.1 Ship mooring system

The system shall have at least the following facilities:

- Have a crane or load stick (for a minimum of 3 t in use conditions in order to assist in the connection of hoses to the on-board manifold;
- Have the windlasses, winches, brakes and jaws in perfect working condition, in view of the efficiency of the mooring;
- Have ready towing cables, messengers, guide cables and retained in the bow and stern;
- Have mooring lines of suitable material. The cables must be in perfect condition, without seams or wear and be of the same material.

7.3.2 Mooring tasks

The mooring tasks will always be performed with the help of the pilot who must follow the mooring schemes contained in the annexes of this manual.

The ship shall be moored in accordance with the requirements of its own captain and the Terminal.

During mooring, the bow and stern must be manned with an officer with radio communication.

The ship will not be moored when it does not meet the minimum requirements required by the Terminal or those that the pilot classifies as safety factors.

7.3.3 Minimum requirements for tugs and support ships

The following restrictions must be observed by ships that demand the Channel to the Rio Grande Terminal:

Ships with a draft greater than 34 feet (10.36 m) must be assisted by at least 2 (two) tugs, one of them with a cable passed to the berth;

Ships with draft equal to or greater than 34 feet and/or length greater than 180m, it is recommended that the aft tug is of the azimuthal type. In the absence of this option, the Captain, with the assistance of the Pilot, must decide on the ideal number of tugboats to be used;

For mooring at the Rio Grande Terminal of ships with deadweight tonnage (TPB) greater than 10,000t, it is recommended to use two tugboats with cable passed and one more on the side as a pusher.

For smaller ships at the berthing of the Barge Pier and Ponta Sul, it is not allowed to dock without the support of 2 tugboats/speedboats;

7.3.4 Mooring lines

Under no circumstances should the mooring lines become slacked or tighted.

If this occurs, the ship may move along the pier or even move away from it. In this case, the operation will be interrupted for safety measure, and the hoses disconnected.

The ship will be held responsible for the time that the operation is interrupted.

The mooring lines deserve permanent care and need to be worked in order to keep the ship always in the indicated position.

It is recommended to keep the mooring lines with the proper tension, by means of manual brakes, and the use of constant tension winches is not allowed.

The cables need to be in good condition, without wear above 10% of the nominal diameter, without seams or splices.

All mooring lines must be of the same material, i.e. fibre or wire.

The use of mixed moorings is not allowed, that is, cables that perform the same function cannot be manufactured with different materials. They need to be of the same type, gauge and material.

The mooring lines must be arranged as symmetrically as possible in relation to the middle of the ship.

The crossbars must be oriented as perpendicularly as possible to the longitudinal axis of the ship and passed as far forward and aft as possible.

The springs are oriented as parallel as possible to the longitudinal axis of the ship.

If the ship has steel cables for mooring, it must contain fiber cables and hands sewn at the respective ends. These cables should follow recommendations according to the *Mooring Equipment Guidelines* publication of OCIMF, in its latest edition.

7.3.5 Reel spools

They must be in good condition and have sufficient capacity, according to the ship.

7.4 BEFORE TRANSFERRING CARGO

The ship will only have the Terminal authorization to start the operation after the safety inspection carried out by the nautical inspector or, in the absence thereof, the operation technician, based on the ISGOTT Operational Safety Checklist. If a pending issue is identified that is not resolved by the crew, the ship will not have authorization from the Terminal to start the operation.

For the movement of oil and oil products, static electricity insulating hoses will be used. For chemicals, the hoses with electrical continuity and ground cable connection are used. It must be agreed before the ship docks which electrical isolation system will be used. During the entire stay on the pier, tanks with flammable or exploding products must be inertized.

The ship must previously contact the Terminal to exchange the information necessary for the connection of the hose and/or loading arm. The hose connections and disconnections in the ship's discharge sockets are made by a team from the Terminal itself, with the aid of the ship's crane:

- Oil Piping: 16” in diameter, with a reduction of 10” and 8”;
- Derivative line: 10” or 12” in diameter, with a reduction of 6” or 8”;
- Ship supply line: 12” diameter, with 6” reduction;
- Ammonia line: 16” diameter, with 6” reduction;
- Sulphuric acid line: 10” diameter, with 6” reduction;
- BTX line: 8” diameter, with 6” reduction;
- BTX line: 6” diameter, with 6” reduction;
- Chemical line: 6” diameter with 6” reduction; and
- Phosphoric acid line: 8” diameter, with 6” reduction.

The ship needs to have the reduction ready for the connection, according to the diameter and pressure class.

For gas ships, the ESD button shall be made available to shore crew.

For other types of tankers, the ESD button will be available in an easily accessible place.

7.4.1 Procedures for cargo handling

a) The loading or unloading is done through captive ducts for each type of specified product, after the connections contained in the previous item have been strictly verified.
b) Ships must remain with their propulsion system in readiness throughout the operation in order to be able to unberth, clearing the berth, in the event of any emergency.
c) The cargo outlets of the ship that are not operating must be properly flanged and always with the use of all screws.
d) During operations at the oil pier, it is not allowed: other connections on board, hot services, tank loading by top, tank cleaning, tank ventilation and conditioning, movement and maintenance on moorings and anchors, decarbonization of cylinders, maintenance in the generator system and services of the same nature.
e) The unloading or transfer of the product will not be initiated without the permission and formal understanding between the ship and the Terminal.
f) The maximum pressures and flows established by the ship and the terminal according to their possibilities and characteristics should be maintained during the transfer, if the operational characteristic on the opposite side is lower.
g) The ship will maintain, on a full-time basis, a man observing the cargo take-off and mooring lines in order to establish contact with the Terminal team. Likewise, another man will be alert for help and

temporary replacement. The ship can never be without captain and mate at the same time.

h) The fire fighting material must be ready for any emergency, as well as the fire network, which must have adequate pressure, never lower than the condition of placing water on the other side.
i) Before the start of the operation, the hose line will be tested in tightness with pressurization of 7.0 kg/cm$^{2.}$ The onboard and ground valves must be blocked.
j) Every hour, the Terminal must be informed about the quantity handled. If there is a discrepancy greater than that agreed in the initial release (Initial chart), the operation must be interrupted.
k) Watertight doors giving access to the aisles will remain closed with the moorings past and tight.
l) TRANSPETRO Terminal personnel are authorized to suspend the operation in the event of non-compliance with any of the aforementioned rules, laws or regulations, or any dangerous situation that the operation supervisors believe exists.
m) The captain has the right to stop loading if he has reason to believe that ground operations do not provide security, provided he gives advance notice to the service personnel at the pier.
n) It is expressly forbidden to transit people on the oil pier without being protected with a helmet, goggles and safety boots.
o) All side and bottom valves that are not currently in use must be closed and locked.
p) All side and bottom valves belonging to the loading system must remain closed and locked throughout the operation.
q) The aspirations of the central air conditioning or mechanical ventilation system need to be adjusted to prevent gas from entering the cargo, if possible by recirculating the air inside the compartments.
r) If at any time it is suspected that the cargo gas is being aspirated into the accommodation, the air conditioning and mechanical ventilation systems must be suspended and the aspirations closed.
s) Window-type air-conditioning units that are not certified safe for use in the presence of flammable gas, or that draw air from outside the superstructure, must be electrically disconnected and all external intakes and outlets covered or closed.
t) Ventilation pipes are kept directed in order to prevent gas from entering the cargo. If the pipes are located in such a way that the gas from the cargo can enter through them, regardless of the direction in which they are facing, they must be covered, plugged or closed.
u) All doors, portholes and other similar openings, which allow passage from the main deck to the accommodation or engine room, or that at any level leading to the main deck shall be kept closed. A screened door cannot be considered as a safe substitute for an external door.

v) All portable electrical equipment used shall be of the intrinsically safe and explosion-proof type.
w) Radio and radar transmitting antennas shall be switched off and grounded. If there is a need to use the radio or radar due to a test resulting from repairs, this procedure must be agreed between the representatives of the Terminal and the ship, so that the necessary additional measures are adopted.
x) The use, on deck, of intrinsically safe and explosion-proof electrical lighting will only be allowed during the ship's stay on the pier.
y) Measurements and sampling will always be carried out at the beginning and end of operations. Measures may be taken during operations, if necessary, as authorized by the Terminal. For measurements and sampling, the tanks will not be depressurized. If this is necessary, the Terminal must be communicated for prior analysis and approval.

The agreement of the operating conditions will be given according to Annex F and the initial chart.

Before the start of operations, the completion of the List of

Ship/Terminal Security Check. (According to ISGOTT – SIGTTO)

There is a restriction on the excess of dense smoke through the chimney and ramonage, which can be measured by the Ringelmann scale or similar method.

Ships are restricted on the side during the ship's stay. If it is really necessary for them to remain in this area, a request must be made in advance to the Terminal, which will be in charge of assessing the situation and issuing the conditions.

There is a restriction on propeller movement during the ship's stay.

In Ponta Norte, there is also a restriction on the use of *bow thruster* or *stern thruster* that should not be used without prior authorization from the Terminal.

7.5 CARGO TRANSFER

During the entire loading and unloading operation, the flow, pressure and temperature variables involved must be monitored. In case of discrepancy, the operation will be interrupted for verification.

For ships carrying sulfuric acid, ballast below tanks containing acid cargo will not be allowed. These ships must depressurize their cargo tanks before docking at the oil pier.

Oil and chemical ships must always keep their tanks inert.

For the discharge of tankers, the minimum positive pressure in the tanks will be 500 mm of H_2O and O_2 content below 8% by volume. In case of difficulties or problems in the ship's inert gas system, the operation will be suspended until the system is in accordance with the minimum acceptable.

It is recommended to measure the tanks every hour. The difference in the volume handled between the ship and the Terminal must be less than the amount agreed in the initial chart under penalty of interruption of the operation

The requirements for LPG shall follow the additional recommendations of OCIMF and SIGTTO.

The requirements for ballast and de-ballast must comply with current legislation.

If the ship needs to use a ballasting and de-ballasting system, it must resort to the available resources. Mouths of ballast tanks shall remain closed and soundings shall be carried out by appropriate means.

There is no facility for receiving *slop* from the ship.

To carry out the tank and COW washing operation, the Terminal needs to be consulted in advance. If the Terminal agrees to the operation, a representative will be assigned to accompany it. For it to be carried out, it is necessary that the operation and the equipment to be used are authorized by the Classification Society of the ship. Cleaning residues must remain on board, or they will have to disembark to the cargo receiver, as long as he agrees.

For repairs, the Terminal must be consulted in advance.

Repairs that leave the steering and propulsion systems, especially, and the main ship systems unavailable will not be accepted. The motors, generators, compressors, steering systems, piping and control system must be working perfectly so that the ship can operate at the Terminal.

During the operation of the ship, it is necessary to fully comply with the safety inspections between the ship and land, according to the specific Annex of the ISGOTT.

In case of stoppage of operations, the causes that led to the stoppage of activities, during the stay of the ship, must be informed to the Terminal.

In the event of an emergency, both ashore and on board, the operation shall be immediately suspended and the disconnection positions manned. The Firefighter Brigade leader ashore will contact the ship's commander at the moment in order to define the immediate undocking of the ship, which will depend on the scenario.

7.6 CARGO MEASUREMENT AND DOCUMENTATION

The arms and hoses will always be drained on board. If it is impossible for the ship to receive drainage, it may be sent to the Terminal. Initially, the valves will be blocked onshore or on board. After it is found that the hoses are empty, the on-board valves will be blocked and disconnection provided.

The cargoes need to be certified by authorities or their accredited representatives, whenever foreign trade operations are carried out.

Copies of the customs documents of the cargo release, the manifest and the initial and final measurement spreadsheet of all tanks of the ship must always be sent to the Terminal. The responsibility for service and proof with the authorities rests with the owner of the goods and their consignees.

For electrostatic accumulator products, a period of at least 1 hour after the end of the operation will be given for the introduction of measuring tape, sample bag, thermometers or any other metal objects.

7.7 UNBERTHING AND DEPARTURE FROM PORT

For the exit of the cradle or port, the same precautions must be taken as those adopted at the entrance.

The place for the pilot's disembarkation is the same as the embarkation.

When crew members board ships destined abroad, in addition to the specific license granted by the Port Authority, the respective passports must be delivered to the agent 24 hours in advance of the ship's dispatch, for the purpose of regularizing the boarding visas and passenger lists with the Federal Police.

Upon returning from abroad, captains are responsible for sending messages to the Terminal informing the number of passengers to be disembarked. At the time of the entry visit, the passenger list must be presented to the Federal Police together with the passports, so that they are properly inspected by the police and health authorities.

7.8 COMPLIANCE WITH ISPS CODE

The 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 security measures can be triggered by the ship through the port security supervisor of the Terminal (PFSO – Port Facility Security Officer) or through the VHF radio, call channel 13.

The Terminal operates normally at safety level 1. For more information, the Terminal port security supervisor, who is trained in accordance with the requirements of the IMO, may be contacted at (53) 99963-2819.

8 PORT OR ANCHORAGE ORGANIZATION

8.1 PORT CONTROL OR VTS

According to sub-item 5.3.5.

Contacts by radio and telephone, as provided in sub-item 10.1.

8.2 PILOTAGE

In the port where the pilotage service is mandatory.

The size, nationality, type of ship and destinations for which the pilotage service is mandatory are defined by Law.

There is only one pilotage organization operating in the port and capable of assisting the ship during arrival and departure from the Terminal.

In emergency situations, the pilotage service can be triggered by VHF channel 16 and/or 9 or by the telephone of the pilotage tower, which must be communicated to the captain by the agent.

8.3 TUGS AND OTHER MARITIME SERVICES

Ship captains shall hire tugboat services or other maritime services through their respective maritime agents.

8.4 TERMINAL OPERATION SYSTEM

The Terminal is for public use.

8.5 OTHER KEY USERS

Connected to the Terminal are the following facilities:

- Petrochemical Terminal
- Fertilizer Plant
- Oil Refinery
- Tank for Ammonia

9 EMERGENCY AND FIREFIGHTING PLANNING

9.1 EMERGENCY CONTACTSB

Organization	Operating Hours	Telephone	Cellular	VHF/UHF Call	VHF/UHF Talk
Port Control VTS	24 hours	(53) 3231-2233	X	16	9
Tugs	24 hours	X	X	16	13
Pilotage	24 hours	(53) 3293-4747	X	16	9
Oil Pier	24 hours	(53) 3234-3228	X	16	13
Terminal Control Room	24 hours	(53) 3234-3230 (53) 3224-3250	(53) 99963-1586	16	13
Federal Police	24 hours	(53) 3293-9000	X	X	9
Police	24 hours	190	X	X	X
Fire Department	24 hours	193	X	X	X
Hospital Santa Casa De Misericórdia	24 hours	(53) 3231-3633	X	X	X

9.2 ENVIRONMENTALLY SENSITIVE AREAS

The areas within the port or in the vicinity of the Terminal that are defined as sensitive areas or subject to the risk of pollution are those of marshes, one near the entrance jetties. To the north is the Saco da Mangueira, which is also a sensitive region. On the other side of the port, most of the region is considered sensitive.

9.3 GENERAL DESCRIPTION OF THE EMERGENCY RESPONSE ORGANIZATION

Incident Type	Responsible Organization	Other Involved Organizations			
		Terminal	P&I	Agent	SUPRG
Channel Collision	Maritime Authority	Terminal	P&I	Vessel Agent	SUPRG
Vessel Running Aground	Maritime Authority	P&I	Agent	SUPRGR	Pilotage
Berth Collision	Maritime Authority	Terminal	P&I	Agent	SUPRG
Sinking Vessel	Maritime Authority	P&I	P&I	Agent	Terminal
Vessel Fire	Maritime Authority	Terminal	Fire Station	Agent	P&I
Berth Fire	Terminal	Fire Station	SUPRG	Agent	Maritime Authority
Pollution	Fepam	Agent	P&I	Terminal	SUPRG Maritime Authority

9.4 EMERGENCY PLANS

The ship will send, in advance, a summary of its emergency plans for the following situations:

- Fire
- Pollution
- Tank overflows

The ship will also inform the resources it has to face an emergency. If you need to know what resources are available in the Terminal, your representative will request a copy of the document containing instructions for fighting an emergency.

The Terminal has resources available for minor medical emergency care.

9.5 PUBLIC EMERGENCY RESPONSE RESOURCES

There is a Civil Defense structure in the city, which brings together private and public organizations trained to act in case of emergency.

9.5.1 Port Administrator

The port administrator is SUPRG.

9.5.2 Maritime Authority (AM)

The maritime authority is the Port Authority.

9.5.3 Local emergency services

As provided in sub-item 9.1.

9.5.4 Mutual Maritime Support Plans

The Maritime Authority leads a Maritime Mutual Support Plan (PAMM) that addresses ship emergencies.

9.6 OIL AND CHEMICAL SPILL RESPONSE

The Terminal has equipment, collecting boats and other facilities to meet a spill situation.

In the event of a spill caused by the ship, the ship will be unconditionally responsible for reimbursing the costs involved.

In the event of a spill where the cause has been given by the ship and the captain needs support, a request for the provision of emergency support service with a commitment to pay shall be sent. The service will be carried out depending on the scenario and the spilled product.

For special cargoes (acids, chemicals in general), the ship must present the containment, collection and neutralization resources for small leaks on board.

This will be inspected upon arrival and will be a mandatory factor for the start of operations.

9.6.1 Terminal Response Capacity

The Terminal has the capacity to react to a medium-sized emergency.

9.6.2 Response capacity of the environmental agency

The environmental agency of Rio Grande does not have resources to combat oil spills at sea.

9.6.3 Resources available from the Mutual Support Plans of other Terminals

The resources available to respond to pollution emergencies occurring in the vicinity of the Terminal at other Transpetro Terminals are listed in the pre.

9.6.4 Combating medium-sized spillage

In the event of significant pollution – a medium-sized incident – the Terminal will provide Transpetro's regional resources, upon prior payment.

These resources, their readiness and form of activation are desberthed in the PRE.

9.6.5 Combating large-scale spillage

The Terminal PRE lists the actions and those responsible for each type of event in case of combating major incidents (catastrophic proportions) that may occur within its unit, pipeline or ship range or that may involve third parties.

For this type of events, Transpetro/Petrobras may make available the national or international resources that are within its reach and that are previously paid.

10 CONTACTS

The most important contact list should be requested from the agent at the time of the visit.

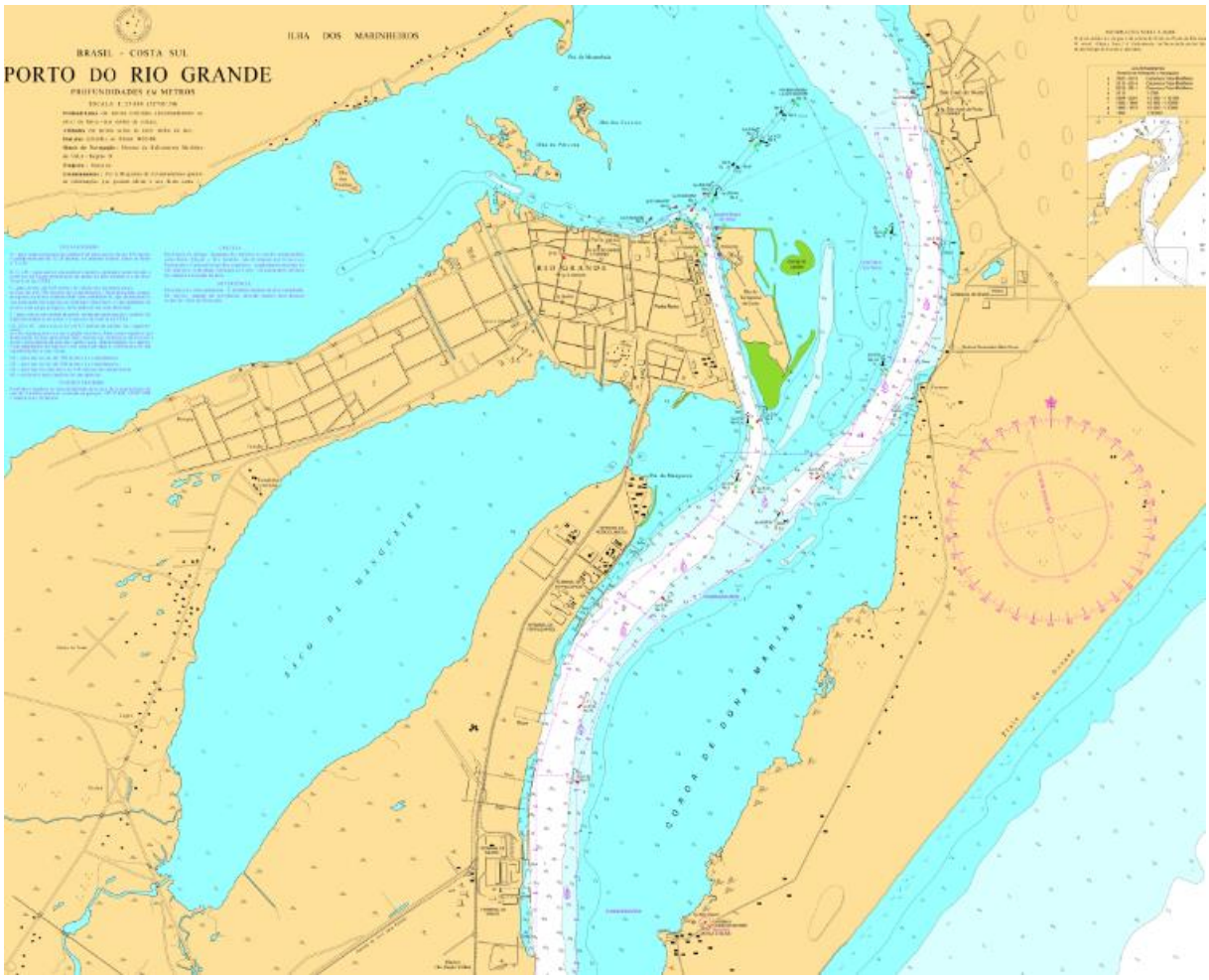
10.1 TERMINAL

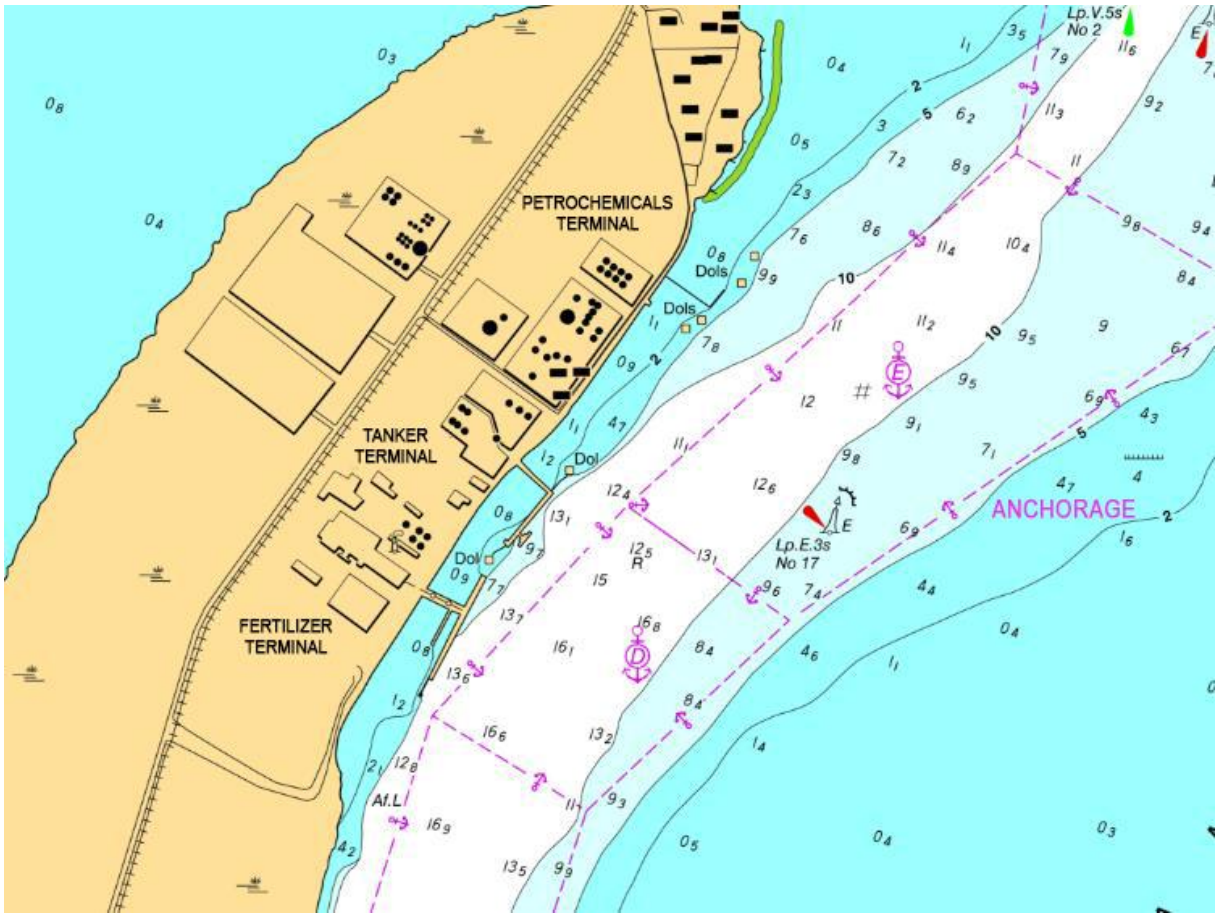
Location	Contact	Telephone	VHF Channels	
Ponta Sul	Operation Technician	(53) 3234-3228	13/16	13/16
Ponta Norte	Operation Technician	(53) 3234-3228	13/16	13/16
Pier De Barraca	Operation Technician	(53) 3234-3228	13/16	13/16
Control Center	Shift Supervisor	(53) 3234-3230 (53) 3234-3250	13/16	13/16

10.2 LOCAL AUTHORITIES, STATE AND NATIONAL AGENCIES

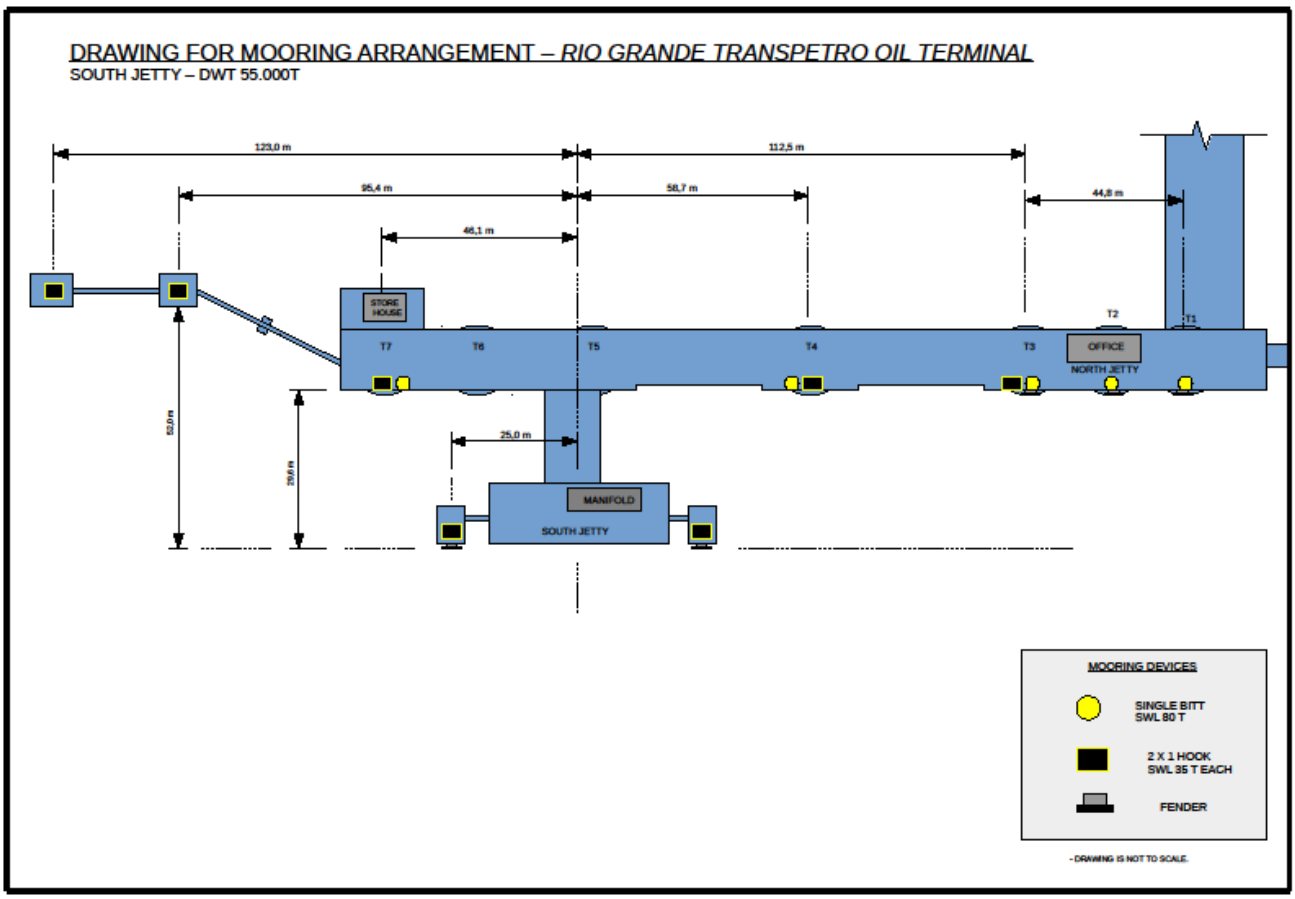
Superintendence of the Port of Rio Grande	**Federal Revenue Service Office**
Rua Honório Bicalho, s/nº – Centro - Rio Grande - RS Tel.: (53) 3231-1366 www.portosrs.com.br E-mail: jornalismo@portoriogrande.com.br	Rua Marechal Floriano, 300 – Centro – Rio Grande - RS Tel.: (53) 3231-1400.
Agência Nacional de Vigilância Sanitária - ANVISA	**Federal Police**
Rua Marechal Floriano, 5 Tel.: (53) 3232-3916	Rua General Osório, 512 – Centro – Rio Grande – RS Telefone: (53) 3293-9000
Port Authority of Rio Grande do Sul-	**Hospital Santa Casa de Misericórdia**
Capitania dos Portos do Estado do Rio Grande do Sul Rua AlmIrante Cerqueira e Souza, 198 Tel.: (53) 3233-6119 E-mail: cprs.secom@marinha.mil.br	Rua General Osório, 625 – Centro - Rio Grande - RS Tel.: (53) 3231-3633.
TRANSPETRO - PETROBRAS TRANSPORTE S/A Rio Grande Terminal	
2ª Secção da Barra - Píer Petroleiro - Distrito Industrial - 96204-020 – Rio Grande – RS Tel.: (53) 3234-3200	

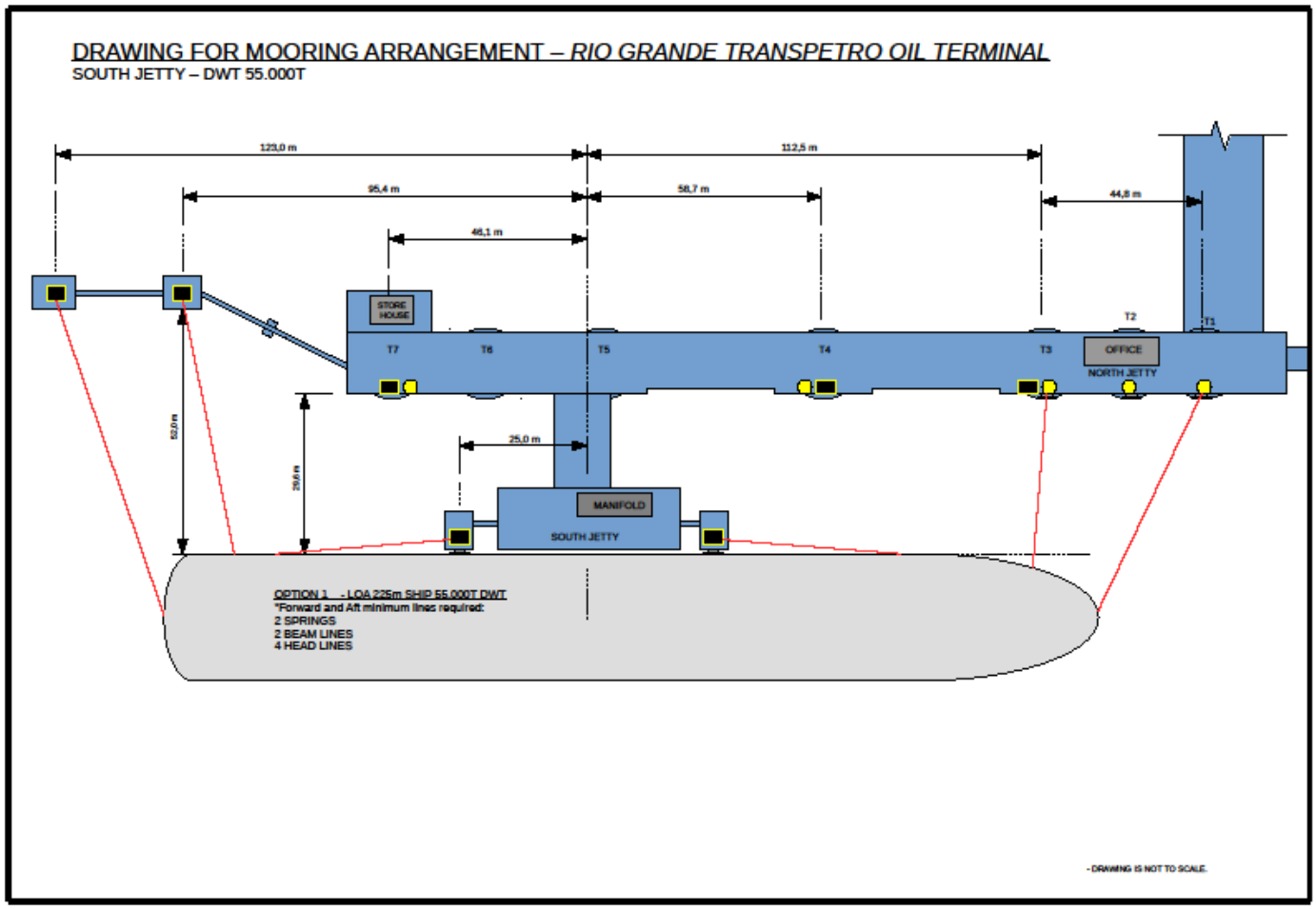
APPENDIX A - CHART INCLUDING BERTHS AND APPROACHES

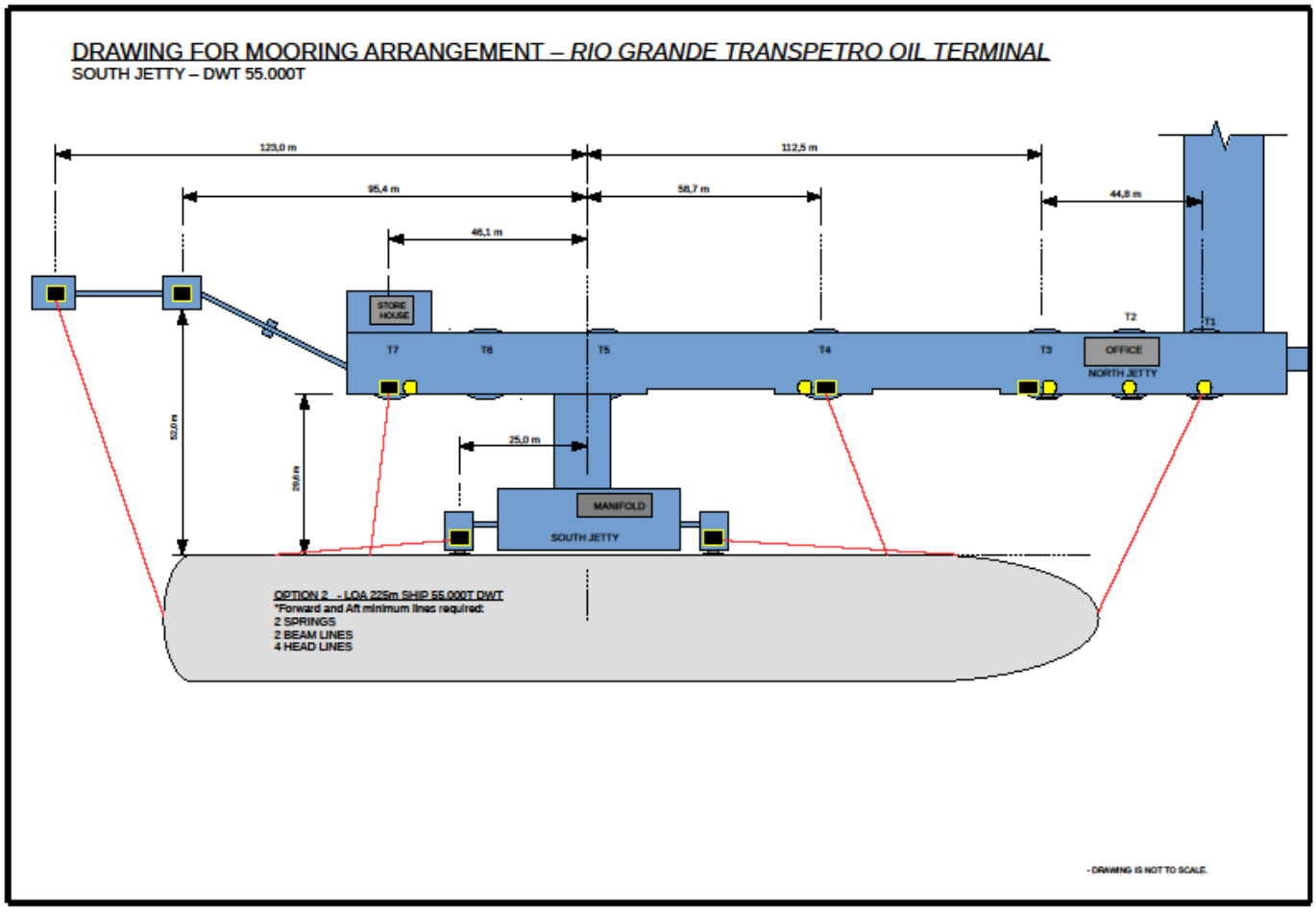



PETROCHEMICALS TERMINAL
TANKER TERMINAL
FERTILIZER TERMINAL
ANCHORAGE
Lp.V.5s No 2
Lp.E.3s No 17
Dols
Dol
Af.L

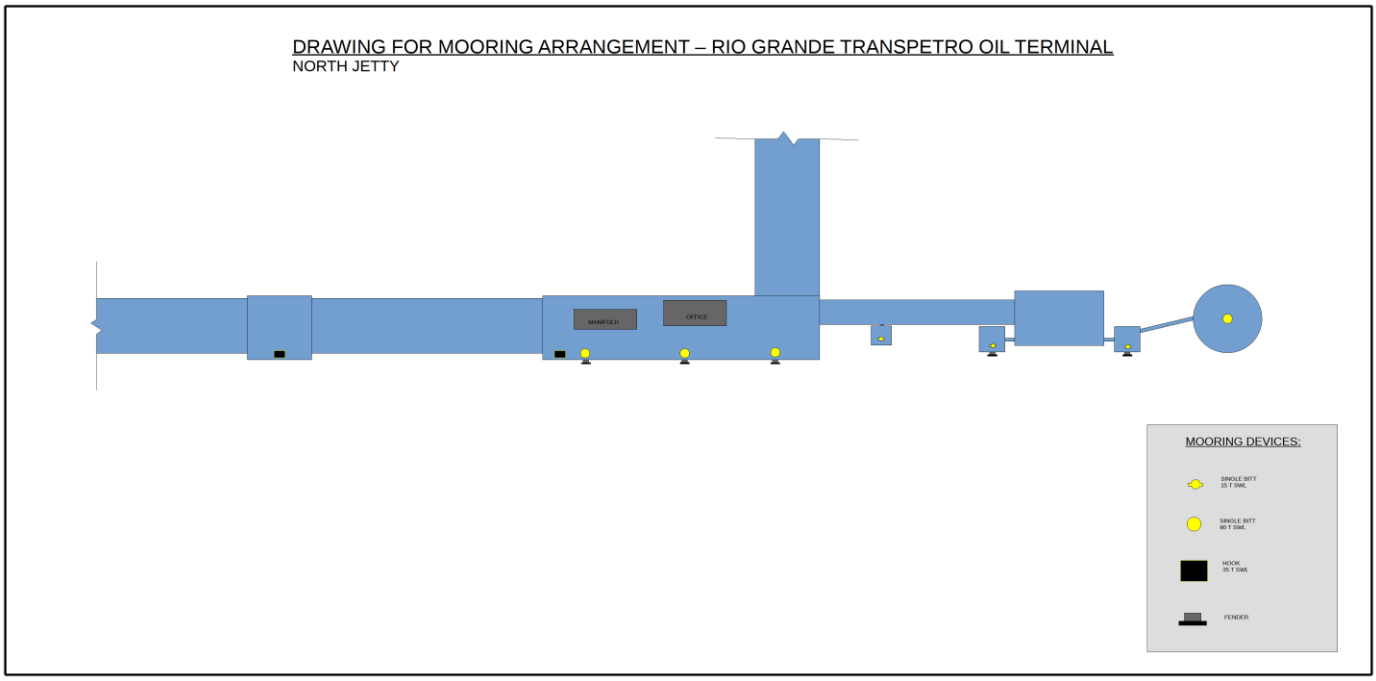
APPENDIX B – DIAGRAM OF MOORING BERTHS IN PONTA SUL (SOUTH POINT)

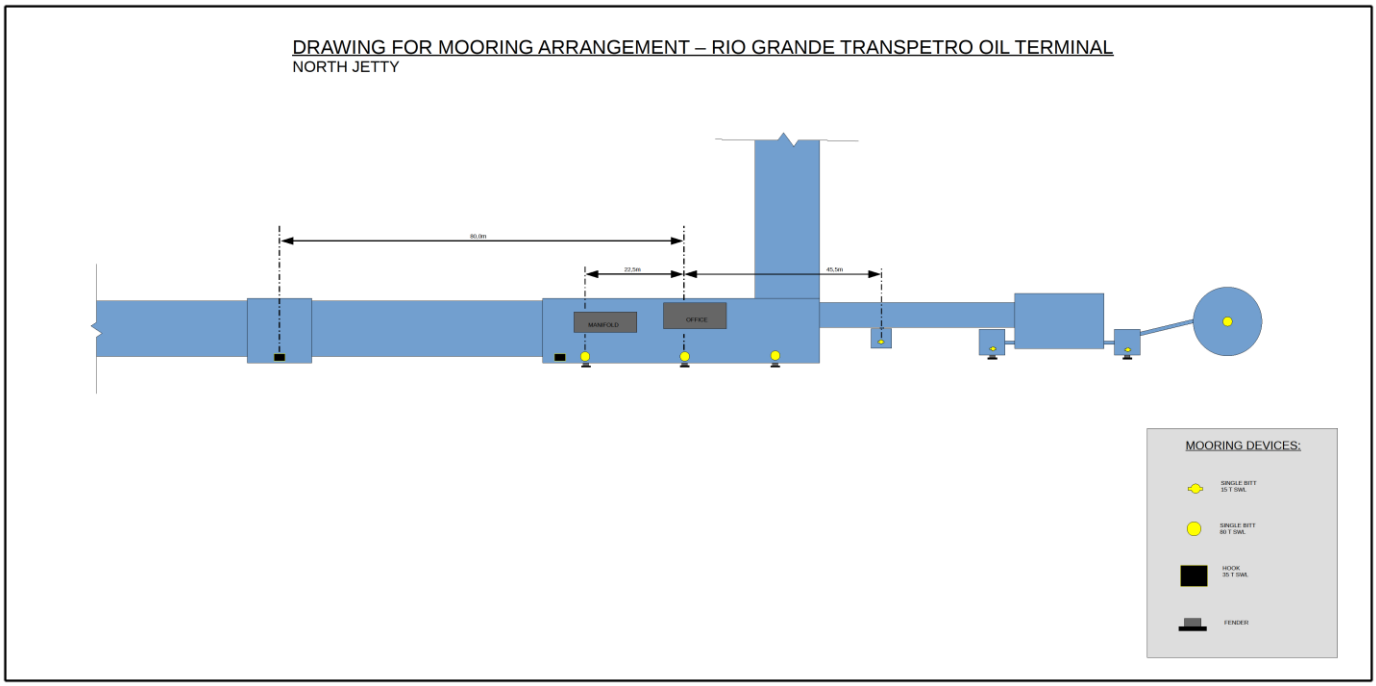


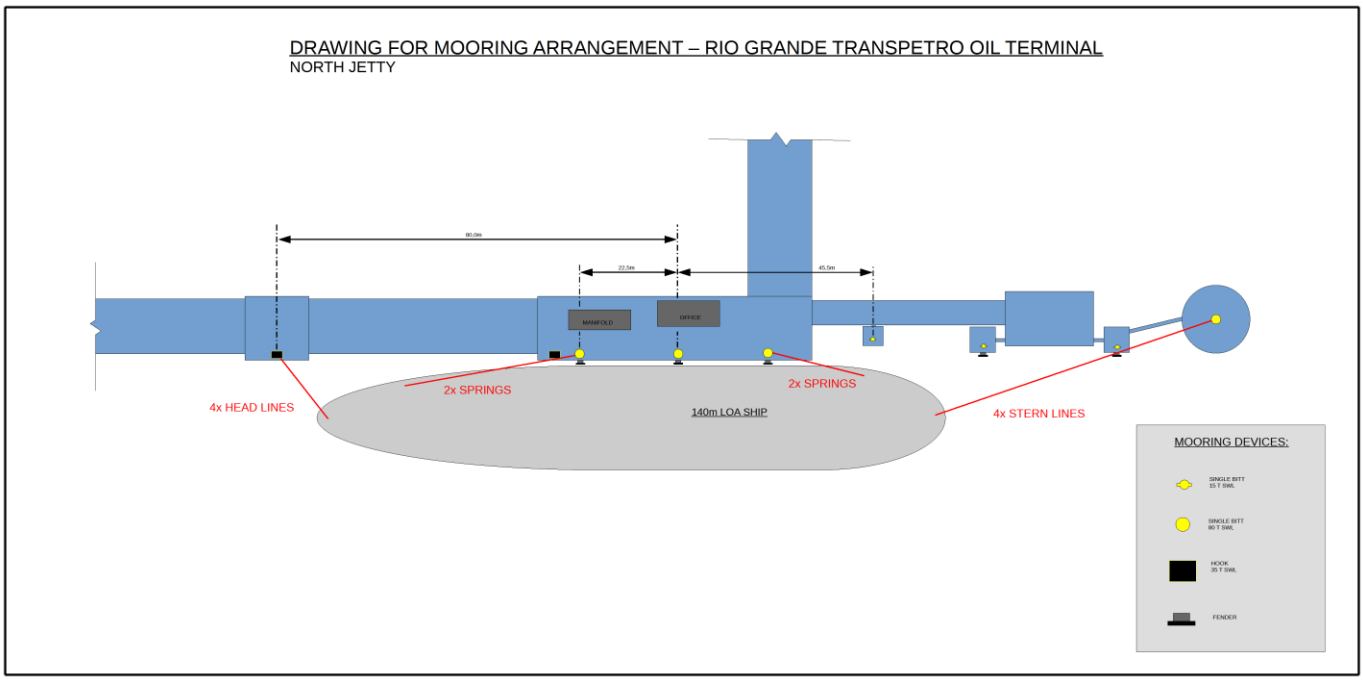

DRAWING FOR MOORING ARRANGEMENT – RIO GRANDE TRANSPETRO OIL TERMINAL
SOUTH JETTY – DWT 55.000T
123,0 m
112,5 m
95,4 m
58,7 m
44,8 m
46,1 m
STORE HOUSE
T7
T6
T5
T4
T3
T2
T1
OFFICE
NORTH JETTY
52,0m
29,6m
25,0 m
MANIFOLD
SOUTH JETTY
OPTION 1 - LOA 225m SHIP 55.000T DWT
*Forward and Aft minimum lines required:
2 SPRINGS
2 BEAM LINES
4 HEAD LINES
- DRAWING IS NOT TO SCALE.


DRAWING FOR MOORING ARRANGEMENT – RIO GRANDE TRANSPETRO OIL TERMINAL
SOUTH JETTY – DWT 55.000T
123,0 m
112,5 m
95,4 m
58,7 m
44,8 m
46,1 m
STORE HOUSE
T7
T6
T5
T4
T3
T2
T1
OFFICE
NORTH JETTY
52,0 m
29,6 m
25,0 m
MANIFOLD
SOUTH JETTY
OPTION 2 - LOA 225m SHIP 55.000T DWT
*Forward and Aft minimum lines required:
2 SPRINGS
2 BEAM LINES
4 HEAD LINES
- DRAWING IS NOT TO SCALE.

APPENDIX C – DIAGRAM OF BERTHS MOORING AT THE NORTH PONTA NORTE (NORTH POINT)






DRAWING FOR MOORING ARRANGEMENT – RIO GRANDE TRANSPETRO OIL TERMINAL
NORTH JETTY
MANIFOLD
OFFICE
4x HEAD LINES
2x SPRINGS
2x SPRINGS
140m LOA SHIP
4x STERN LINES
MOORING DEVICES:
SINGLE BITT 15 T SWL
SINGLE BITT 80 T SWL
HOOK 35 T SWL
FENDER

APPENDIX E - EXCHANGE OF INFORMATION PRIOR TO THE SHIP 'S ARRIVAL TO THE TERMINAL

PETROBRAS TRANSPORTE S/A - TRANSPETRO RIO GRANDE TERMINAL - TERIG RIO GRANDE - BRAZIL	
Request for Ship Information	
Ship Name:	Estimated time of arrival (ETA):
Flag state:	Last Port:
Captain's Name:	Next Port of Call:
Shipowner:	Agents:
Does the ship have an inert gas system?	Oxygen content in cargo tanks:
Is the ship's crew planning to carry out Crude Oil Washing?	If the ship is to carry out COW, has the pre-arrival checklist been satisfactorily completed?
Movement of the ship on arrival:	Length between perpendiculars:
Overall Length (LOA):	Maximum draft during cargo transfer:
Fwd distance < = > manifold:	Freeboard on arrival:
Ship draft on arrival:	Ship draft at departure
Propulsion	**Transverse propulsion**
Number of engines: Number of propellers: Step type:	Bow (Quant and Power): Aft (Quant and Power):
Quantity and size of manifold outlets	**Maximum Crane Capacity (SWL)**
Loading schedule	
• Type and quantity:	(m^3)
• Type and quantity:	(m^3)
• Type and quantity:	(m^3)
Unloading Schedule	
• Type and quantity:	(m^3)
• Type and quantity:	(m^3)
• Type and quantity:	(m^3)
Additional information (if applicable):	

APPENDIX E - INFORMATION TO BE EXCHANGED PRIOR TO CARGO TRANSFER

Information between the Ship and the Terminal			
Name of ship: Voyage Number:	Mooring berth: Mooring date:		
Contractual data			
No. of onboard pumps:			
Volumetric capacity 98%: **m^3**			
Guaranteed discharge pressure: (when it is a discharge operation): **Kgf/cm^2**			
Simultaneous ballast/de-ballast capacity with loading/unloading:			
Voyage information			
Type of charter (VCP,TCP,COA,etc.):			
Type of travel (Cabotage/Long Haul):			
Ports or places of origin and destination:			
Did the ship request refueling?			
Means of communication between ship and Terminal:			
Cargo information			
Product:	Quantity:	Temperature:	API:
RESIDUE - *SLOP*			
Quantity:	Temperature:	API:	
Fluidity:	Origin: Contaminants:		
Ballast			
Dirty Ballast: Quantity: Temperature:	**Segregated Ballast:** Quantity:		
Operational information			
For discharges: Will the ship do a special operation? (COW, Inertization, etc.)			
Expected time for special operation:			
Time required to stop the pumps:			
For Loads:Time in advance for TOP notice:			
Flow rate for the TOP period:			
Amount of ballast to be discharged:			
Maximum allowable flow rate for de-ballasting:			
Are restrictions in place with regards to electrostatic properties?			
Are restrictions in place with regards to the use of self-closing valves?			
Ship and Terminal conditions for product loading and unloading operation			
Ship: Pressure: Flow rate: **Temperature:**MAX: MIN:	**Terminal:**Pressure: Flow rate: **Temperature:**MAX: MIN:		
Sequence of operations by product			
Quantity to be loaded/unloaded: Origin / Destination Tanks: On-board / shore lines: Loading arms/ hoses used: Forecast for start and end of operation:			