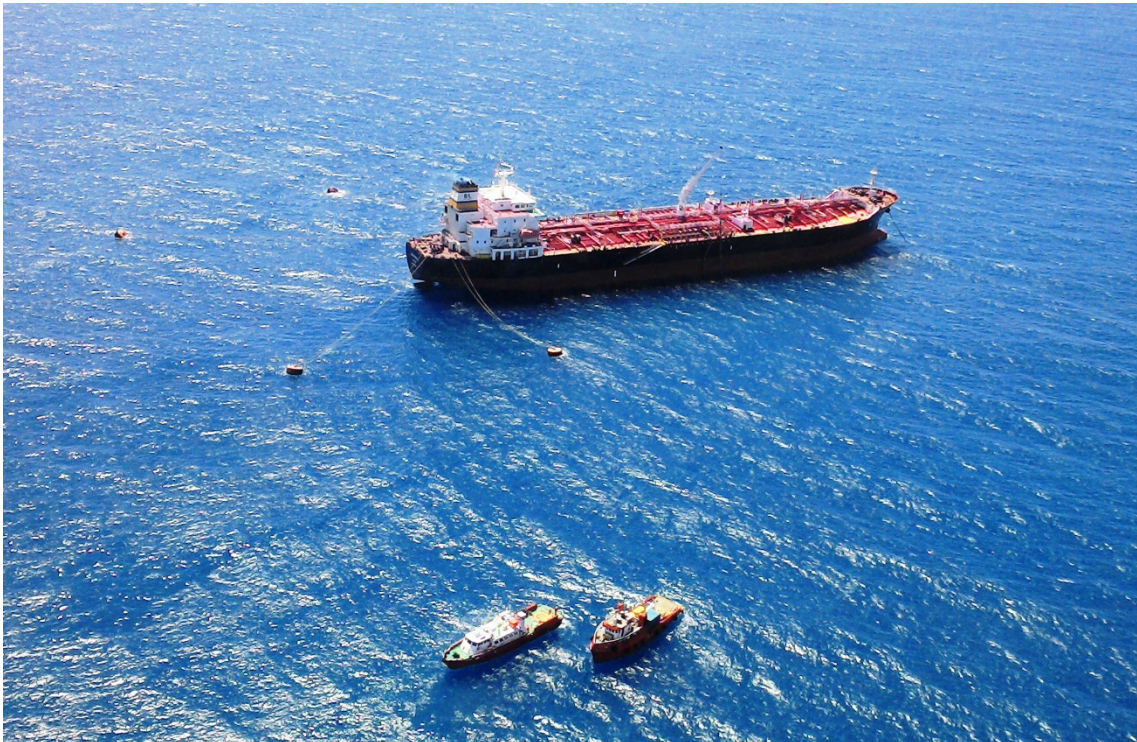


PORT INFORMATION

TERMINAL AQUAVIÁRIO DE GUAMARÉ



3R OPERAÇÕES MARÍTIMAS S.A.

www.3rpetroleum.com.br

revision – 0 – 30/June/2023



1. Introduction

This Port Information is prepared by 3R OPERAÇÕES MARÍTIMAS S.A., which operates the Terminal Aquaviário de Guamaré (TAG), marine terminal, in the Offshore Mooring System of Ubarana for Dirty and Clean Products in Rio Grande do Norte.

It presents the essential information for ships that operate in the terminal and is distributed internally within the organization, to stakeholders, port authorities, maritime authorities, maritime agencies, tankers and other municipal, state and federal authorities.

Port Information has versions in Portuguese and English.

Information contained herein is intended to supplement, never replace or amend any type of laws, instructions, guidelines or official, national or international publications. Therefore, anything that contradicts any item in the aforementioned documents should not be taken into account.

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

3R OPERAÇÕES MARÍTIMAS S.A. will analyze any suggestions, recommendations or corrections to the matters discussed here, with a view to improving such information. If you find incorrect information that needs to be updated, please contact us:

Guamaré Waterway Terminal

Rodovia RN 221, km 25, S/N, Zona Rural, Guamaré/RN, CEP 59598-000

Tel: +55 84 98188.8360 / +55 21 96710.7173

Email: terminalgamare@3rpetroleum.com.br

3R PETROLEUM S.A.

Rua Praia de Botafogo, nº 186, andar 16º, Botafogo, CEP 22.250-180, Rio de Janeiro – RJ

Communication Office

Phone (21)

Email: comunicacao@3rpetroleum.com.br

The latest version of this Port Information can be obtained at: www.3rpetroleum.com.br



Definitions

BP – “Bollard Pull” – Vessel’s longitudinal static traction

Mooring Master – Professional certified and qualified in accordance with STCW (Seafarers Training Certificate and Watchkeeping) to work as a pilot in open seas.

COW – Crude Oil Washing

DHN – Hydrography and Navigation Board

DWT – Deadweight

Squat Effect – Increased draft of a ship as a result of increased displacement speed, especially in restricted waters.

IMO – International Maritime Organization.

ISGOTT – International Safety Guide for Oil Tankers and Terminals

Spring Tide – Condition in which the tide reaches its maximum amplitude at a certain time of year.

Neap Tide – Condition in which the tide reaches its minimum amplitude at a certain time of year.

MBL – Minimum Brake Loading

NT – Tanker

OCIMF – Oil Companies International Marine Forum

PEI – Individual Emergency Plan

PRE – Emergency Response Plan

QB – Mooring System

QBC – Clean Product Mooring System, it transfers oil byproducts such as gasoline, naphtha, diesel oil and similar products.

QBE – Dirty Product Mooring System, it transfers crude oil and byproducts such as: fuel oil, atmospheric residue and similar products.

TAG – Guamaré Waterway Terminal

UTC – Universal Time Coordinated

VTS - Vessel Traffic Service



Guamaré Waterway Terminal

In case of emergency

- Operational Control Center

Address of the Terminal and phone.

Rodovia RN 221, S/N; Guamaré; Estado do Rio Grande do Norte; Brasil.

Phone: Tel: +55 84 98188.8360 / +55 21 96710.7173

Contacts via radio.

VHF Maritime channel 16

Email: terminalgamare@3rpetroleum.com.br

- Maritime Authority

The headquarters of the Port Authority of Rio Grande do Norte is located at the following address:

Rua Chile no 232, Ribeira, Natal-RN, CEP: 59.012-250;

Phone (84) 3201-9630/98802-8568, Phone/Fax (84) 3201-9630, e-mail cprn.secom@marinha.mil.br and site www.marinha.mil.br/cprn; keeping garrison in permanent VHF (24 hours) on channel 16, frequency 156.8 MHZ.

The Port Authority Agency in Areia Branca is located at the following address:

Rua João Félix no 12 - Centro - Areia Branca-RN, CEP: 59.655-000;

Phone (84) 3332-2211/98701-3020, e-mail ag-secom@marinha.mil.br; and 3) keeping garrison in permanent VHF (24 hours) on channel 16, frequency 156.8 MHZ.

2. Port Information of the Guamaré Terminal – RN

Section 1: Emergency procedures

1.1 General information

The Terminal implements its emergency plans according to the origin of each event, therefore, it has an Emergency Response Plan, which includes scenarios of fire, explosion, man overboard, medical rescue, among other scenarios, and in the event of leakage of oil it has an Individual Emergency Plan, as recommended by Brazilian laws.

In order to meet operational and emergency aspects, it has personnel and support vessels in the Mooring System region in permanent standby.



1.2 Procedures in case of oil leakage

The Individual Emergency Plan is dimensioned according to Brazilian legislation, covering levels 1, 2 and 3. It has vessels and resources on standby to act immediately in any event of oil spill.

Any and all incidents involving oil spill must be reported immediately to the competent Authorities.

1.3 Procedure in case of fire and explosion

The Terminal, onshore, has resources sized for the intra-wall services of the installations, at sea, and ships must have their resources for the first response of fighting fire and explosion, according to its emergency plan.

1.4 Evacuation Procedure

Considering that ships will operate in offshore systems at least 20 km off the coast, the on board procedure must be applied. Terminal vessels will support this on board procedure.

1.5 Procedure in case of collision and damage to mooring buoys

If a collision scenario occurs with a mooring buoy, when maneuvering to moor and unmoor, follow the instructions of the Mooring Master, and care must be taken with the use of the propeller so as not to aggravate the collision event.

1.6 Medical Emergency Care Procedure

If there is a need for medical care, the ship's Agent must be called and provide care as instructed by the Medical Authority and Maritime Authority. The Terminal may provide transportation resources, but with the guidance of a competent professional to instruct on such transportation. Mooring systems are located at sea.

1.7 Procedure in case of invasion (security breach)

The Terminal Aquaviário de Guamaré has implemented business 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 code.

If necessary, these protection measures can be activated by the Ship through the Terminal's Port Security Supervisor (PFSO – Port Facility Security Officer) through phone numbers: +55 84 98193.9218, as well as calling on the maritime VHF channel 16.

1.8 Procedure to rescue Man Overboard

The ship must deploy its own emergency plan and immediately call the Mooring Master to arrange for rescue through support vessel.

1.8 Procedure in case of mooring failure or change of position in QBE/QBC

The ship is moored to the mooring system, both of Dirty and Clean Products, with the bow towards the optimal resulting environmental forces, so that this direction is kept, it launches both anchors, which after applying a certain length of mooring, remains positioned. However, a change of position may occur for the period it remains moored, if this occurs, the ship's engine must be ready to be immediately actuated as instructed by the Mooring Master. Likewise, in the event of a mooring line rupture, the Mooring Master will instruct the ship's Master on the replacement and recovery of the mooring.

1.9 Emergency stop procedure

The stop of the Terminal's operating system will be carried out through VHF radio communication, which will immediately stop pumping, and the ship must provide be ready to stop pumping immediately upon request by the Terminal. Quick disconnects are installed at the end of the hoses to speed up disconnection in such emergency cases.

1.10 Incident notification policy

Any and all incidents must be reported to the Terminal, which will handle the notification in accordance with the Integrated Health, Safety and Environment Management standard.

Section 2: Safety, Health and Protection Policy

2.1 Personal Protective Equipment - PPE

It is a legal obligation to use PPE, all workers must use equipment according to their activities, however, they must use, as a minimum:

- FR (fire retardant) protective clothing: pants, long-sleeved shirt, or overalls;
- Protective goggles;
- Safety helmet with ear protection;
- Safety gloves;
- Safety footwear;
- Raincoat;
- Gas detector (including H₂S);
- Escape mask for toxic gases;
- Life jacket



2.2 Access to the Terminal, crew and visits

According to the offshore characteristics, access to the Ship is not available, only the Terminal's operational team can access the ship.

2.3 Security interface between Ship and Terminal

The Terminal is certified in the ISPS-CODE, therefore all procedures follow this legislation.

The Terminal Aquaviaário de Guamaré has implemented 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 code.

2.4 Alcohol and Drug Policy

The management system of the Terminal includes the policy of not using Alcohol and Drugs. The use of alcohol and drugs is prohibited.

The misuse of alcohol and drugs increases the risk of accidents at work, reduces productive capacity, compromises health and interpersonal relationships among employees in the workforce.

The IMO, OCIMF and the Federal Government reinforce the obligation to establish a control policy and program to prevent the use of alcohol and drugs on board ships and consequently to the Terminal's operating personnel.

2.5 Smoke on Board

Smoking is prohibited in the operating areas of the ship. The ship must establish an appropriate place for smokers.

2.6 Portable electronic equipment and unprotected light

All portable electronic equipment and lights must be certified explosion-proof and intrinsically safe.

2.7 Machinery repairs when moored

It is not allowed, the ship must have the "engines ready" during the entire operation.

2.8 Provisions for ship, ranch and fuel

It is not allowed to receive provisions on board the ship, since the sea conditions are considered adverse.

2.9 Material Safety Data Sheet

The Material Safety Data Sheet (MSDS) is the document that identifies the substance and its components of the product to be handled.



MSDS must be in accordance with the standard format set out by IMO.

It is the responsibility of the product supplier to provide the MSDS to a tanker prior to commencement of cargo loading. The ship must also notify the Terminal, presenting a copy of the safety data sheet, about the information contained in the MSDS so that preventive measures to protect people are taken.

2.10 Benzene and Sulfuric Gas (H₂S)

All precautions must be taken to prevent and protect the personnel involved in the operation. Appropriate PPE must be used for handling products with the presence of these elements.

The personnel involved in the operation must be informed in advance for the adoption of safety measures.

2.11 Static Electricity

Static electricity presents fire and explosion hazards during the movement of petroleum and its byproducts and during other operations on tankers such as tank cleaning, ullage measurements and sampling. Some operations can give rise to the accumulation of electrical charges, which can be suddenly released as electrostatic discharges, with enough energy to ignite a flammable mixture of hydrocarbon gas with air.

As a result, all operations at the Terminal must be carried out with inertized tanks, with an oxygen content of less than 8%. Therefore, this verification is ratified before and during the entire operation. In case of failure in the inert gas system, the operation must be stopped.

All precautions with static electricity are recommended in ISGOTT.

In addition to the dangers of static electricity, actions must be taken regarding the electrical isolation between ship and Terminal.

Due to the differences in electrical potential between ship and Terminal, there is a risk of arcing on the manifold during connection and disconnection of the hose between ships. To protect against such risk, the Terminal uses electrical insulation at the ship/terminal interface, by installing an electrically discontinuous hose in the composition of its line of hoses.

Section 3: General information

3.1 General Description of the Terminal

TA Guamaré is located at Rodovia RN 221, km 25, S/N, Rural Area of the City of Guamaré, State of Rio Grande do Norte, CEP 59598-000, about 170 km from the Capital City of Natal and 9 km from the City of Guamaré.

Its facilities are equipped with 13 (thirteen) atmospheric tanks, with a nominal storage capacity of around 260,000 m³. It also has 2 (two) mooring systems, 2 (two) tank truck

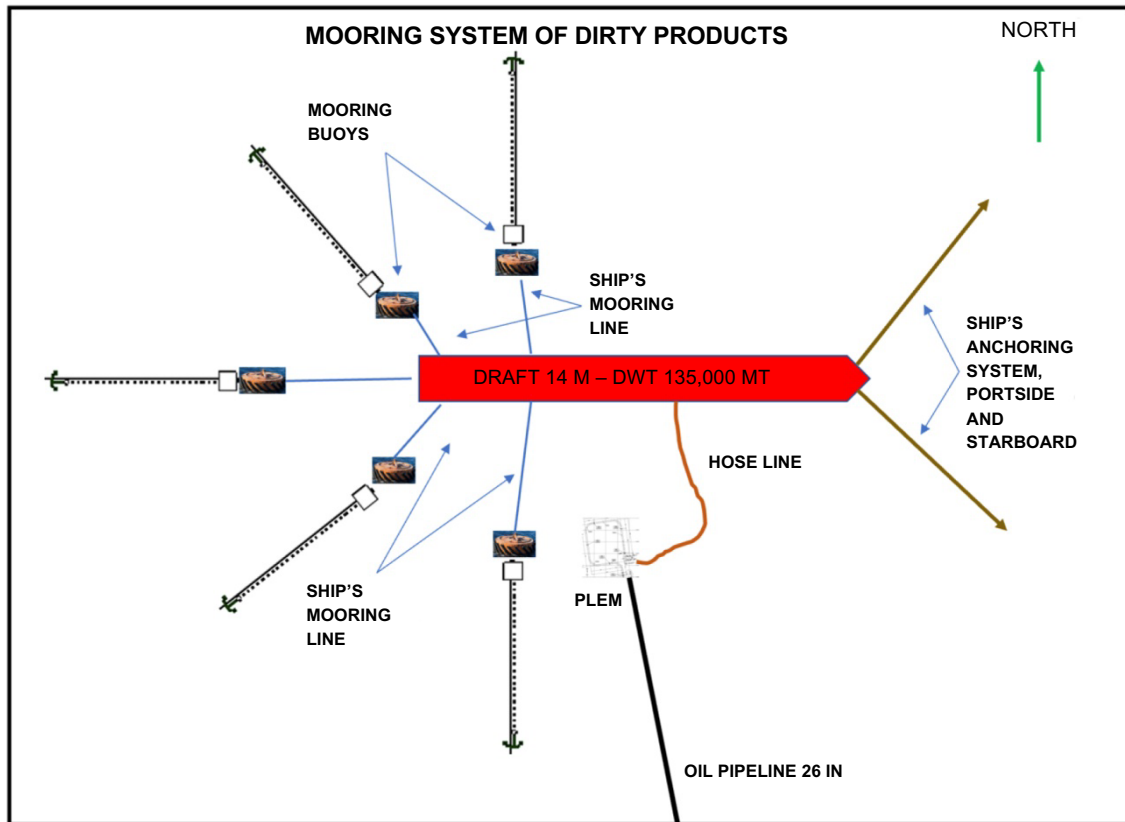
unloading platforms and 2 (two) submarine pipelines that connect the systems to the Terminal.

Its activities consist of receiving oil from offshore and onshore production fields through onshore pipelines, receiving oil from independent producers through truck unloading platforms, storage in tanks and delivery of that oil through underwater pipeline and mooring system. There are also operations with clean byproducts, receiving and sending naphtha and diesel through underwater pipeline and mooring system, storage and internal transfers with customers.

3.1.1 Description of Mooring Systems of Dirty Products

The mooring system of dirty products is of the conventional type of multiple buoys. The ships are moored to two forward anchors and to five circular mooring buoys with 20,000 N thrust, forming a “V” berth. In each buoy two fiber lines are passed.

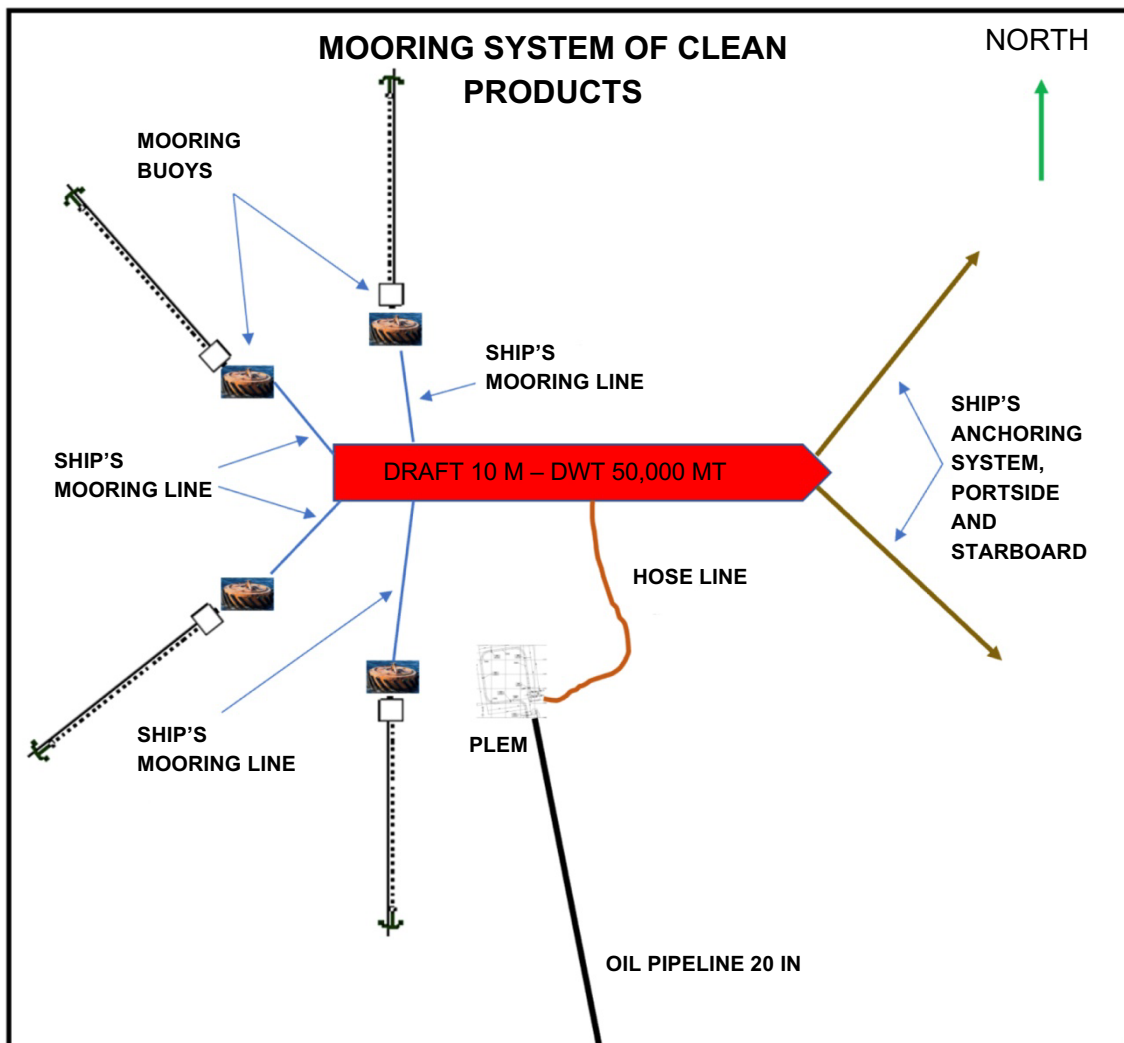
The ships are loaded through an underwater pipeline of DN 26”Ø, which forks into two hose lines, as shown in the sketch below:



3.1.2 Description of Mooring Systems of Clean Products

The mooring system of clean products is of the conventional multiple buoy type. The ships are moored to two forward anchors and to four circular mooring buoys with 20,000 N thrust, forming a “V” berth. In each buoy two fiber lines are passed.

The ships are loaded through a underwater pipeline of DN 20”Ø, which forks into two hose lines as shown in the sketch below:



3.2 Nautical Charts and Reference Documents

Information about the Terminal can be obtained from the following publications:

Nautical Charts:

Area	Chart Number
	Brazil (DHN)
From <i>Ponta Maceió</i> to <i>Cabo de Calcanhar</i>	21900
From <i>Areia Branca</i> to <i>Guamaré</i>	720
Guamaré Port	704

Other Publications - Brazil (DHN)

Type/Subject	Editor or Source
	Brazil (DHN)
Rules and Procedures of the Port Authority	NPCP
East Coast Navigation Support	DH1-II
List of Lighthouses	DH-2
List of Radio Aids	DH-8

3.3 Documents and Information Exchange

Documents and information exchange are ratified through operational planning, guided by the Terminal via email and the ship having to inform ETA 72, 48, 24 and 12 hours in advance.

Operational documents will be prepared by the Mooring Master during the key meeting before the operation.

3.4 Location of the Terminal

The Marine Terminal is located on the North (N) coast of the State of Rio Grande do Norte, in the so-called Costa Branca or Salineira zone. It can be reached by the federal highway BR-406, leaving Natal, the state capital, and taking the RN-401 past Baixa do Meio district towards the City of Guamaré.



The Guamaré Waterway Terminal (Administration and Tankage) is located about 9 km to the Southwest (SW) of the seat of the City of Guamaré, in the State of Rio Grande do Norte.

Mooring System Coordinates:

Mooring System of Dirty Products:

→ Latitude: 04°52'25"S

→ Longitude: 036°22'27"W

Mooring System of Clean Products:

→ Latitude: 04°55'8"S

→ Longitude: 036°26'05"W

Anchorage:

Mooring System of Dirty Products:

1) Lat 04° 50' S e Long 36° 24' W

2) Lat 04° 50' S e Long 36° 20' W

3) Lat 04° 51' S e Long 36° 24' W

4) Lat 04° 51' S e Long 36° 20' W

Mooring System of Clean Products:

1) Lat 04° 51' S e Long 36° 29' W

2) Lat 04° 51' S e Long 36° 31' W

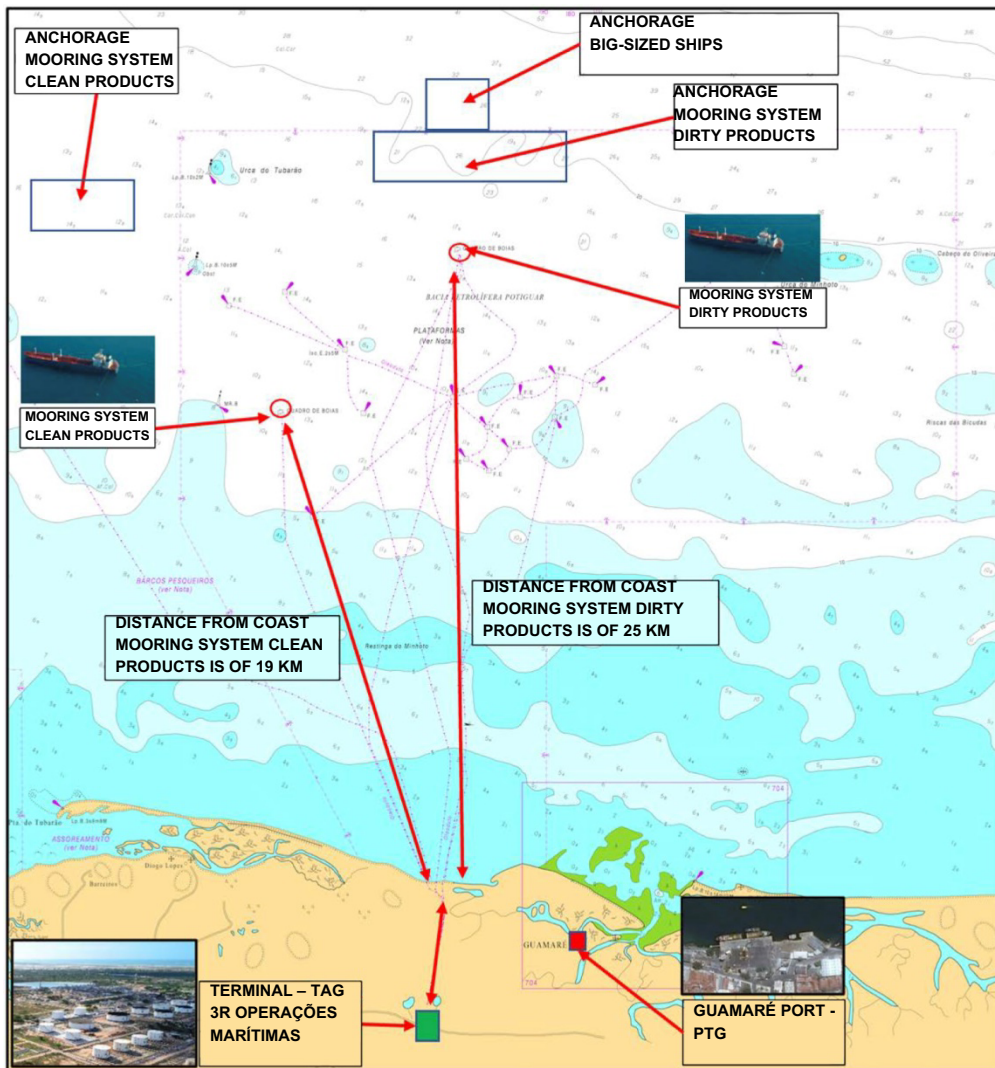
3) Lat 04° 52' S e Long 36° 29' W

4) Lat 04° 52' S e Long 36° 31' W

The Port Authority advises Masters that, when anchoring their ships, keep the crew in always ready to operate, with the purpose of having qualified personnel on board and in sufficient number to carry out emergency maneuvers.

3.5 Terminal Layout

TAG is 30 km away from the mooring system of dirty products and 24 km from the mooring system of clean products.



3.6 Terminal operation hours

The Terminal carries out its operations during the day, 24 hours a day, seven days a week, 365 days a year.

Note: There is no mooring of ships at night, if the ship arrives at this time, it must anchor and contact the terminal via VHF radio to find out what time the Mooring Master will go with his team to board the next day.

3.7 Local time (time zone)

The Terminal uses local time 3 hours behind the Greenwich meridian (GMT -3).

3.8 Communication between terminal and ship

Communication is carried out via Maritime VHF, channel 16 for calling and then choosing the channel for operation. The second means of communication is by telephone call.

3.9 Language

The language used in operations is English.

3.10 Assessing vetting and acceptance of ships

All ships intended to operate in the TAG must be submitted to an assessment in order to be accepted by the Terminal's vetting team. Regardless of prior acceptance by vetting, during operational stages, safety and security checks will be applied in accordance with ISGOTT and Brazilian Maritime Authority Standards.

3.11 Useful phone numbers

TAG – CCO – +55 84 98188.8360

TAG – Management - +55 21 96710.7173

Maritime Authority– +55 84 3201-9630/98802-8568

Internal Revenue Service - +55 84 3220.2297

Military Police - 190

IBAMA - +55 84 3201.4230

Civil Defense - +55 84 3232.1769

3.12 Port Control or VTS (Vessel Traffic Service)

As it concerns an offshore terminal, local control is exercised by 3R Operações Marítimas.

3.13 Navigation Aids

Nautical signs contained in the nautical chart number 720, guide the Master regarding navigation aid, however, from the berthing area of the ships, the Master will be nautically advised by the Mooring Master of the Terminal.

3.14 Environmental conditions (weather, waves, wind, swell, tide)

The weather conditions at the Terminal's Mooring Systems are good throughout the year.

Atmospheric pressure:

Annual average is around 1014.0 mb.

Atmospheric temperature:

The average atmospheric temperature is 27 °C, ranging from 22 °C in winter (June/July/August) to 34 °C in summer (December/January/February).

Relative air humidity:

Relative humidity of the air during the year is high, around 87%, mainly in rainy months.

**Prevailing winds:**

Prevailing winds in the area of the Mooring Systems are SE, E and ENE.

From the end of March to the beginning of August, the prevailing wind is from Southeast (morning and night), 130° to 160°, from moderate to strong.

From August to mid-October, East (E) – 085° to 095° moderate, and East/Northeast (E:NE) – 070° to 085° strong.

From October to March, northeast (NE) predominates – 050° to 070°, strong in afternoon until dawn, when it generally heads towards south/southeast (SSE) and remains weak until the morning of the following day.

Waves:

Waves in the area of the Mooring System area are normally caused by prevailing wind.

With the southeast wind (SE) swells have an average height of 1.5 m, with the east (E) and northeast (NE) winds swells of up to 3 m.

NE swells of up to 2.0 m in height occasionally occur.

Rain precipitation:

The period with the highest concentration of rainfall goes from January to June, considered the region's winter.

At this time there are intense short-term rains, with an average rainfall of 408 mm.

During dry period, which runs from August to November, the level of precipitation decreases to a minimum of 10.5 mm/month, usually in November.

December is considered a transition month, but with little precipitation.

Lightning storms:

The Mooring System area does not have a significant history of Lightning Storms.

Visibility:

Visibility considered good to excellent, generally 10 nautical miles in daylight, and may be reduced during the rainy season.

The months with the highest percentage of cloudiness are between January and June.

Tidal currents and other currents

The prevailing current in the mooring system is the tidal current, which can reach up to 3 knots in speed. Occasionally, strong surface currents are observed, which can make some maneuvers difficult. The tide table used is that of the City of Guamaré

Variations in Tide Levels

At spring tides, the variation is 1.80 meters. At neap tides, the variation is 0.60 meters. For more details check the tide tables.

Measurements

Terminal does not have any instrument that measures atmospheric or marine conditions in the area of the mooring system.

This information can be obtained through the website of the Brazilian Navy:



<http://www.mar.mil.br/> (Access menu Information for Mariners to Meteorology) and can be complemented with information available on the website of the Center for Weather Forecast and Climatic Studies: <http://www.cptec.inpe.br>.

Section 4: Information about berths, Mooring System

Berth #1 – Mooring System of Dirty Products

Product type: Dedicated to dirty products such as petroleum, fuel oil, atmospheric residue, etc.

Length Overall (LOA): No restrictions. The ship is limited by draft and deadweight.

Maximum breadth: No restrictions. The ship is limited by draft and deadweight.

Maximum displacement on arrival: No restrictions. The ship is limited by draft and deadweight.

Maximum displacement: No restrictions. The ship is limited by draft and deadweight.

Deadweight: Ship of up to 135,000 metric tons

Minimum length of the parallel side: No restrictions. The ship is limited by draft and deadweight, ship does not moor in fenders.

Depth control: In the QBE the depth is 17 m. Depth is established in the nautical chart, as issued by the Maritime Authority.

Water density: Approximately 1.025 kg/l

Maximum draft: 14 meters

Cargo flow: 1000 m³/h; pressure at the discharge of pumps in the Terminal can be up to 17 kg/cm².

Discharge flow: 1000 m³/h; pressure in the short hose can reach 10 kg/cm².

Hoses: One hose line with a length of 170/180 m, with a diameter of 10 inches at the connection end with the ship's manifold.

Crane capacity required: Minimum of 10 tons.

Vapor recovery: Not applicable.

Anchoring systems: The two anchor systems will be used, on the port and starboard sides of the ship, they must have a minimum length of 11 shackles.

Berth #2 – Mooring System of Clean Products

Product type: Dedicated to clean products such as gasoline, diesel, naphtha.

Length Overall (LOA): No restrictions. The ship is limited by draft and deadweight.

Maximum breadth: No restrictions. The ship is limited by draft and deadweight.

Maximum displacement on arrival: No restrictions. The ship is limited by draft and



deadweight.

Maximum displacement: No restrictions. The ship is limited by draft and deadweight.

Deadweight: Ships of up to 50,000 metric tons

Minimum length of the parallel side: No restrictions. The ship is limited by draft and deadweight, ship does not moor in fenders.

Depth control: In the QBE the depth is 13 m.

Water density: Approximately 1.025 kg/l

Maximum Draft: 10 meters

Cargo flow: 900 m³/h; pressure at the discharge of pumps in the Terminal can be up to 17 kg/cm²

Discharge flow: 900 m³/h; pressure in the short hose can reach 10 kg/cm²

Hoses: One hose line with a length of 170/180 m, with a diameter of 10 inches at the connection end with the ship's manifold.

Crane capacity required: Minimum of 10 tons

Vapor recovery: Not applicable

Anchoring systems: The two anchor systems will be used, on the port and starboard sides of the ship, they must have a minimum length of 11 shackles.

Section 5: Procedures before ship's arrival

5.1 Information and communications required between ship and terminal prior to arrival.

Ships heading to TAG facilities must indicate the estimated time of arrival (ETA) 72 and 48 hours in advance, directly to the respective Agent and to the Terminal.

The change or confirmation of the ship's arrival must be communicated at least 24 hours in advance.

ETA information must specify whether the time mentioned is local or UTC.

When ships are 50 miles from the Terminal, contacts can be made via VHF, on channel 16 (156.80 MHz). The Terminal listens for 24 hours on this frequency.

The official time of arrival is considered to be when the ship reaches the anchorage or when the Mooring Master embarks, whichever occurs first. However, the time for acceptance of the ready to operate notification will take place when the ship completes mooring.

Vessels will be operated at a time, obeying the order of arrival, except when the Terminal, in special circumstances, gives priority to a ship outside the queue.

The information contained in the ISGOTT checklist, part-1 and 2, must be applied.

5.2 Depth of access to QB's



The Mooring Systems are located in the open sea, and depth is established as shown on the nautical charts.

The Terminal is approved by the Maritime Authority, to operate with a draft of 14 m for ships calling from QBE and 10 m for QBC ships.

It does not have a delimited channel for approaching QB's. The Terminal has Mooring Masters to advise the ship's master in pilotage. They are trained and qualified professionals to carry out such role.

5.3 On board Cleaning and Repairs

On board cleaning and repairs of the ship's cargo tanks should preferably be carried out in the anchorage area. To carry out such services with the ship berthed, prior authorization from the Terminal will be required.

5. Pilotage and Anchoring Procedures

Pilotage is carried out by Terminal's Mooring Masters. All mooring approach tasks are guided by Mooring Masters.

Anchorage of ships in the respective standby berths is carried out by the ship's Master himself, with no need for advice from the Mooring Master.

5.5 Utilization of tugboats

In mooring and unmooring maneuvers, auxiliary tugboats are not used.

5.6 Boats and Port Service

The Terminal has support craft to help with mooring, unmooring and emergencies. The responsibility lies with the Mooring Master, with the help of a team of divers and operation assistants.

Support craft can be used for emergencies, transporting provisions or some special need. These services must be requested from the Mooring Master who will make the final decisions with the Terminal Management of Guamaré.

It is not recommended to supply fresh water, fuel, lubricants or foodstuffs while the ship is berthed, as it concerns an ocean terminal.

5.7 Displacement and characteristics of ships

Restrictive characteristics are the maximum draft and the deadweight of the ships. The spaces for maneuvers are sufficient and adequate, that is, the length, breadth, air draft, displacement, are not considered relevant, the ship is anchored and moored by its own systems.

5.8 Mooring plan - minimum conditions

The ship is anchored in the mooring system area and complements its positioning with mooring on the buoys.

On the Mooring System for Dirty Products there are five buoys to moor the stern and on the Mooring System for Clean Products there are 4 mooring buoys.

The rope smoorings are in a brestline position on the stern, port and starboard, to prevent the stern of the ship from having the “fish tail” movement. Two mooring cables are passed through each buoy. The cables are from the ship itself.

5.9 Mooring procedure

The mooring to be carried out for each ship must be considered satisfactory by the Master and by the Mooring Master who acts as the Terminal's representative.

The mooring lines need permanent service in order to keep them always tight with the ship berthed.

All mooring ropes need to be kept under adequate tension during operation, with winches under brake, and the use of automatic tension winches is not allowed.

All mooring ropes must necessarily be in good condition, be of the same type, gauge and material (fiber or wire) and, whenever possible, of the same length. The use of mixed moorings is not permitted.

If synthetic fiber tail rope on wire ropes, must be breaking strength 25% greater than the minimum breaking strength of the wire rope.

Mooring lines will be dispensed from the stern of the ship, passed to the boat that will then take the mooring rope to the mooring buoy, according to the best condition to enter the mooring system with the ship. It may be necessary to add, initially, two mooring ropes plus, with 200 m, length, to be connected to the mooring line, as the ship may be too far from the center of the mooring system. After passing the first mooring rope, it is collected by the on-board system and adjusted.

Subsequently, the remaining mooring ropes are passed according to the mooring plan under the guidance of the Mooring Master.

Caution must be exercised as to avoid over-tensioning and possible incidents.

5.10 Mooring maneuver and approach speed

Approach, mooring , unmooring, maneuvers must be carried out at low speed, preferably against the current and wind.

Approach maneuver is assisted by the Mooring Master, starting at low speed, dropping the portside anchor and then the starboard anchor. Next, mooring ropes are passed.

5.11 Procedure for disposal of garbage and slop oily waste.

This service is not provided by the Terminal.

Section 6: Information during Operation

6.1 Access ladders

All ships must provide safe means of access for embarking and disembarking personnel and always keep ladders ready to be lowered.

Lifebuoys with a guideline must be available in the vicinity of all access means.

Ladder used in operations is the standardized ladder, in accordance with IMO recommendations. It will be used for boarding by the Mooring Master and Operation Assistants.

The gangway ladder in conjunction with the Jacob's ladder must be used when it is necessary to access the ship.

The ship must provide accommodation with food, cabins to accommodate at least five people from the Terminal, namely: 01 Mooring Master, 01 Mooring Master Assistant and 03 Operation Assistants

6.2 Procedure before cargo transfer

The Mooring Master is the Terminal's representative

The Terminal's operational framework follows the guidelines and recommendations of the OCIMF, ratified in an operating manual that provides information and operational standards with logistical efficiency and safety.

Before transferring cargo, the parties, Terminal and Ship, must consolidate all technical information such as: type of product, product safety data sheet, hose connection, maximum pumping pressure, flow rate, temperature, alignments, emergency plan, operational monitoring, environmental monitoring, among other information that will be ratified in forms and checklists according to the operation manual and ISGOTT.

6.3 Safety inspection

Safety inspection will be carried out together with the terminal's representative, before the transfer of the cargo, following the ISGOTT safety checklist and the Safety Declaration signed by the parties.

The noncompliances found may prevent the operational sequence if the risks are not mitigated and assessed by a Risk Analysis.

6.4 Ballast and deballast procedure

The ballast and/or deballast operation is part of the operation as a whole. Ships must have their ballasts in segregated systems and must be periodically monitored to verify if deballast presents any type of contamination by products leaked from cargo tanks.

The ballast and deballast plan must be presented to the Mooring Master in the pre-transfer loading/unloading phase.

6.5 Hose connection/disconnection procedure

The hose line is made up of 16, 17 or 18 hoses, depending on whether the north or south line is used, with the first seven at the end having a diameter of 10 inches. They are hoses with a pressure class of 300 pounds, manufactured according to recommendations by OCIMF, double carcass.

To start the connection, the support vessel delivers the end of the line to the ship, at the manifold region. In this way the ship, through the on board crane, lifts part of the line to the height sufficient to proceed with the hose attachment and subsequent connection to load line.

Before connection, the blind flange is removed, with this end of the line resting on the manifold tray, as at that moment there will be a small amount of product draining towards that tray.

Next, the hose will be connected to the ship's manifold, with the aid of the quick coupling/decoupling.

Also, at the end of the short hose, a butterfly valve is installed, which will be opened during alignment to start operations.

Disconnection occurs in reverse process. It must be observed that drainage must be carried out to relieve internal pressure and make disconnection feasible.

The Mooring Master will instruct the on board personnel regarding connection and disconnection procedures.

The responsibility for connection and disconnection lies with the ship.

The short hose line is permanently filled with product, without the need to flush with water.

Every effort must be taken to avoid accidents at the time of connection and disconnection, as it involves attention and risks to the personnel involved, such as: Hose falling on deck, damage to the hose structure, and other issues such as ergonomics and cable handling.

6.6 Procedure during cargo transfer

During cargo transfer, permanent monitoring of all operating and environmental conditions must be carried out.

The Terminal deploys a team to remain on board with the aim of consolidating all applicable procedures, in accordance with the best industry practices, with reference to the recommendations of OCIMF and ISGOTT

However, as a minimum, the following should be monitored:

- Pressure on manifold;
- Hourly rate;
- Volume moved and stored every hour and accumulated since the beginning of the operation;
- Product temperature;
- Communication via radio;
- Environmental conditions: wind, current, waves; tide; Rain, lightning;
- Conditions of mooring cables;
- Trim and list conditions;
- Conditions of anchorage systems, position of the ship's manifold in relation to the underwater pipeline manifold;
- Verification of ISGOTT Re-check list;
- Monitoring of the ship's operational issues: inert gas system, ballast/deballast, cargo tanks level, monitoring of vapors in the superstructure, watertightness of cargo lines in operation, among others.
- Application of the Terminal's operating manual in conjunction with the ship's procedures.
- The ship must maintain permanent surveillance on the ship's manifold.

It is expressly forbidden to close valves during operation that cause back pressure in the system.

6.7 Recovery of cargo vapor.

No vapor recovery procedure is applied. Terminal does not have facilities to carry out this procedure.

6.8 Crude Oil Washing (COW) Procedure

If there is a need to perform COW, the terminal must be informed in advance and an operational plan is to be submitted to the Mooring Master. The inert gas system must be working efficiently.

6.9 Operational limits

Mooring and unmooring maneuvers take place during daylight hours.

Considering environmental issues, the limits are:

QBÇ/QBE ENVIRONMENTAL LIMITS		
Daytime approach and mooring	Wind 25 knots	
	Visibility 1.0 mile	
	WIND	WIND
	DIRECTION	SPEED
Transfer step	NE 030 to 060	25 knots
	E 075 to 105	30 knots
	SE 120 to 150	25 knots
Pumping interruption	NE 030 to 060	30 knots
	E 075 to 105	35 knots
	SE 120 to 150	30 knots
Disconnection	NE 030 to 060	35 knots
	E 075 to 105	40 knots
	SE 120 to a 150	35 knots

The impacts from wind define operational issues regarding the stay of the ship moored. The Mooring Master monitors these environmental conditions and advises the captain on risk management and decision making.

6.10 Tank cleaning procedure

During stay in QB's, cleaning of tanks is not allowed.

6.11 Inert gas system

The inert gas system must be in full operation, maintaining the oxygen content in cargo tanks with a percentage lower than 8%. The Mooring Master will also monitor the functionality of the ships' inert gas system. In the event of a failure in the inert gas system, the operation must be stopped

6.12 Cargo inspection, measurement and sampling

Cargo measurements will be carried out by the ship's personnel, accompanied by terminal representatives and other inspectors. Samples will be taken by the on board staff and accompanied by Terminal representatives.



Measurements, sampling and inspection of cargo or cargo tanks may be carried out by inspection firms in accordance with negotiations with the owner of the cargo. All documents produced must be presented to the Mooring Master for verification.

6.13 Ship Fuel Supply (bunker)

This supply is not performed by QB's.

6.14 Pollution Prevention

It is forbidden to jettison pollution overboard.

Any pollution is considered an environmental crime, according to Brazilian laws.

To avoid any type of dumping of solid and liquid waste, the ship must comply with the international MARPOL convention.

Scuppers must be closed during operations.

Bottom/sea valves must be closed and sealed with a seal which will be registered in the initial pre-operational documentation.

It is forbidden to emit atmospheric pollution such as: smoke.

The Terminal will provide resources to combat pollution from oil spills, with containment barriers, collectors, vessels, etc., through its Individual Emergency Plan.

6.15 Supply of fresh water

Terminal does not provide fresh water.