PORT INFORMATION

COARI WATERWAY TERMINAL - TA-COARI

COARI - AMAZONAS - BRAZIL

BR TRANSPETRO

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TRACK CHANGES

EDITION	REVIEW	CHANGES	DATE	PREPARED BY	APPROVED BY
1st	-	-	09/10/2006	Antônio Carlos de Jesus	Eliseu Gomes Bandeira
2nd	-	Phone updates	09/10/2009	Mario César Peres Freitas	Cicero Sabino Leite
3rd	-	Figures and contacts update	09/10/2013	Nunes Ferreira Nunes Filho	Antônio Valberto Ayres da Silva
4th	A	New Corporate layout adaptation	09/10/2019	Nibson Müller Calderón Junior	Antônio Carlos de Jesus
4th	B	Information and Contacts update	11/30/2022	Patrick Cuesta Telles Arévalo	Nibson Müller Calderón Junior

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INTRODUCTION

This publication is prepared by Petrobras Transporte S.A. - TRANSPETRO, which operates the Coari Waterway Terminal (TA–Coari).

Port Information presents essential information to the vessels that operate at the Terminal and is distributed to the port stakeholders, national and local authorities and the various companies in the industry.

The information contained in that publication is intended to supplement, never replace or amend any national or international legislation, instructions, guidelines or official publications. Thus, it should not be taken into account what contradicts any item of the aforementioned documents.

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

TRANSPETRO will analyze any suggestions, recommendations or corrections regarding the subjects addressed herein, in order to improve the information. In case of finding erroneous information that needs to be updated, please contact:

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The most recent version of this Port Bulletin can be obtained through the following electronic address: www.transpetro.com.br.

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DEFINITIONS

BARGE – Low draft, long vessel with flat bottom, used to transport heavy loads in rivers and channels, also called Ferry

DHN – HYDROGRAPHY AND NAVIGATION DIRECTORATE OF THE BRAZILIAN NAVY (DIRETORIA DE HIDROGRAFIA E NAVEGAÇÃO DA MARINHA DO BRASIL)

ETA – Estimated Time of Arrival

GIAONT – Inspection Group and Operational Monitoring of Ships and Terminals (Grupo de Inspeção e Acompanhamento Operacional dos Navios e Terminais)

IMO – International Maritime Organization

ISGOTT– International Safety Guide for Oil Tankers and Terminals

ISPs CODE – International Ship and Port Facility Security Code - It is an international code for the safety and security of ships and port facilities

N-2689 – Petrobras Standard on Operation of Onshore and Subsea Pipeline

NOR – Notice of Readiness

PFSO – Port Facility Security Officer

PORT INFORMATION - Port Information

PRE – Emergency Response Plan

SINPEP – Integrated Electronic Standardization System of Petrobras

VTS – Vessel Traffic Service.

UTC – Universal Time Control – Universal Standard Time

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NAUTICAL CHARTS AND REFERENCE DOCUMENTS

3.1 – LETTERS

The following publications provide information on the Terminal:

AREA	LETTER NUMBER/BRAZIL (DHN)
From Manaus to Marrecão Island	4107 A
From Marrecão Island to Gabriel Island	4107 B
From Gabriel Island to Cipotuba Island	4108 A
From Cipotuba Island to Padre Island	4108 B
Proximities to Coari Port	4108 B
Coari Port	4108 B
Coari Terminal Port (TA-Coari)	4108 B

3.2 – OTHER PUBLICATIONS – BRAZIL (DHN)

TYPE/SUBJECT	PUBLICATION NUMBER/BRAZIL (DHN)
Standards and Procedures of the Western Amazon River Captaincy	NPCF-CFAOC
Northern Region Nautical Bounderies	-
Atlas of the hydrography of the Solimões River from Manaus to Tabatinga	4150

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DOCUMENTS AND INFORMATION EXCHANGES

The following items shall be provided by the Terminal or the Vessel as indicated in the table:

INFORMATION	PREPARED BY:			DELIVERED TO:			COMMENTS
	Terminal	Vessel	Both	Terminal	Vessel	Both	
Prior to arrival							
ETA Confirmation		X		X			According to Annex A1
Request for port support	X				X		According to Annex A2
Prior to cargo transfer or bunker							
Description of cargo, slop and ballast on board.		X		X			According to the Initial Letter
Essential operation information (complete on site)	X				X		In accordance with Appendix C
Terminal/Ship Operational Safety Checklist			X			X	According to Annex II Part "A" – Mutual Vessel & Terminal Operations Procedure Transpetro
During cargo transfer							
Repeat Ship / Shore Safety Checklist			X			X	According to Annex II Part "A" – Mutual Vessel & Terminal Operations Procedure Transpetro
After transfer of cargo or bunker, before departure							
Information necessary to unmooring vessel			X			X	Quantity of fuel and water on board
After unmooring procedure is complete, upon the vessel's departure from the Port							
Information regarding vessel's departure from port		X		X			Time of departure from the port and ETA Manaus

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DESCRIPTION OF THE PORT AND ANCHORAGE

5.1 – TERMINAL OVERVIEW

The Coari Waterway Terminal (TA-Coari) is located in the middle of the Amazon region, on the right bank of the Solimões River, 16 km upstream of the city of Coari and 2 km downstream of the Vila Lira Community. It is bordered to the east by Paraná do Padre and to the north by the city of Coari.

The TA-Coari is intended for the flow of Oil and GLPfrom the Urucu producing region, received and stored in the Terminal tanks and spheres. The Terminal is interconnected to the Pedro de Moura Geologist Operations Base (BOGPM), also known as Polo Arara, in the Urucu production region, by a 14”nominal diameter and 281 km long pipeline that carries Oil and C5+ and an 18” nominal diameter and 281 km long pipeline that carries LPG.

The Terminal has two main floating river piers, one for ships and barges carrying oil and the other for ships and barges carrying LPG, both using loading arms. There is also a floating pier for dry cargo, embarkation/disembarkation of personnel, and a mooring for support vessels.

The upstream berth, next to the oil pier, is formed by the Floating Operating Platform (POF-1) and mooring buoys. The Floating Operation Platform is interconnected to a Floating Support Platform (FSP), which is connected to land by an articulated walkway, called a trellis, which lands on the FSP and is accessed by a ladder.berth

The downstream berth, next to the GLPpier, is formed by the Floating Operation Platform (POF-2) and mooring buoys, has the same configuration as the upstream berth and is 360 meters away from the oil pier.berthberth

5.2 - LOCATION

5.2.1 - COORDINATES

The Terminal is located at the following coordinates:

LATITUDE	LONGITUDE	OBSERVATION
03° 56’ 20” S	063° 10’ 00” O	Charts, nautical publications and information to navigators Rio Amazonas, 4108 B – From Cipotuba Island to Padre Island.

5.2.2 – GENERAL GEOGRAPHIC LOCATION

The Terminal is located on the right bank of the Solimões River, 16 km upstream of the city of Coari, Amazonas, Brazil.

5.3 – TERMINAL APPROACH

5.3.1 - GENERAL DESCRIPTION

The approach of the Terminal occurs in a river stretch that allows the navigation of oil tankers of up to 30,000 DWT and a maximum draft of 8.50 meters (total load) at the time of the flood, reducing to 7.00 meters (reduced load due to the draft) in the dry season.

Ships may demand Terminal facilities only in daylight, depending exclusively on berth availability and favorable weather conditions.

When the ship is passing the city of Coari and heading for the final approach of the TA-Coari, or 1 hour before arrival, the NOR may be issued and the ETA confirmed via maritime VHF with the Terminal Control Room. The call will be on channel 16 (sixteen), and then it should be moved to another chat channel.

When the ship is crossing the red barriers, on the opposite bank of the Esperança community, the port support service must be requested. This will be carried out by means of the vessels that will assist in the mooring, starting the ship to sail in reduced march.

The Terminal will be approached at an actual speed not exceeding 3.5 knots. The starboard side anchor should be ready.

When the ship's bridge is near the crossing of the POF truss, and the distance is about 0.5 to 0.8 miles from the Terminal, measured by radar, the starboard side anchor must be released.

With the help of the CURRENT, machine orders, rudder orders and the addition of mooring lines, the approach process begins for the effective mooring of the ship by port side.

5.3.2 – ANCHORAGE

The anchorage area is delimited by the following geographical points, upstream of the entrance to Coari Lake:

The TA-Coari Anchor Point Beacon:

Point	Latitude	Longitude	Observation
A	04° 04’ 00” S	063° 08’ 02” O	According to information from local pilotage, this position does not interfere with the safety of the equipment.
B	04° 03’ 02” S	063° 08’ 70” O	
C	04° 03’ 01” S	063° 08’ 06” O	
D	04° 03’ 08” S	063° 07’ 08” O	

For further information, please consult your local Pilotage Service.

Anchorage for pilot boarding

>**In Itacoatiara** – Opposite the city of Itacoatiara.

>**In Manaus** – The first is located at the height of the Manaus Waterway Terminal (TA-Manaus), on the opposite bank along the Xiborena coast; the second is located upstream of the Bom Jardim stones, between the longitudes 059° 59' 00" O and 060° 00' 00" O.

Prohibited anchorages

In the port area of Coari it is forbidden to anchor vessels outside the area delimited as anchorage, which would pose a risk to the safety of navigation.

5.3.3 – NAVIGATION AID IN THE ACCESS CHANNEL

Access to the Terminal is by natural channel and supervised by the Hydrography and Navigation Directorate of the Brazilian Navy. When the ship is crossing with the city of Coari, attention is paid to the machine; when the ship is crossing with the red ravines on the left bank and the Esperança I Community on the right bank of the Solimões River, the ship must start sailing at reduced march.

5.3.4 – PORT CONTROL OR VTS (VESSEL TRAFFIC SERVICE)

The Public Port of the city of Coari and the Coari Port Waterway Terminal do not have special traffic control and navigation services. maritime traffic on the Solimões River is managed by the Port Authority of Manaus.

Additional information, Standards and notices in force can be obtained directly on the website of the Port Authority of Manaus: https://www.marinha.mil.br/cfaoc

5.3.5 – PILOTAGE

Pilotage on the Amazon River is mandatory from Santana-AP, when climbing the river, whenever the ship enters through the northern channel. Pilotage is mandatory for ships destined for TA-Coari.

The pilots board in Itacoatiara-AM or Manaus-AM. The pilotage service must be requested by the Petrobras Maritime Agency or by the Ship's Armarder. Once the ships are moored, they must be in a condition considered satisfactory by the pilot and operators of the Terminal.

The pilotage service schedule, including for chartered ships that are intended for TA–Coari, It is made by the Maritime Agency in Manaus, during business hours through phones (92) 3071-9592 and (92) 3302-1775 and 24 hours Duty (92) 99308-6826.

5.3.6 – SUPPORT VESSELS AND PORT SERVICES

The Terminal has a mooring service that includes the supply of 2 (two) vessels with diesel engines to support the maneuvering of the mooring and mooring task cables. The vessels will be made available to pilots in a timely manner for maneuvering.

Boats for the transport of personnel: The Terminal does not have specific speedboats for transporting personnel. The crew, when authorized to use the Terminal facilities, will disembark by the aluminum ladder, access Terminal/Ship. When it is necessary to use stairs alongside for personnel access, this service will be performed by the Terminal speedboats.

Loading and unloading of materials: The Terminal uses the support vessels for the delivery and receipt of materials from the ships moored with their prior authorization.

Communication between support vessels and ships: The support vessels are equipped with VHF for continuous communication between the ship and the support vessels during the mooring and unmooring maneuvers. In case of radio communication failure between the support vessels and the ship, standardized whistle signals shall be used.

5.3.7 – NAVIGATION HAZARDS

REFERENCES AND SIGNS:

→ **From the confluence of the Rio Negro to TA-Coari** – See charts 4106, 4107 and 4108.
→ **Ponta de Catalão** – Faroleta Catalão (03° 08’ 6” S – 059° 55’ 01” O) - Displaying white flashes of 1 second in the locality called Encontro das Águas.
→ **Manacapuru** – Water tank next to the Brasiljuta rainfall station on the left bank of the Solimões River, at longitude 060° 37 ’00” O.
→ **Codajás** – Water tank on the left bank of the Solimões River, east of Coro Island, next to the rainfall station, at longitude 062° 03 ’00” O.
→ **Itapena** – Rainfall station on the coast of Lake Coari, on the right bank of the Solimões River, 7 miles downstream from the city of Coari.
→ **Coari** – Village with a church and a remarkable water tank located at the entrance to Lake Coari, on the right bank of the Solimões River, at longitude 063° 09 ’00” O.

FUNDAMENTALS, BANKS, STONES AND OTHERS IN THE SOLIMÕES RIVER AND ACCESS CHANNEL:

The Solimões River is navigable throughout the year, with navigation restrictions only in the dry season, which normally occurs from August to December. During this period, navigation is limited to small vessels.

In the dry season, sailors can find stretches with restricted visibility due to fires. Throughout the year, they can find stretches of reduced visibility due to the heavy rains and fog that normally occur in the morning.

The riverbed often changes, with navigable channels changing from one year to the next due to the displacement of banks.

Due to the frequent changes in navigable channels, anchorages may occur in the Manaus - Coari stretch, so that the crossings are carried out in daylight and safely.

SECTION BETWEEN MANAUS AND COARI:

→ **Ilha do Moura Passage** – The channel is limited to large ships in the passages of both ends of the island, due to the little depth in the dry season.
→ **Costa do Caldeirão Passage** – Existence of stone on the left bank, upstream of the city of Iranduba. It is visible in the dry season.
→ **Costa do Calado Passage** – Limited by the depth in the dry season for large ships.
→ **Manacapuru Lighthouse** – Limited passage due to the existence of stone near the lighthouse and a sandbar in front of the city. During the drought period, large vessels navigate the left bank, between the

bank and the city. Particular attention should be paid to the stone that lies downstream of the canal. There are baths (waves) on site.

→ **Banco da Arraia Passage** – The sand bank often changes places, requiring great knowledge of the place for the safe navigation of large ships. During the dry season, the limitation of navigation covers all types of vessels.

→ **Costa da Ajaratuba Passage** – In the vicinity of the Porto Estrela community, the passage is limited due to the low depth in the dry season.

→ **Costa do Ambé Passage, between the Breadth of the Purus River and the city of Anori**– In the dry season, it has high-bottomed, clod-like, isolated and in several places, limiting the passage to large ships.

→ **Jamacanã Passage** – During the dry season, narrowing and reducing the depth of the channel limits the passage of large ships.

→ **Passage in the stretch between the Breadth of the Badajós River and the top of the Ilha da Botija** – At this point and until the city of Coari, navigation has the greatest limitation of the Solimões River. The banks constantly change, presenting the lowest depths and restricting the passage of large ships in the dry season. The channel changes from one year to the next, and it is necessary to know the region to perform a safe navigation.

In this section, as the navigable channels have little width and depth, it is necessary that all visual resources are made available by the pilot. Therefore, the section must be navigated in daylight.

5.3.8 – GENERAL RESTRICTIONS

→ **Time restriction** – TA–Coari (former Solimões Terminal - TESOL) – Mooring maneuvers must be performed during the day and supported by suitable speedboats in maneuvers to extend the spies and equipped with VHF equipment. The CFAOC authorized the nocturnal unberthing maneuver of the GLPPier until December 31, 2022.

→ **Winds and currents** – Winds > 25 knots and currents > 5 knots are limiting for mooring, unmooring or maintenance of operation (when moored).

→ **Maximum Recommended load-draught (CMR)** – In the flood period: 8.50 meters. And in the dry season: 7.00 meters.

→ **Mooring speed and angle** – They are limited by the absorption capacity of the fenders and the pier structure The approach speed is 0.10 m/s for ships of 30,000 DWT, 25,000 DWT and 18,000 DWT operating on the oil pier, and 0.15 m/s for ships of 8,900 DWT operating on the GLPpier.

5.3.9 –EVOLUTION BASIN BARRIER DIAMETER

It is the master's responsibility to require the pilot to maneuver the ship within the limits of the evolution basin. In TA–Coari, there is still no delimited location for the evolution basin. Generally, the maneuver is performed at the undocking and leaving the ship or when the mooring maneuver is lost. The maneuver is made upstream of the piers, with a minimum distance of 111 meters from the bow of the POF in the northwest direction, when the moorings are collected, the ship's anchor is already loose and without the use of tugs, in a place of adequate area and depths.

5.3.10 – DEPTH CONTROL

In TA–Coari, the draft limit for berthing and unberthing in berths does not vary at any time of the year.

The points that limit the maximum draft to navigate the stretch from Manaus to Coari are described in the nautical charts depending on the period of flood and ebb of the Solimões River.

5.3.11 – MAXIMUM DIMENSIONS

The maximum size of the vessels for mooring in the TA–Coari is 30,000 DWT for mooring in the POF-1 and 30,000 DWT for mooring in the POF-2.

The maximum size of the vessels for mooring (daytime) in the TA-Coari, considering that the Oil and GLPPier have the same capacity, are for type ships:

→ **Deadweight tonnage:** up to 30,000 ton
→ **Maximum length:** 187.00 m
→ **Breadth:** 27.10 m

5.4 – ENVIRONMENTAL FACTORS

5.4.1 – WINDS

The predominant wind direction in the TA-Coari is Northeast (NE) to Southwest (SO) with subtle variations in directions and intensities.

The average local current, depending on the period of the year, varies between 03 and 06 knots. The average in the port varies around 4.0 knots.

It is a limit condition for "mooring" when the wind speed exceeds the frequency of 20 knots. However, a careful assessment by the Captain and the Pilots of the environmental conditions of the moment for the accomplishment of a safe berthing is extremely important.

→ **Winds above 15 knots:** 7.7m/s, force 4, MODERATE, when the ship is moored, strict attention must be maintained.
→ **Winds above 20 knots:** 10.29m/s, force 5, FRESH, the loading/unloading operation must be interrupted.
→ **Winds above 25 knots:** 12.86m/s, force 6, VERY FRESH, the loading arms and/or hoses should be disconnected.
→ **Winds above 30 knots:** 15.43m/s, force 7, STRONG, undocking the ship, being extremely important careful analysis of the Commander and Pilots.

5.4.2 - WAVES

There are no wave records capable of impairing mooring, unmooring and ship operations.

5.4.3 – RAINS

The average rainfall in the region where the Terminal is located is 2,225 mm/year.

The flood period of the Solimões River is the period of rainfall in the region, which runs from November to June, with the maximum level in June and July. The ebb period runs from July to October, with a minimum level in October and November.

5.4.4 – VISIBILITY

Throughout the year, there may be stretches of reduced visibility, due to the heavy rains and fog that usually occur in the morning.

In the dry season, sailors will be able to find stretches with restricted visibility due to fires.

5.4.5 –CURRENTS

In the Terminal access channel, the river current reaches the speed of 2 to 4 knots. The winds of E prevail with influence on the maneuvers, mainly of unloaded ships.

In the rainy season, the ebb tide of the river can exceed the values mentioned.

5.4.6 – RISING AND FALLING WATER LEVELS

In relation to the level of reduction adopted, which is the level of the average of the exceptional minima, variations in river levels due to floods or other factors occur as follows:

→ Maximum water level: + 14.66 meters
→ Minimum water level: – 1.39 meters

Note: The reference level adopted due to the Portobras survey is the zero level in Itapeuá, which corresponds to the 7.05 meter reading of the TA-Coari graduated ruler.

5.4.7 – AIR HUMIDITY

The relative humidity of the air is high, ranging between 82 and 88%. The average relative humidity of the air is 85% throughout the year.

5.4.8 – TEMPERATURES

From November to June, temperatures range from 71.6°F (22°C) to 82.4°F (28°C). From July to October, they range from 80.6°F (27°C) to 93.2°F (34°C).

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TERMINAL DESCRIPTION

6.1 - GENERAL DESCRIPTION

The Terminal is 16 km from Coari Port and 281 km from the Urucu producing region. It is responsible for the disposal of Petrobras production (UO-AM, formerly UNBSOL) located in the Arara Pole, whose derivatives contribute to the supply of the North and Northeast regions of the country.

The Terminal also operates a 14" and 281 km long pipeline, which carries Oil and C5+, and an 18" and 281 km long pipeline, which carries LPG. The two pipelines connect the Terminal to the Urucu production region.

It has installed tankage with a storage capacity of 78,000 m³, distributed in 3 (three) tanks of 20,000 m³ for oil and 6 (six) spheres of 3,000 m³ for LPG.

Receiving an average of 20 ships and 20 ferries per month, it handles a volume of 270,000 m³ of oil and GLPin loading operations. The TA–Coari has two berths, one for loading Oil and another for loading LPG.

Through TA–Coari passes all the GLPproduced in the Arara Pole, which, loaded on ships and ferries, supplies the North region, the States of Maranhão and part of Ceará.

All oil produced at the Arara Pole also passes through TA–Coari and, loaded on ships and ferries, is transported to the Manaus Refinery (REMAN). After being transformed into derivatives, such as diesel, gasoline and LPG, it is destined for REMAN tanks and spheres. Then, It is sent to the distribution companies that serve Manaus, other municipalities in the State of Amazonas and also other states in the North region.

6.2 – PHYSICAL DETAILS OF THE BERTH

The following table presents the characteristics of the Terminal berths:

Pier	Distance between Fenders (m)	Berth Depth High/ Ebb (m)	Maximum Ship Length for Berthing (m)	DWT Maximum (t)	Products
POF-1	17.5/20.1	30.0/18.0	185	30.000	Oil
POF-2	17.5/20.1	28.0/16.0	185	30.000	LPG

6.3 – DOCKING AND MOORING ARRANGEMENTS

6.3.1 – MOORING AND UNMOORING TABLE IN TA-COARI

Below are the details on mooring and unmooring at the Coari Terminal:

Pier	Period	DWT Ship	Maximum Length (m)	River Conditions	Side	Maximum Draft (m/ft)
POF-1	Daytime	up to 30,000	185.0	Full	Port side	8.50 / 27
	Daytime	up to 18,000	135.0	Dry	Port side	7.00 / 23
POF-2	Daytime	up to 30,000	185.0	Full	Port side	6.90 / 23
	Daytime	up to 9,500	135.0	Dry	Port side	6.90 / 23

Note: There is no time restriction for berthing and unberthing of barges at the Coari Terminal.

6.3.2 – MOVEMENT OF VESSELS IN THE CHANNEL AND SPEED RESTRICTIONS, CROSSING AND OVERTAKING

The shape of the navigable channels, the depth and the type of margins affect the behavior of the vessels. Thus, the control of speed in navigation becomes an important factor to avoid accidents.

The displacement of the ship in shallow waters (drought period) causes pressure variation in the net mass, which can spill the ship and seriously affect its government. Therefore, the safety of navigation in shallow waters depends on the speed in relation to the bottom of the river.

Considering the possible damage caused to the margins, moored vessels and facilities located therein, the passage of vessels at a speed greater than 10 knots, a distance of less than 150 meters from the margins and locations of concentration of vessels, and floating oil and GLPpiers is prohibited.

6.3.3 – RECOMMENDED MOORING

The mooring of all ships destined for TA-Coari requires, at the two piers, the use of the ship's anchor firing on starboard side and also a launcher for the stern buoy.

Vessel to dock by port side to perform mooring below. The lashings of slings and Breast Lines are made on the bollards of the Floating Operation Port (POF), and the lashings of the bow and stern Spring lines are made directly on the two buoys on land, for this type of lashing.

In TA–Coari, the ships dock with the aid of two (2) tugboats. The mooring is guided by the pilots.

The mooring service is done by a contracted company, using two support boats.

The safety of the mooring is the responsibility of the ship's Master and will be evaluated by a qualified Safety Inspector. The TA–Coari may veto or stop an operation in which the mooring of the ship is deemed unsatisfactory.

The following is the minimum configuration for mooring:

Pier	Launchers		Athwart		Spring Lines		Observation
	Fwd	Aft	Fwd	Aft	Fwd	Aft	
POF-1	2	2	2	2	2	2	The mooring should be reinforced as a result of the river current reaching 5 knots at the time of the flood (use 3 Spring lines in the bow).
POF-2	2	2	2	2	2	2	

6.3.4 – POSITIONING OF BOLLARDS, NUMBER OF CABLES AND MAXIMUM LOADS

Pier	Bollards	No. of Cables	Maximum Loads (kgf)
POF-1	4 bollards 2AV/2AR	6	50.239
POF-2	4 bollards 2AV/2AR	6	50.239

6.4 - CHARACTERISTICS OF THE BERTH FOR CARGO

The following tables indicate the products handled, arms available, flange details, temperature limits, flow rates and maximum loading pressures.

This information is for information purposes only and is based on historical maximum values. It is necessary to define the operating conditions – arms, on-board sockets, number of lines, number of pumps, pressure, flow and temperature – during the initial release of the ship.

Pier	TAG ARM	Arm Flanges		Product	Temperature (°C)		Max Flow (m^3h)	Max. Pressure (kgf/cm^2)
		Diameter	Class (lb/in^2)		Min.	Max.		
POF-1	BC-8001	12”	150	Oil	Amb.	Amb.	2.000	10
POF-2	BC-8002	8”	300	LPG	Amb.	Amb.	650	15

6.5 - MOORING MANAGEMENT AND CONTROL

The mooring and unmooring maneuvers of ships in the Coari Waterway Terminal must always be carried out with the participation of two trained pilots, without the use of tugboats.

The ship's turning maneuvers, whenever necessary, must occur upstream of the piers, with a minimum distance of 111 meters from the bow of the POF in the northwest direction, and turning in front of the piers is prohibited.

All maneuvers are monitored and recorded by the Control Room through mobile closed circuit television cameras (CCTV).

At the mooring, 01 (one) Professional of the Inspection and Operational Monitoring Group of Ships and Terminals (GIAONT) and 01 (one) Operation Technician are kept at the pier, positioned to evaluate the maneuver and guide the positioning of the vessel in relation to the loading arms. A Mooring Team is available to place the mooring lines on the exhaust bollards and cats.

At each pier, 01 (one) Operation Technician and 01 (one) Operational Assistant remain, who are responsible for operational monitoring, exchange of information with the ship, communications, preparation of documentation and monitoring of mooring, and position of the ship. The Operation Technician and the Operational Assistant have a VHF radio for simultaneous communication with the Ship and Control Room.

6.6 – MAIN RISKS TO MOORING AND STAY

The climatic conditions of the access channel, the evolution area and the mooring piers are usually quite favorable and safe for navigation, maneuvering and stay.

The main risks associated with the maneuvers and stay of the ships in the berths of the TA– Coari are:

→ When moored in POF-1, due to strong currents during ebb, there may be opening of the stern of the moored ships. In currents greater than 4 knots, it is recommended to reinforce/increase the number of bow launcher cables to at least three cables;

→ When mooring in POF-1 and POF-2, due to strong wind currents, mooring may occur with a speed higher than the operational limit of the pier moorings, causing damage to the Terminal and Ship facilities.

These risks require greater attention from the ship's crew and pilots in relation to the tasks and mooring lines.

7

PROCEDURES

During the period at which vessels are at port, several actions must be taken to ensure safe operations and minimize risk. In all phases, as described in the following sub-items, the measures are taken in order to facilitate the operations and plan them properly.

7.1 – BEFORE ARRIVAL

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

Vessels destined for TA-Coari facilities must indicate the estimated arrival (ETA) 72, 48 and 24 hours in advance, directly to the respective Agent, by telex, telephone, fax or electronic mail. The change or confirmation of the arrival of the ship must be communicated at least 24 hours in advance. The ETA information shall specify whether the mentioned time is LOCAL or UTC.

Repairs on board and washing in the ship's cargo tanks should preferably be carried out in the anchoring area. In order to perform these services with the ship moored, prior authorization from the Terminal will be required.

7.2 - ARRIVAL

The vessel shall be aware that, when docking, after the safety inspection carried out by the Operations Safety Inspector (GIAONT), based on the ISGOTT Safety Checklist, if there are pending issues that are not resolved by the Crew, the Vessel will not have authorization from the Terminal to start the operation.

Port authorities are triggered by the agents of ships when they pass in Manaus. In general, the visit is carried out when ships are coming to the TA–Coari.

The Terminal does not supply bunker and water.

Communication with the Terminal is done through maritime VHF, with call channel 16. The usual channels of conversation are 6, 8, 9, 10 and 14. The Terminal operates on channels 6 and 9.

NOR (Notice of Readiness) may be issued when the ship is passing the city of Coari and heading for the final approach of the TA-Coari, or 1 hour before arrival.

If the ship arrives at the port before the first day of the scheduled lane, the permitted stay will begin when the first mooring line is passed or at zero hour and one minute from the first day of said lane, whichever occurs first.

If the ship arrives at the port after the scheduled lane, the permitted stay will begin when the strap of the first mooring line is capped.

The stay ends when the ship drops the last mooring line.

The Terminal has 04 (four) pumps for oil transfer and 2 (two) pumps for GLPtransfer. For the transfer of Urucu Oil, 3 (three) pumps of 700 m³/h of flow are used, leaving 01 (one) spare pump. For the transfer of LPG, 01 (one) pump of 600 m³/h of flow is used, leaving 01 (one) backup pump.

The information from the Terminal to the ship and vice versa is described in the loading/receiving procedure, which is formalized in the initial release of the ship, to meet the regulations of N-2689 (Petrobras Standard on Operation of Onshore and Subsea Pipeline).

Contact phones in Manaus - AmarillasLatinas.net

Capitania Fluvial da Amazônia Ocidental (CFAOC)
https://www.marinha.mil.br/cfaoc
(92) 2123-4926 / 4900 / 4901

PROA (Pilotage)
(92) 3624-3649 / 0041
Fax: (92) 3624-5941

Manaus Pilots (Pilotage)
(92) 3664-5728 / 6634

Manaus Pilotage (Pilotage)
(92) 99510 0450

Federal Police – Maritime, Air and Border Police Division
(92) 3655-1515 / 1517

Port Health Service – Health Surveillance (ANVISA)
(92) 0800-642-9782

Federal Revenue Office – State Department of Ports, Rivers and Channels
(92) 3133-9076 / 3131-9904

Brigadeiro Eduardo Gomes International Airport
(92) 3652-1210 / 1212

Institute of Environmental Protection of the State of Amazonas (IPAAM)
(92) 2123-6700

Brazilian Institute of Environment and Renewable Natural Resources (IBAMA)
(92) 3878-7100 / 0800-61-8080

Military Police, Civil Police, Fire Department and Civil Defense
190, 147, 193, 199

Hospital e Pronto-Socorro 28 de Agosto
(92) 3643-7100

Hospital e Pronto-Socorro Dr. João Lúcio Pereira Machado
(92) 3249-9063

Hospital Adventista de Manaus
(92) 2123-1311

Hospital e Clínica São Lucas
(92) 4002-3633

Hospital Santa Júlia
(92) 2121-9000 / 9090

Prontocord Hospital do Coração
(92) 2123-7500

Contact telephones in Chuquisaca

Municipal Department of Environment
(97) 99903-3704

Municipal Secretariat of Public Security and Social Defense
(92) 98802-9347

Regional Hospital Mayor Dr. Odair Carlos Geraldo
(97) 98805-6650

7.3 - MOORING

7.3.1 - SHIP 'S MOORING

The ship's mooring system must meet the requirements of item 6.3. Mooring lines must be cared for permanently in order to keep the ship always moored. All cables must be kept under adequate tension during operation, with the winches under brake, and the use of automatic tension winches is not allowed.

All mooring lines must be of the same type, diameter and material (fiber or wire), and the use of mixed moorings is not allowed. Mixed moorings are those in which the cables that perform the same function are of different type, diameter and materials.

Mooring lines must be arranged as symmetrically as possible in relation to the vessel’s midship.

Breast lines must be positioned as perpendicular as possible to the vessel’s longitudinal and as far as possible towards the fore and aft.

Springs shall be oriented as parallel as possible to the longitudinal axis of the ship.

If fiber tailes are used on wire ropes, the tailes must be of the same type, with a diameter 25% greater than the minimum breaking load of the wire rope, of the same material and of the same length.

The horizontal angle of the head and stern lines in relation to the direction of a crossing perpendicular to the longitudinal axis of the ship shall not exceed 45°.

7.3.2 - SAFE ACCESS FROM SHIP TO TERMINAL AND VICE VERSA

Access to the TA-Coari piers is made by means of aluminum boards with handrails, which are placed by the ship with the support of Terminal personnel.

All ships must provide safe means of access for loading and unloading personnel, and always keep their boards and ladders ready to be lowered. In the case of using a board, there must be space for free walking, and it must be equipped with a safety net. Lifebuoys with tag lines shall be available in the vicinity of the means of access. The ship's slope or plank ladder shall be employed when required.

Crew members who, when disembarking, use the Terminal facilities will have to wear closed leather shoes, long pants and sleeve shirts, and circulate only through the previously authorized area. The list of crew members who will disembark using the facilities and services of the Terminal must be passed to the Terminal at the time of the initial release of the ship.

The movement of crew members through the Terminal facilities without prior authorization is prohibited, except on the ship/Port route of floating operation of the Terminal.

7.4 – BEFORE CARGO TRANSFER

Ship-to-terminal electrical insulation – The terminal performs transfers by means of hoses and loading arms. In the case of loading arms, they have insulating joints and grounding with the terminal mass, both periodically inspected. In the case of transfer using hoses, lines of electrically continuous hoses are used with the presence of only one electrically discontinuous hose.

Connections and reductions – The resources necessary for the connection are agreed upon at the first contact of the ship with the Terminal. The ship must arrange the outlets and install reductions and cargo connections in order to enable the coupling of the loading arms. The ground personnel make the connections and disconnections of the arms and hoses, assisted by the crewmembers, who handle the winches and load sticks, when necessary. After the connection of the loading arms, they are tested for their tightness, using the static pressure of the Terminal column for oil and the pressure of the ship for LPG. A ship's representative must accompany the entire operation and must be close to the ship's cargo outlet. All connected arms must be supported in support, especially those connected to reductions.

Safety inspection – The start of the operation only occurs after the initial letter has been completed by the ground and on-board representatives. The Ship/Shore Safety Checklist (ISGOTT Annex A) is checked and completed by the GIAONT during the initial release of the ship.

Means of communication – Communications are carried out with the ships through VHF radios in maritime frequency previously combined and registered. A secondary medium, via terrestrial VHF radio, is set for eventual failure in the main system.

Operational control – The TA–Coari has a Control Room. The Operations Control Room is located near the administrative building and is responsible for all operations carried out on the piers. In this room are the Operation Technicians responsible for the control of all Terminal operations, through the supervisory system.

Inspection of tanks – Whenever possible, the inspection of a ship must be done without entering the tanks. If the cargo requires internal inspection of the tank, all safety precautions inherent in entering confined spaces must be taken. In this case, the ship must arrive with the tanks degassed and in a "free for man" condition. If the TA–Coari or the Inspectorate rejects the inspected tanks, the delay will be charged to the ship.

Quantities calculation – On-board measurements will be carried out by the ship's personnel and accompanied by the

Terminal representatives and other inspectors. The material used must be properly grounded, and the measuring accessories must be explosion-proof.

Ballast elimination – The Terminal does not have tanks to receive slop discharges (waste from the ship).

Soot blowing – It is forbidden to carry out ramming or cleaning of boiler piping with the ship moored. Care must be taken to ensure that sparks do not escape through the chimney. Failure to comply with this regulation will result in one or more of the following sanctions: immediate interruption of operations; fine from the competent authorities; compulsory unberthing of the ship from the pier; communication of the infraction to the shipowners; liability of the ship for fines, loss of time and all other related expenses arising from this fact.

Access of small vessels – The prohibition on the permanence of unauthorized small vessels on the shore or in the vicinity of moored ships must be strictly observed. Only Terminal service vessels or authorized vessels may be in the vicinity or alongside, provided they meet all safety conditions. Infringement of this standard will have to be reported to the competent authority.

Protection against product return and overflow – The Terminal does not have check valves to prevent the output of product to the ship when aligned the manifold (equipment for connection) of land. In discharges, it is up to the ship to monitor possible undesirable receipts and the level of the tanks in order to avoid overflows.

Propeller maintenance – Moored ships will not be able to move their propeller(s) as long as they remain connected to the loading arms. Ratcheting may be used after proper warning to the Terminal operator, but the propeller must be moved so slowly that absolute safety is obtained. Vessels shall be liable for any damage resulting from these procedures.

7.5 – CARGO TRANSFER

Pressure monitoring – During cargo transfer, it is recorded by the onboard and shore representatives on the ship's manifold every hour. The Terminal controls the internal pressure variables, and the flows are verified in real time through the supervisory system available in the control room and pressure diameters installed on the pier.

Operating flow – The operation flows, measured on the ship and at the Terminal, and the total volume handled are compared hourly and compared between the parties. According to the system used, there is a limit parameter for operational control. Notice of any changes in operating conditions must be provided and documented by the parties involved in operations.
The closing of valves that cause back pressure in the system during operations is expressly prohibited.

GLPoperations – the ship must meet all conditions pertinent to derivative ships. In addition, it will be necessary to inform in advance the flow or pressure reduction needs during the load. The Terminal has a particle filter and features for effective drainage of LPG-free water, minimizing the possibility of problems during operations. It also has a vapor return line, which can be used in gasification operations of on-board tanks or to optimize cargo operations.

Discharge of slop and ballast – The slop, ballast and de-ballast networks and tanks of the ships must be destined only for this purpose, being isolated from the other on-board networks. The water ballast to be discharged to the river must be completely free of oil, any oily residue or other substance capable of causing pollution of the river waters.

Tank cleaning – The COW operation is accepted, depending on prior authorization of the schedule for the purpose of the ship's stay in the port and the GIAONT for operational safety purposes.

Repairs on board and at the pier – Repairs or maintenance work of any nature involving or involving the risk of sparks or other means of ignition may not be carried out while the ship is docked at the Terminal piers. In extreme cases, all safety standards must be observed and met. Repairs involving the facilities of the piers or involving some restriction of the ship during the stay must be previously authorized by the Terminal.

Safety inspection – The intermediate inspections, according to annex a of ISGOTT, will be carried out by GIAONT during the operation of the ship.

Emergency stop – The interruption of loading or unloading of the ship must be requested, by radio or other means of communication, whenever any situation occurs that may pose a danger, either to the ship or to the Terminal. Operations must also be temporarily suspended during storms, thunderstorms and/or high winds. Terminal operation personnel are authorized to interrupt or suspend the operation in the event of non-compliance with any of the universally accepted and adopted safety Standards and standards in the transportation of oil by sea. The master of the ship has the right to stop the operation if he has reason to believe that the shore operations do not offer safety, provided that he gives prior notice to the pier operators. In any emergency situation, the Coari Waterway Terminal interrupts the ongoing operations so that all resources are aimed at mitigating the accident. The actions and contacts for each type of emergency are described in the Terminal Emergency Response Plan – pre, available in SINPEP Transpetro No. PE-5TP-00382.

7.6 – LOAD MEASUREMENT AND DOCUMENTATION

After the end of the operation, the drainage of the loading arms used must be started. Terminal operators will provide drainage of the arms used for closed system at the pier (Sump Tank). The ship's representative must arrange for the drainage of the on-board section.

Final measurements on board – They will be carried out by the ship's personnel and accompanied by the Terminal representatives and other inspectors. The material used must be properly grounded, and the measuring accessories must be explosion-proof.

Final release of the ship – It occurs after the comparison between the quantities handled and the complement of the stay documentation.

7.7 – UNDOCKING AND LEAVING THE PORT

During the unberthing maneuver (Day and Night) and leaving the port, the channel limits and the risks reported in item 5.3 and its sub-items must be observed.

The pilot usually goes on board the ship and disembarks at the same embarkation point for the trip to the TA- Coari, where a boat from the Port Pilotage will await him.

7.8 – COMPLIANCE WITH ISPS CODE

The Coari Waterway Terminal 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 code – International Ship and Port Facility Security.

If necessary, these security measures can be triggered by the ship through the Port Facility Security Officer (PFSO) or through the VHF radio, channel 16.

The Terminal operates normally at safety level 01.

For further details, the Terminal Port Security Supervisor, who is trained in accordance with the requirements required by IMO, may be contacted.

8

PORT AND ANCHORAGE ORGANIZATION

8.1 – PORT CONTROL (VTS)

There is no resource implemented for port control in TA-Coari.

8.2 – MARITIME AUTHORITY

The maritime authority to which the Terminal is subordinate is the Port Authority of Manaus. It is the responsibility of the latter to determine the actions and to notify those responsible for any incident within the limits of the port.

The Port Authority determines that the visit of the tax and health authorities is carried out in Manaus, on the ship's trip to TA–Coari. Eventually and upon early formalization, the inspection may be carried out on the return of the ship.

The ships destined for TA–Coari will be visited by the health of the Ports, customs and Federal Police. The ship's agent shall make arrangements in this regard.

All documents relating to the dispatch of the ship at the last port shall be submitted to the port authorities.

8.3 - PILOTAGE

For all ship maneuvers, Pilotage is mandatory from the pilot's embarkation point (item 5.3.5).

Pilotage services must be requested through the Petrobras Maritime Agency. The Maritime Agency telephones must be made available by the Shipowner.

The request must be made 24 hours in advance for ships passing from Itacoatiara directly to TA–Coari. If there are any changes, the Pilotage must be communicated 12 hours in advance.

For ships leaving Manaus for Coari, the request must be made 24, 12 or 8 hours in advance. If there are any changes, the Pilotage must be communicated 6 hours in advance.

For all situations, the Pilotage service is activated by the ship's agent. In cases of emergency, according to availability, the pilot will be placed on the ship at the earliest possible time.

8.4 -MARITIME SERVICES

Companies or maritime service providers must be made available through the Petrobras Maritime Agency or by the Shipowner.

The release of access to the vessel by service providers is subject to the approval of TA-Coari's Asset Surveillance service.

Without written permission from the Terminal representative, no repairs or maintenance work of any nature may be carried out that may involve the risk of spark or other means of ignition while the ship is moored.

8.5 – SUPPORT VESSELS

The Terminal has 2 (two) vessels powered by diesel and with steel hull to assist the mooring and unmooring tasks. It is mandatory to call the vessels of the Terminal for the maneuvers. The call is made directly by the pilot.

9

EMERGENCY PLANNING AND RESPONSE

9.1 – EMERGENCY CONTACTS

The following table indicates the essential contacts with telephone numbers and radio channels/frequencies:

Organization	Service Hours	Identifying Acronym	Telephone	VHF/UHF Call
Port Authority	24 hours	CFAOC	(92) 2123-4926	16
Pier-1 Operator's Cabin	24 hours	POF-1	(97) 3303-2619	03
Pier-2 Operator's Cabin	24 hours	POF-2	(97) 3303-2618	03
TA-Coari Control Room	24 hours	–	(97) 3303-2683	03
Maintenance Team	24 hours	–	(97) 3303-2695 (97) 3303-2609	04
Operation Sector Management	7:30 am to 4:30 pm	–	(92) 99112-4831	-
Manaus Fire Department	24 hours		193	
Civil Defense of Coari	24 hours		(97) 98802-9347	
Municipal Department of Environment of Coari	08:00 to 17:00		(97) 99903-3704	
Institute for Environmental Protection	24 hours	IPAAM	(92) 2123-6700	
Brazilian Institute of the Environment	24 hours	IBAMA	(92) 3878-7100 0800-61-8080	

9.2 – ENVIRONMENTALLY SENSITIVE AREAS

The TA–Coari Emergency Response Plan describes the areas most sensitive to environmental impact, related by sensitivity maps. Depending on the area selected, the points subject to the greatest impact are shown (see Annex of PE-5TP-00382).

9.3. – GENERAL DESCRIPTION OF THE EMERGENCY RESPONSE ORGANIZATION

The table below shows the organizations responsible for dealing with any emergencies involving vessels arriving at the Terminal.

Incidents within the Port / Terminal Area:

Incident Type	Responsible Organization	Other Organizations Involved			
Collision in the channel	Port Authority	Civil Defense	Transpetro	–	–
Vessel stranding	Port Authority	Civil Defense	Transpetro	–	–
Berth collision	Port Authority	Transpetro	Civil Defense	–	–
Vessel sinking	Port Authority	Civil Defense	Fire Department	Transpetro	–
Fire on the vessel	Vessel	Transpetro	Fire Department	Civil Defense	Port Authority
Fire in the berth	Transpetro	Fire Department	Civil Defense	Port Authority	–
Pollution	Transpetro or Ship	Port Authority of Coari	Department of the Environment	Ipaam	Ibama

9.4 – EMERGENCY PLANS

The Emergency Response Plan (ERP) is TA-Coari's plan to combat emergencies in all its facilities. It is available in all operational areas, in boards located at the entrances of the operating rooms, maintenance and administrative buildings. The responsible for its update is the local HSE (Safety, Environment and Health).

The TA–Coari has an Emergency Response Center (CRE), equipped with modern equipment and various facilities for use in accidental pollution. Periodically, intensive training is carried out, which enables Terminal employees to act according to the pre.

Displayed at strategic points, the Terminal's ERP allows rapid action to be taken in responding to emergencies. Containment barriers, oil collectors and other equipment and materials necessary for the tasks are stored in the Terminal. Work vessels, support vessels, tankers and oil-collecting vessels are moored at the dry cargo pier and close to the oil pier, in a permanent state of readiness.

The Terminal has a support boat for patient displacement to Coari. A Nursing Technician works in administrative regime, time that concentrates the largest number of people due to maintenance and works services. The most serious cases or that occur outside the administrative hours will be sent to the municipal hospital, located in the city of Coari (about 16 km from the Terminal).

9.4.1 – PREVENTIVE MEASURES ON BOARD

Emergency and fire-fighting equipment must be kept ready for use while the ship remains moored. The operating fire hoses must be extended one forward and one aft of the charging sockets.

A pollution response kit (sawdust, rags, shovels, buckets, squeegees, transfer pumps, etc.) must be kept ready for use to be used in the event of an oil spill. Additional precautions should be taken in order to avoid oil pollution of river waters.

9.5 – PUBLIC RESOURCES TO COMBAT EMERGENCIES

At the Coari Port, Transpetro, through TA-Coari, and other operational units, triggered through the Emergency Response Plan, have resources that can be used to mitigate river pollution events. For other emergencies, public organizations offer the resources according to the purposes for which they are intended.

9.5.1 – LOCAL EMERGENCY SERVICES

The Civil Defense, the Military Police and the Hospital Unit of Coari are triggered according to the table in item 9.1.

9.5.2 – MUTUAL ASSISTANCE PLANS

The following institutions participate in the Mutual Assistance Plan (Pam) and their resources are available as previously agreed in this plan:

→ Fire Department of the Amazon Military Police
→ Transpetro / TA–Coari
→ Petrobras /Isaac Sabbá Refinery (REMAN)
→ Petrobras / UO-AM (Amazon Exploration and Production Operations Unit)
→ Petrobras Distribuidora / BR Distribuidora (Uniman)

9.6 - COMBATING OIL SPILLAGE

The following items describe the resources available to combat pollution in the areas adjacent to the Terminal.

9.6.1 – TERMINAL COMBAT CAPACITY

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

9.6.2 – COMBAT CAPACITY OF THE ENVIRONMENTAL AGENCY

The Coari Environment Secretariat does not have the resources to combat oil spills in the river.

9.6.3 – RESOURCES AVAILABLE FROM THE MUTUAL SUPPORT PLANS OF OTHER TERMINALS

The need for resources available at other Transpetro Terminals to respond to pollution emergencies occurring in the vicinity of the Terminal must be defined by the General Emergency Command.

9.6.4 – COMBATING SMALL EMERGENCY

Small emergency is one that can be controlled and extinguished with local resources. Local resources are described in the PRE

9.6.5 – COMBATING THE MEDIUM EMERGENCY

Medium emergency is one that can be controlled and extinguished with the resources of local Transpetro and external agencies. Local resources are described in the pre and external resources must be requested by the General Emergency Command

9.7 – COMBATING LARGE-SCALE EMERGENCY

The TA-Coari PRE lists the actions and those responsible for each type of expected event that may occur within its unit, pipeline range or vessels and involves third parties. For events not provided for in this document, Transpetro and Petrobras will make available all national or international resources that are within their reach.

10

CONTACT INFORMATION

10.1 – TERMINAL

Location	Contact	Phone Area Code (97)	Route DDP 749	VHF/UHF Channels	
				Call	Talk
Berth POF-1	Operation Technician	3303-2619	2619	09/06	06 or 09
Berth POF-2	Operation Technician	3303-2618	2618	09/06	06 or 09
Control Room	Operation Technician	3303-2683	2683	03	03
Terminal Supervisor	Supervisor	3303-2684	2684	03	03
Nautical Inspector's Room	Nautical Inspector	3303-2636	2636	03	03
Security (SMS)	Safety Technician	3303-2638	2638	04	04
Concierge	Property security	3303-2622	2622	05	05

10.2 - PORT SERVICES

Organization	Contact	Telephone	E-Mail	VHF/UHF Channels	
				Call	Talk
Port Authority	Officer on duty	(92) 2123-4926	cfaoc.secom@marinha.mil.br	16	16

10.3 – LOCAL AUTHORITIES, STATE AND NATIONAL AGENCIES

Item 9.1 presents the list of these authorities and their respective contacts.

10.4 – EMERGENCY RESPONSE ORGANIZATIONS

The emergency response organizations available in the port are listed in item 9.1.

BIBLIOGRAPHY
AND SOURCES OF CONSULTATION

Atlas da Hidrovia do Rio Solimões de Manaus a Tabatinga – 4150, 1ª edição, 2001 – DHN– Diretoria de Hidrografia e navegação.

Cartas Náuticas 4107 A/B e 4108 A/B. Marinha do Brasil.

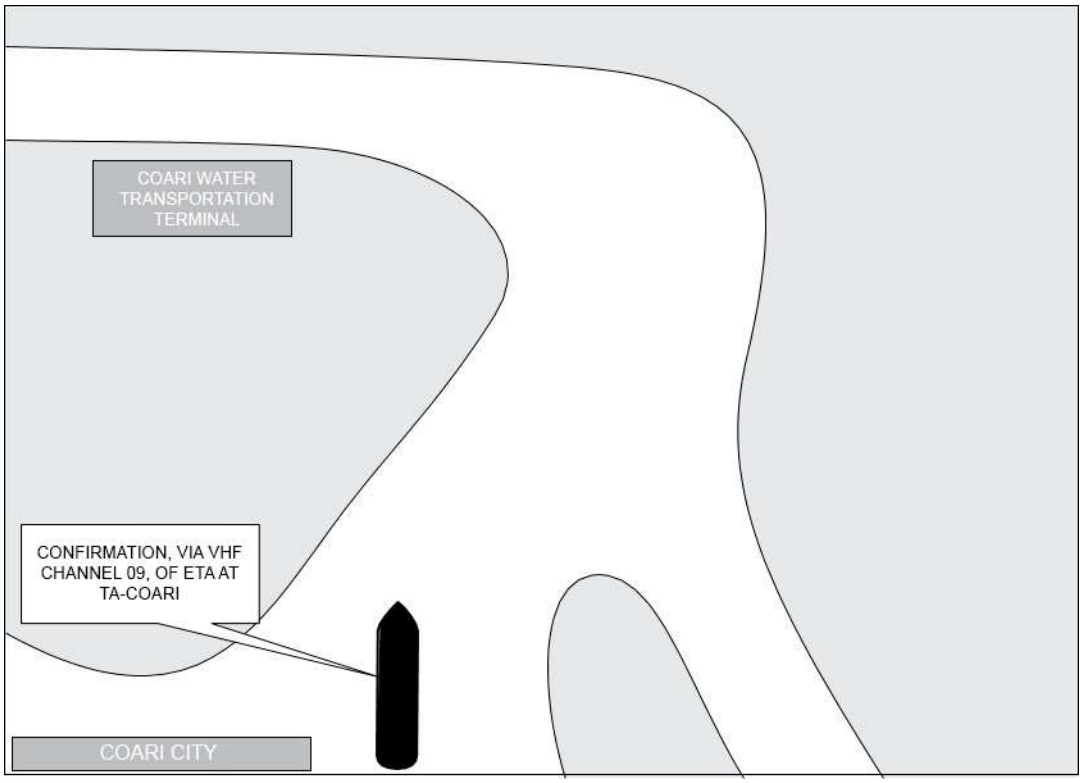
Normas e Procedimentos da Capitania Fluvial da Amazônia Ocidental – NPCF-CFOAC.

Roteiro Náutico da Região Norte. Diretoria de Hidrografia e Navegação. Marinha do Brasil.

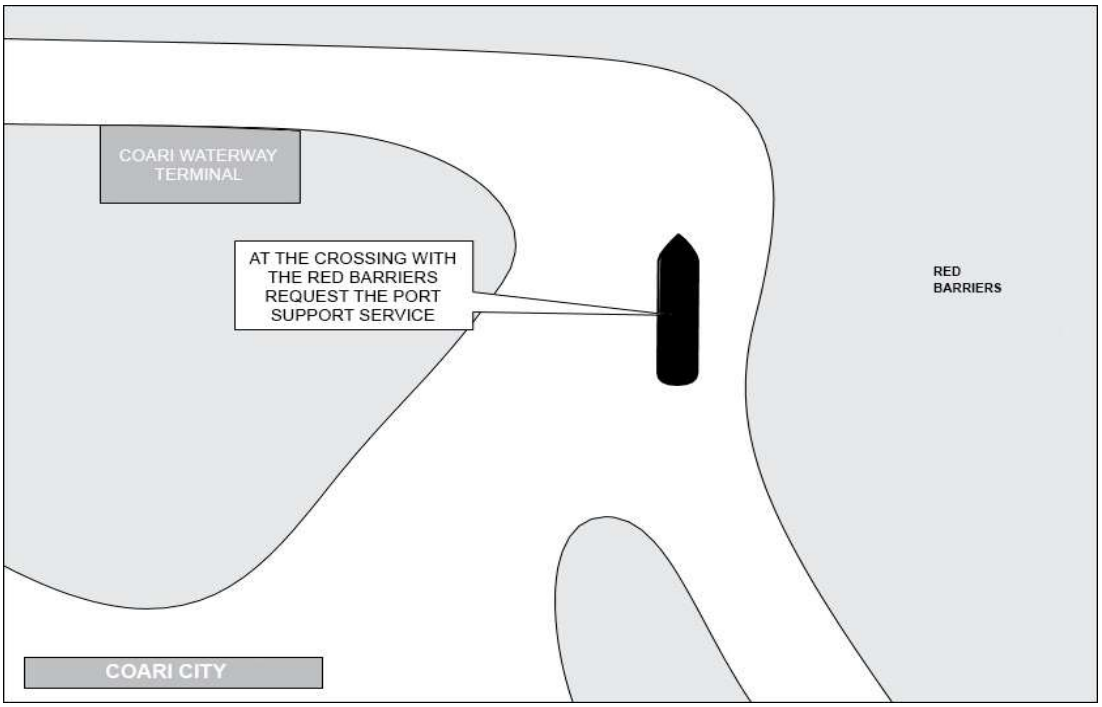
APPENDICES

A - BERTHING ITINERARY AT THE OIL PIER

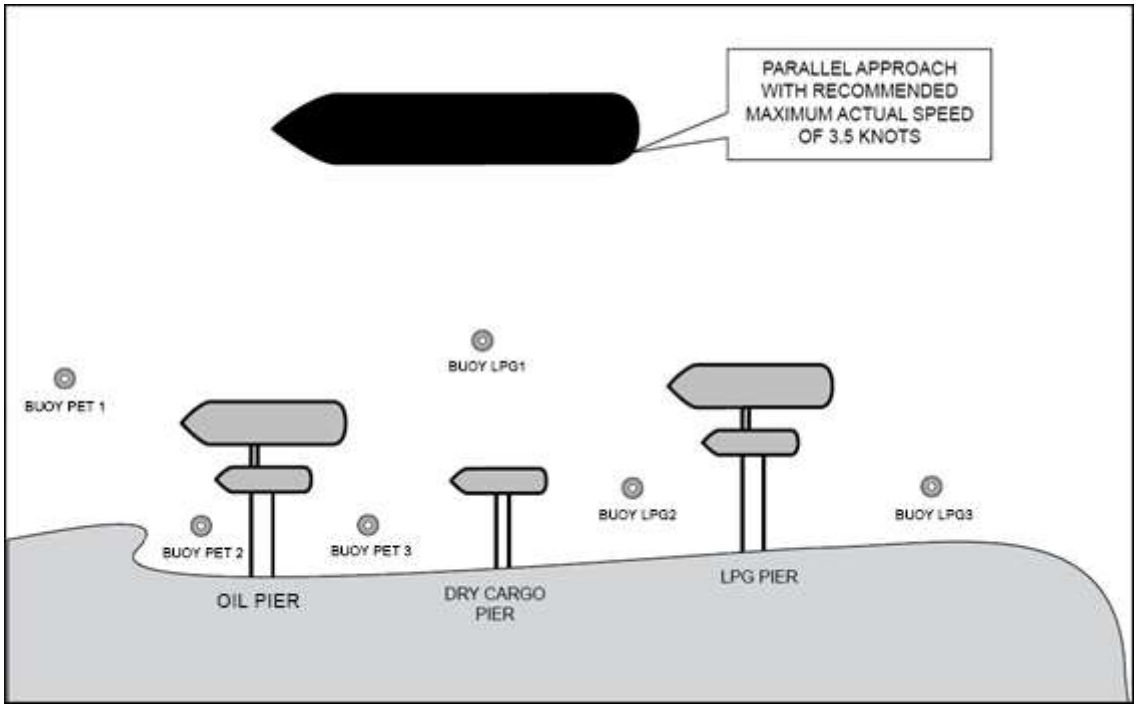
A1 – TA-COARI APPROACH – ETA CONFIRMATION



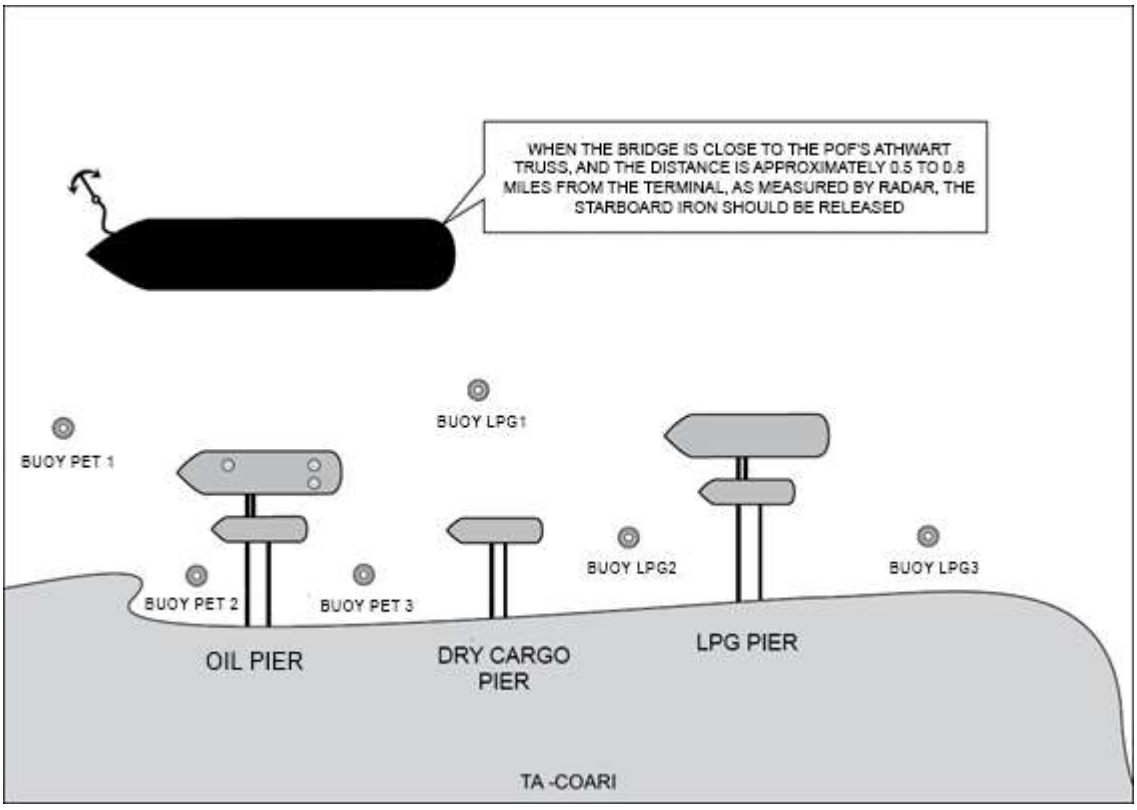
A2 – PORT SUPPORT REQUEST



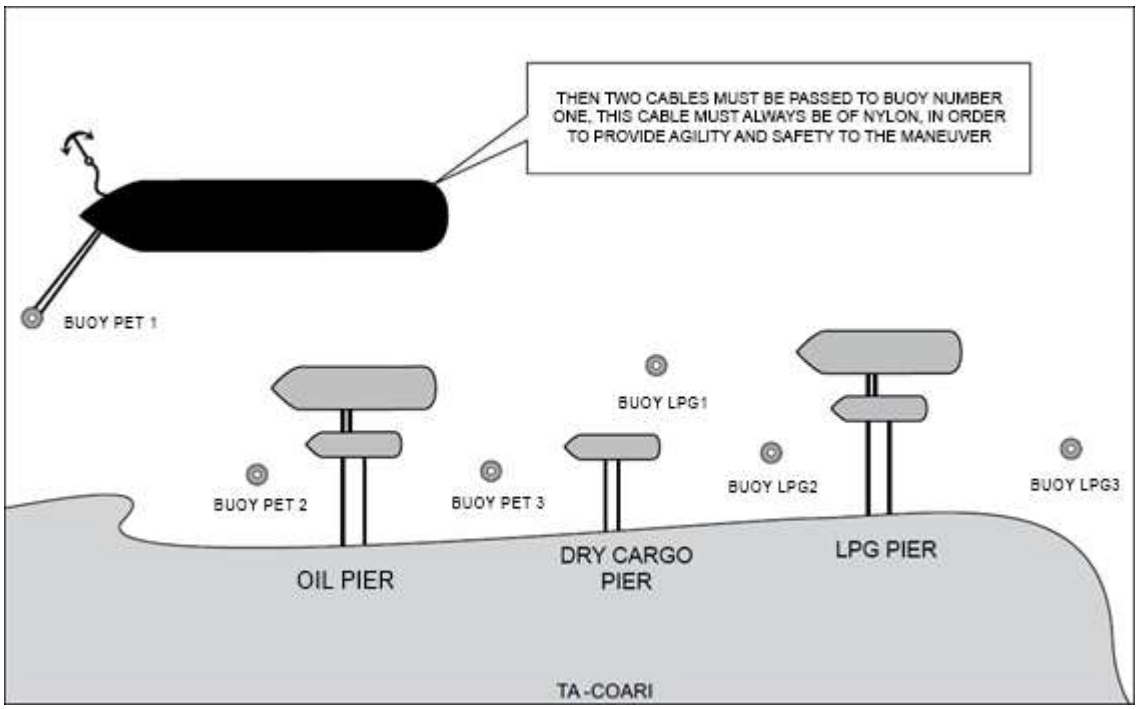
A3 – BERTHING APPROACH



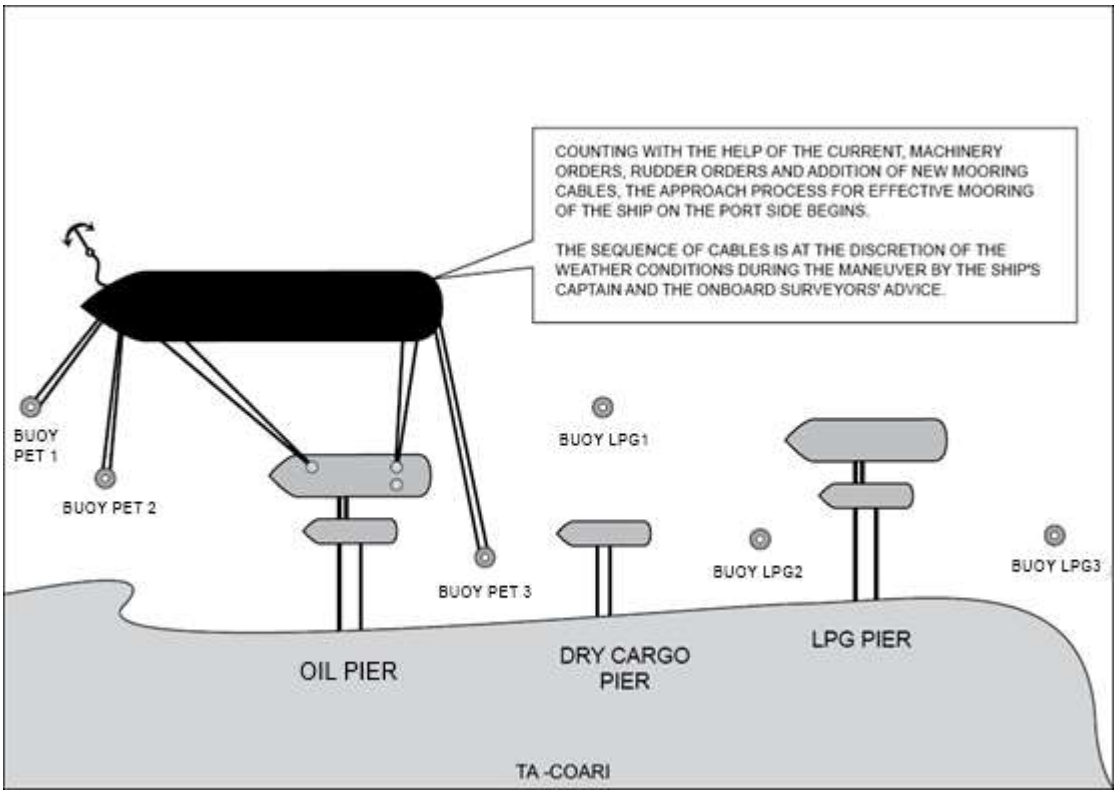
A4 – ANCHOR LAUNCH



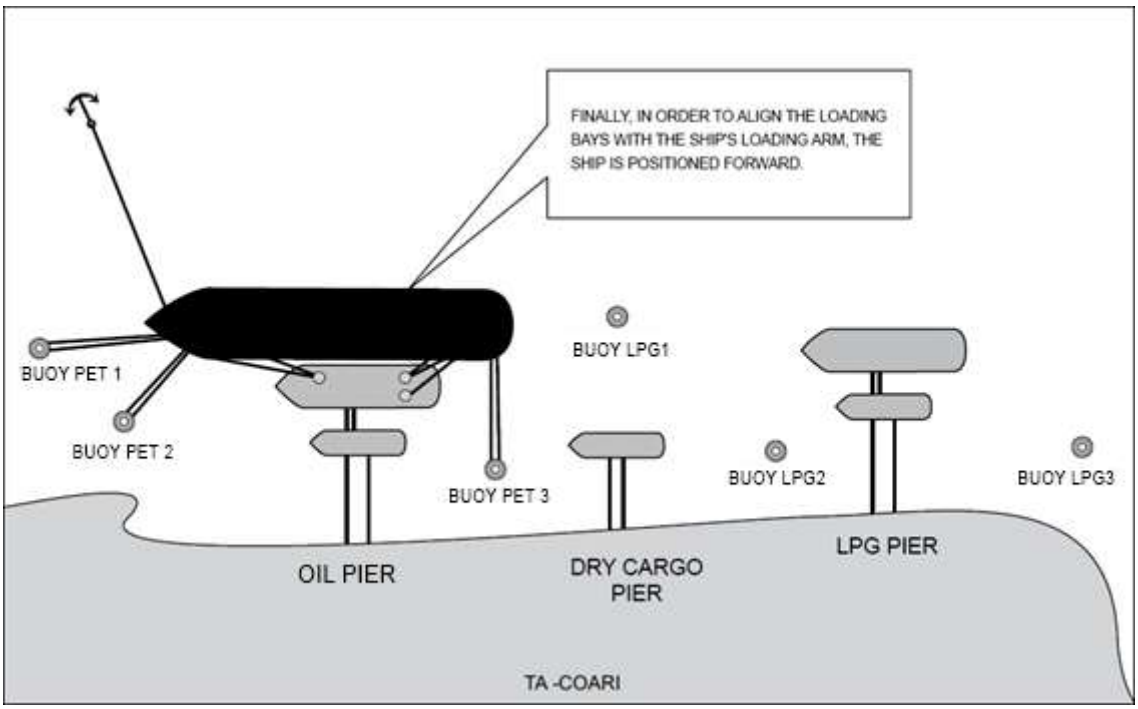
A5 – MOORING START



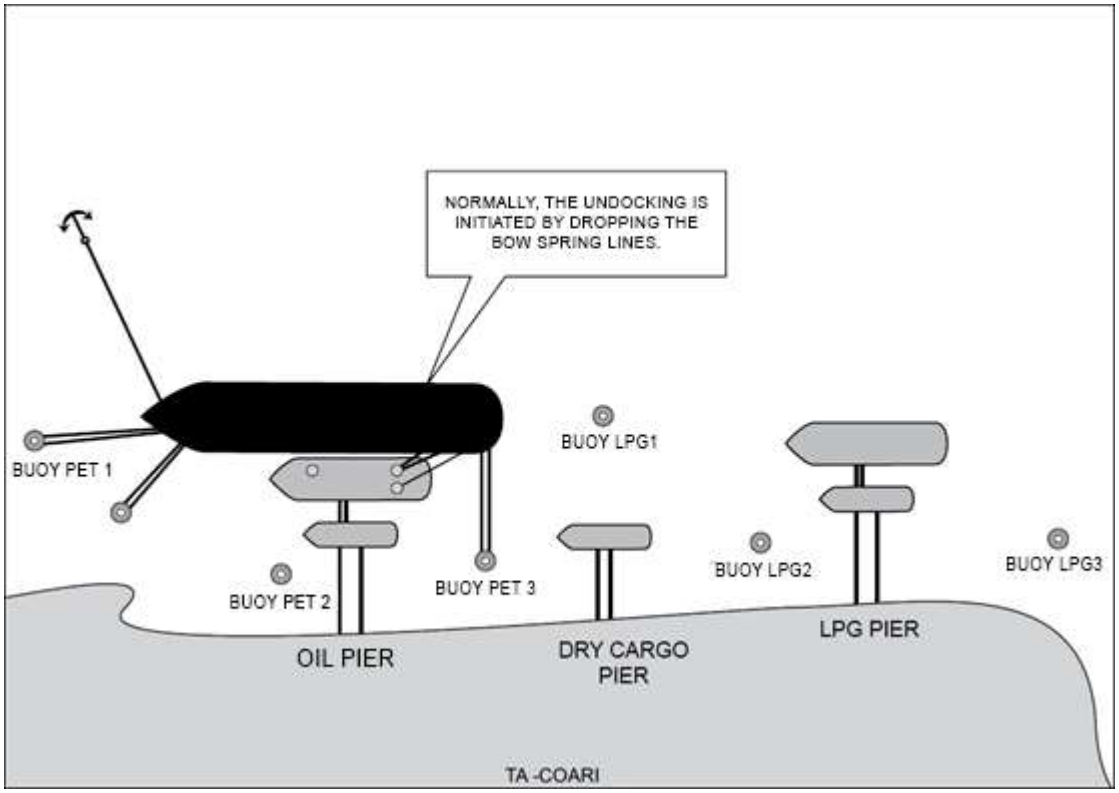
A6– MOORING



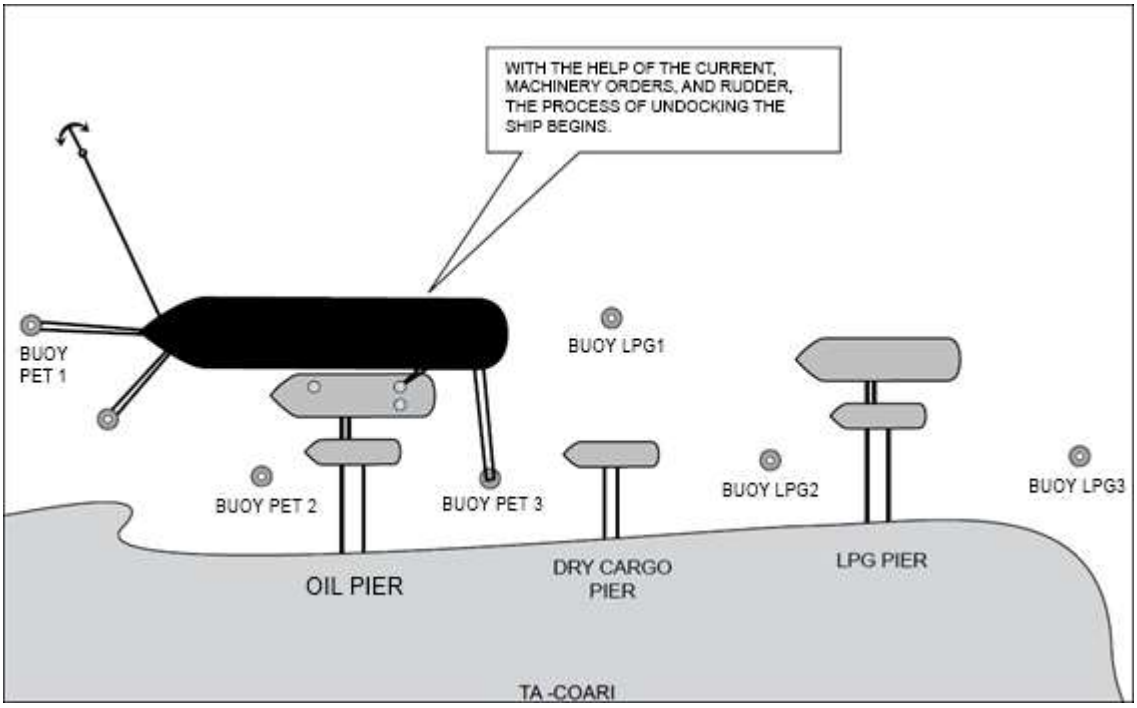
A7– SHIP MOORED



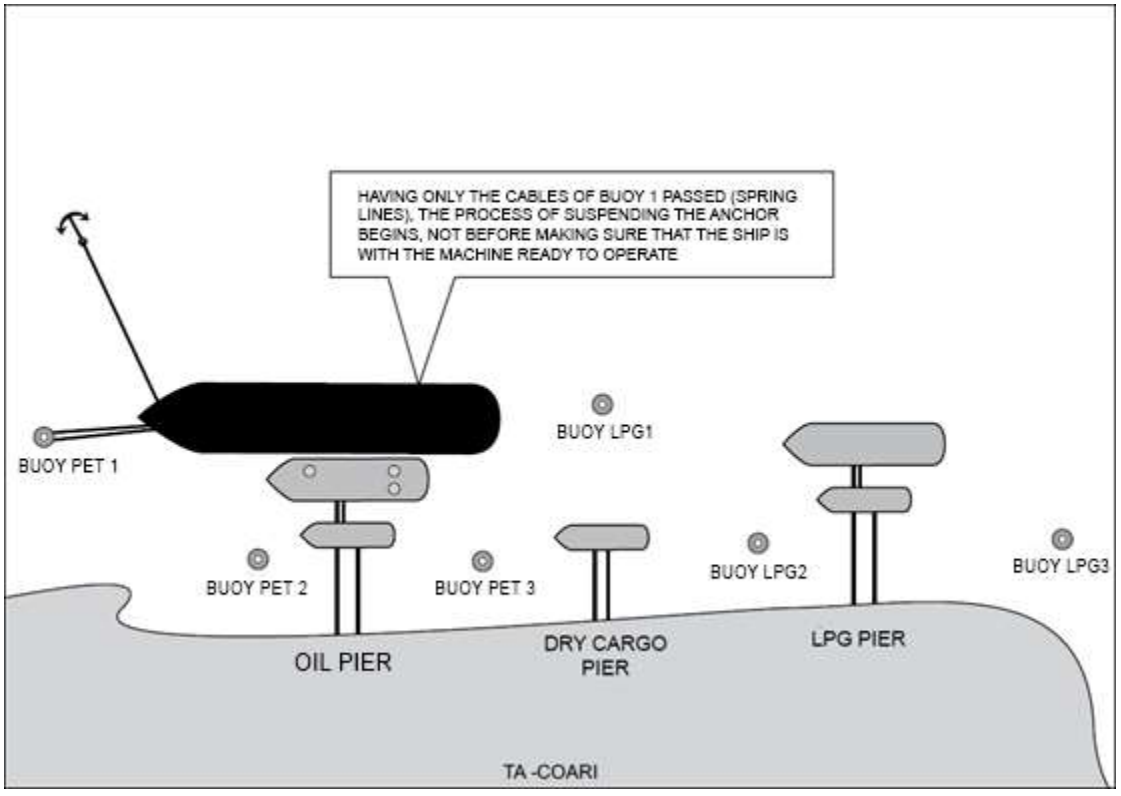
A8– START OF UNBERTHING



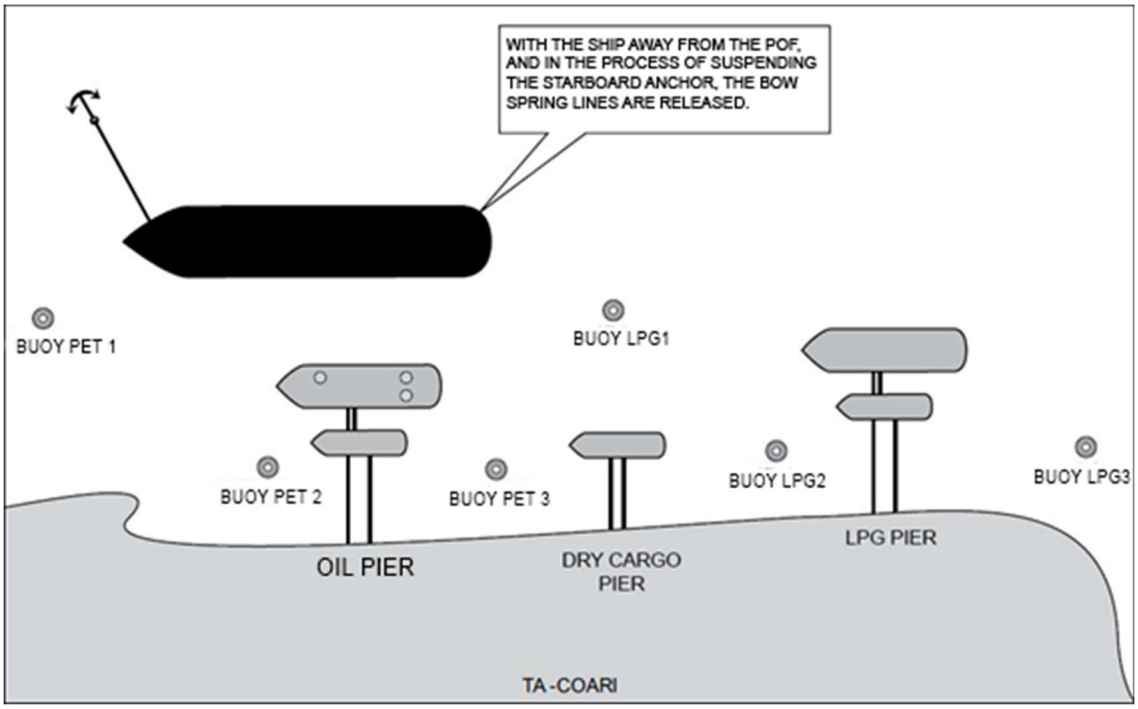
A9– RELEASE OF THE BOW AND STERN ATHWART



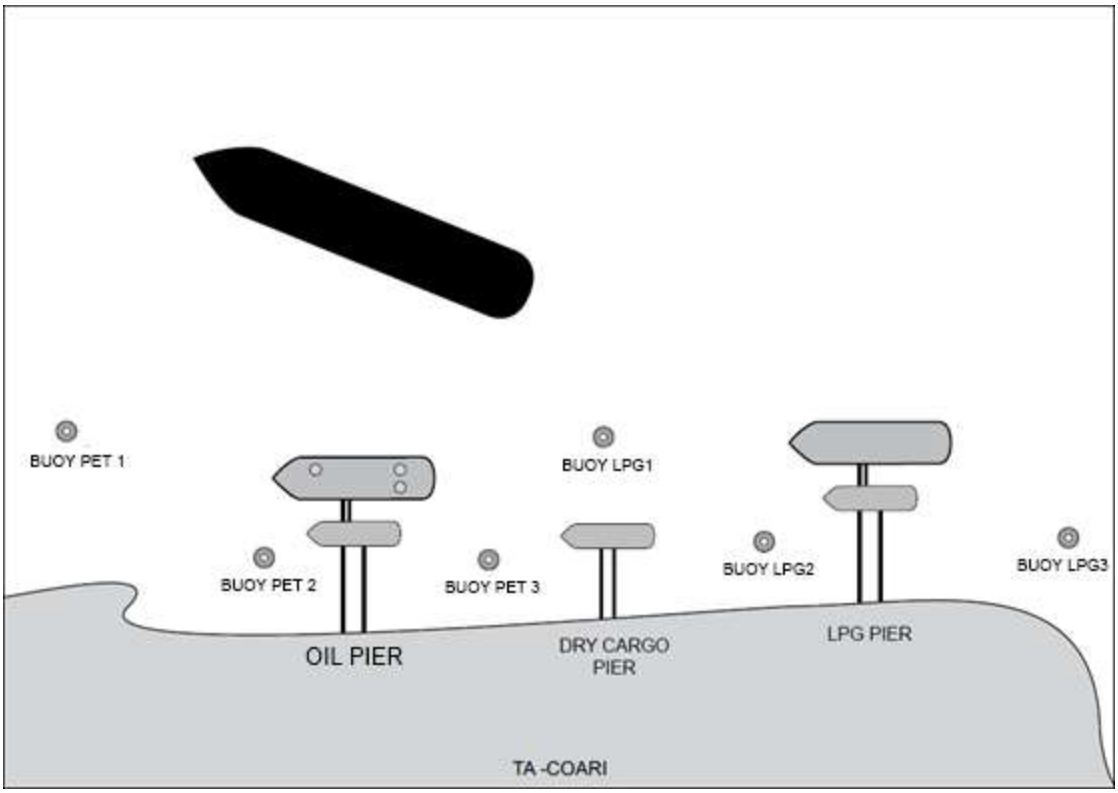
A10– RELEASE OF STERN SPRING LINES



A11– START OF ANCHOR SUSPENSION

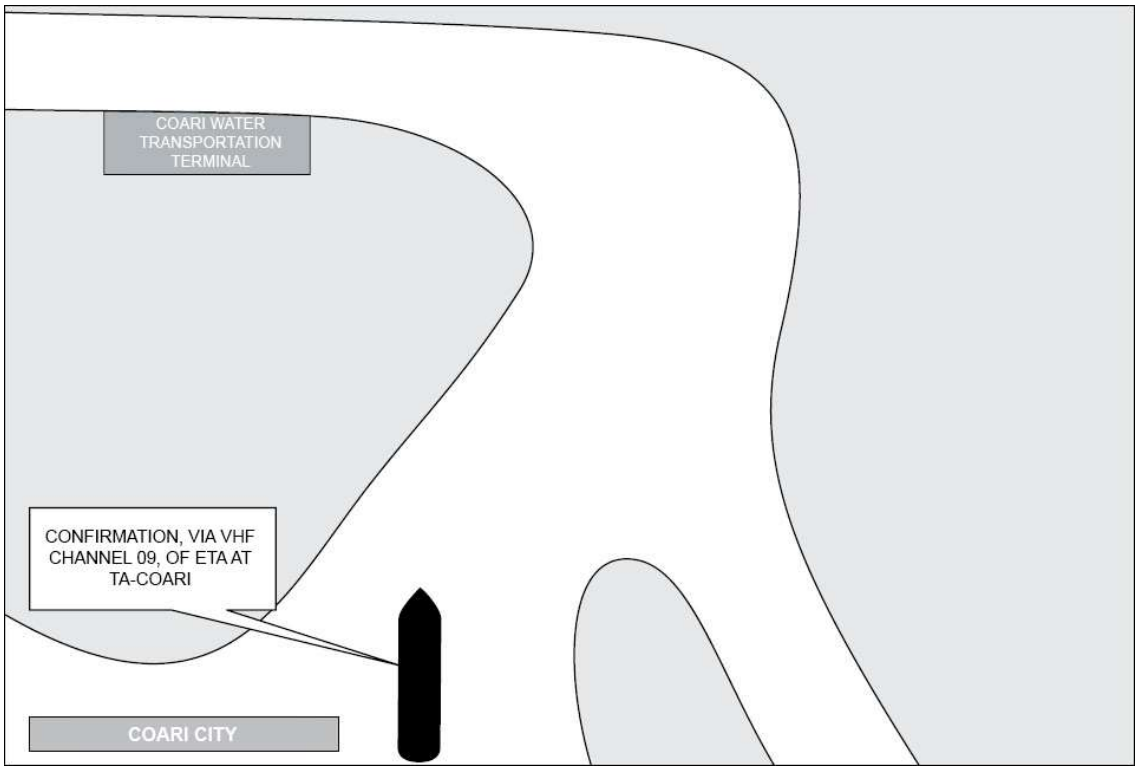


A12– PLACING THE ANCHOR ON TOP AND STARTING THE STARBOARD SIDE TURN

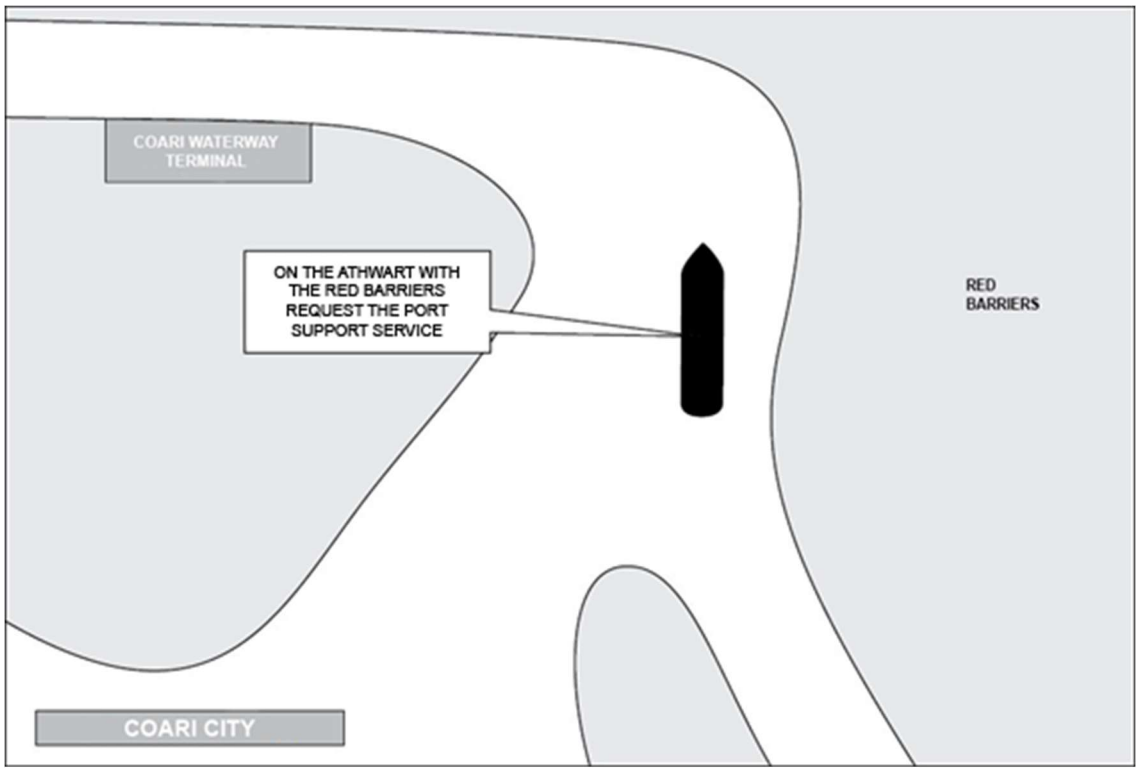


B – SCRIPT FOR MOORING AT THE GLPPIER

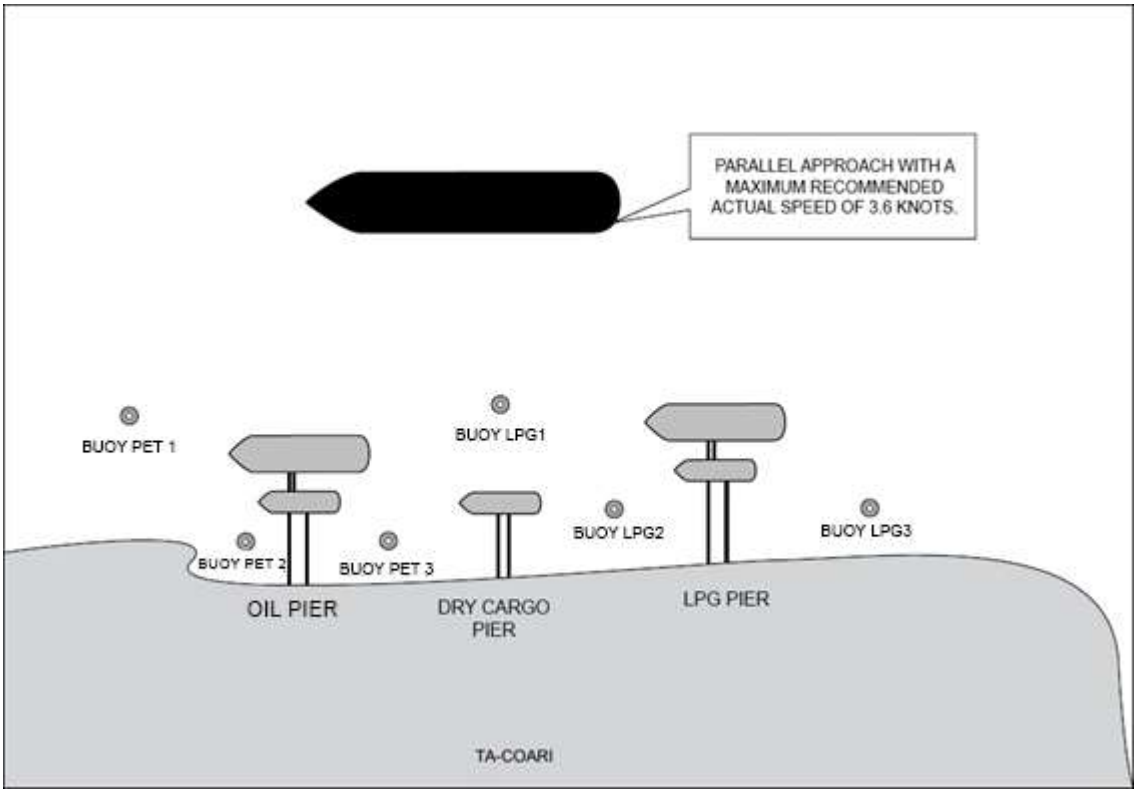
B1 – TA-COARI APPROACH – ETA CONFIRMATION



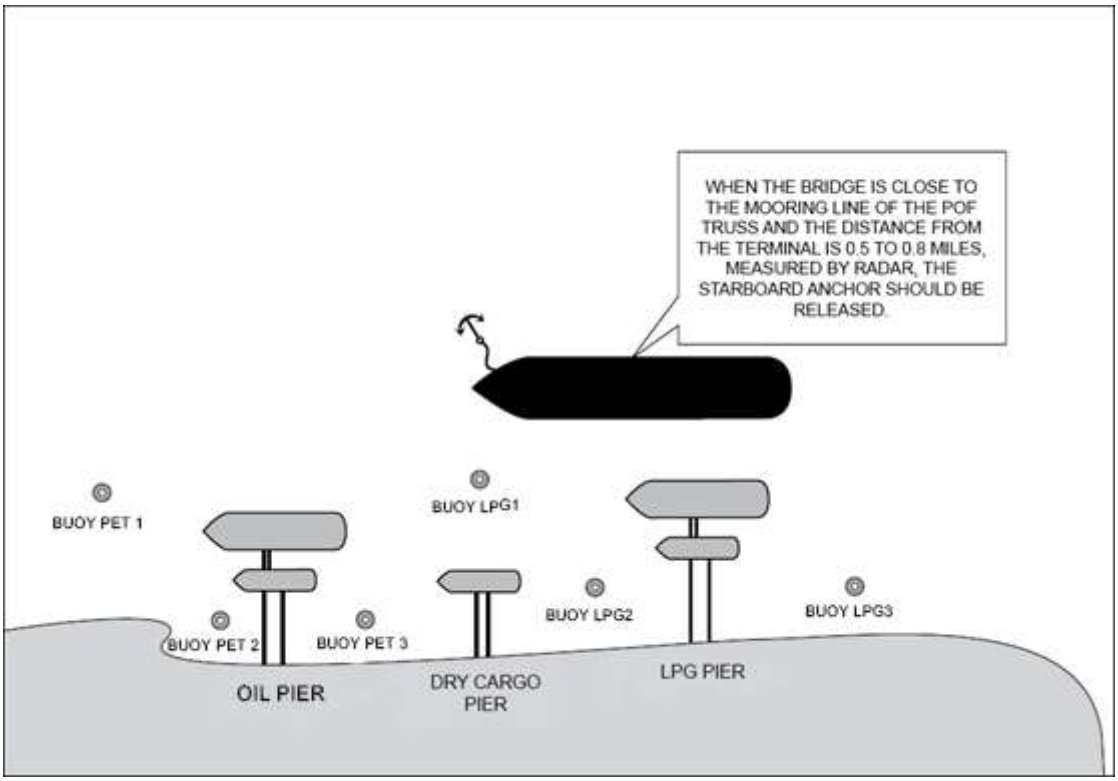
B2 – PORT SUPPORT REQUEST



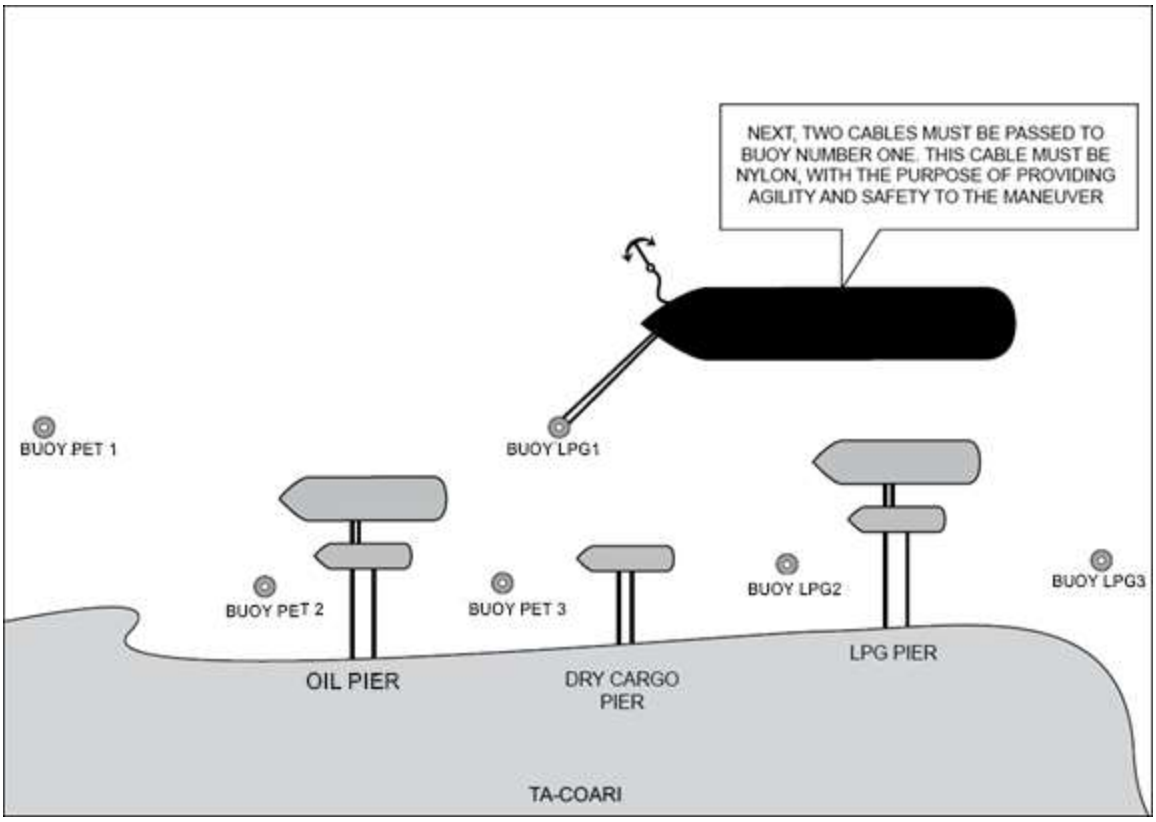
B3 – APPROACH TO BERTHING



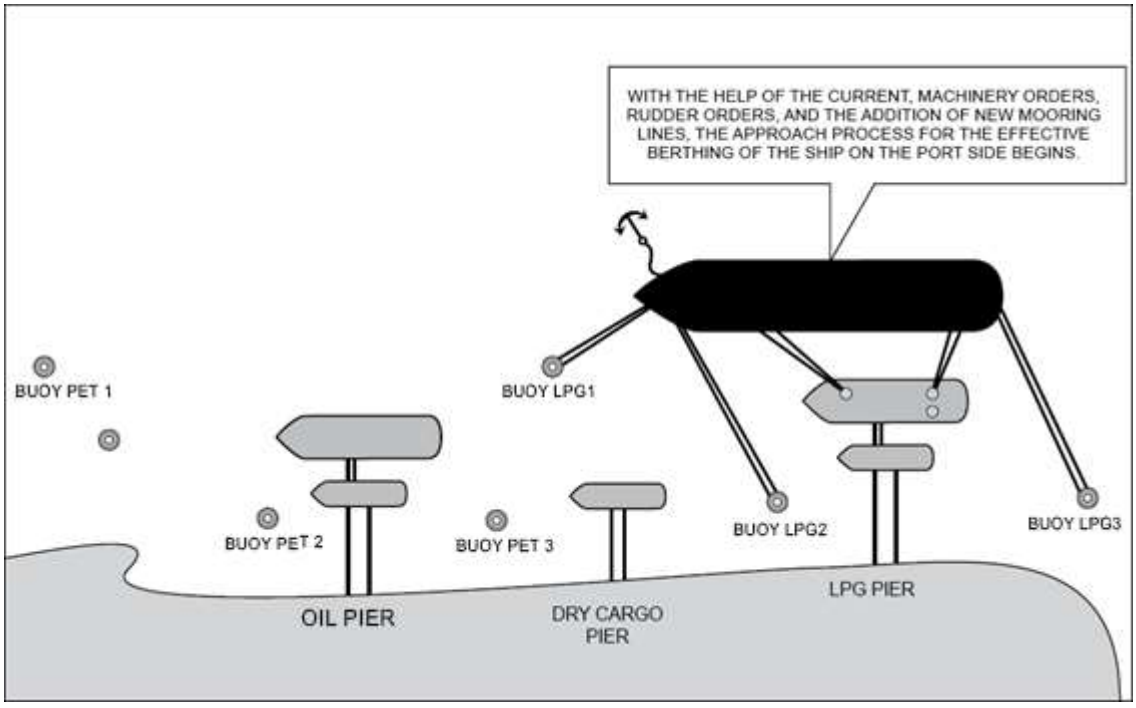
B4 – ANCHOR RELEASE



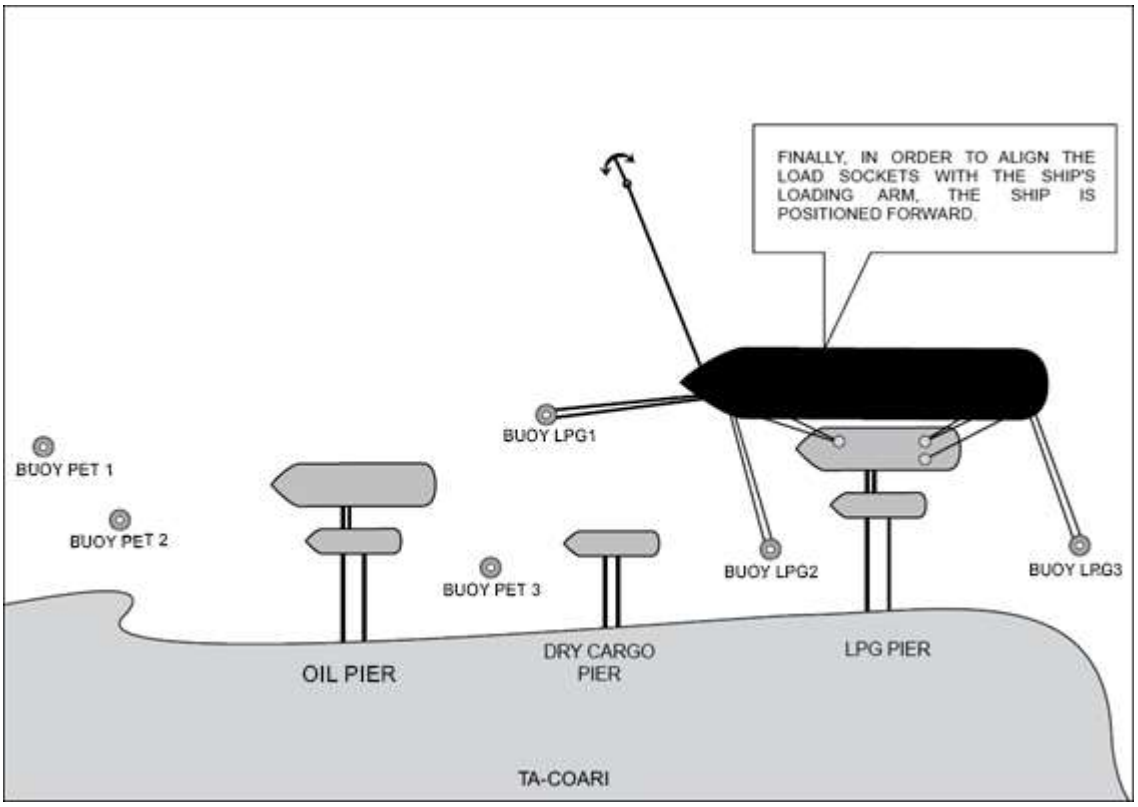
B5– START OF MOORING



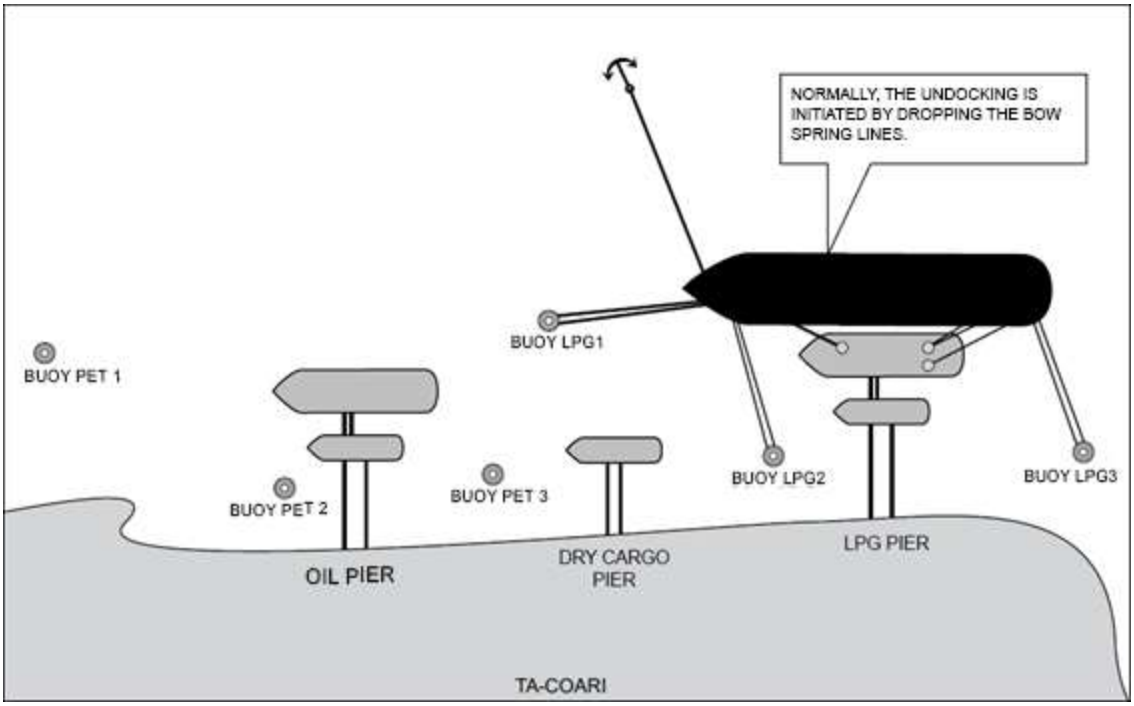
B6– MOORING



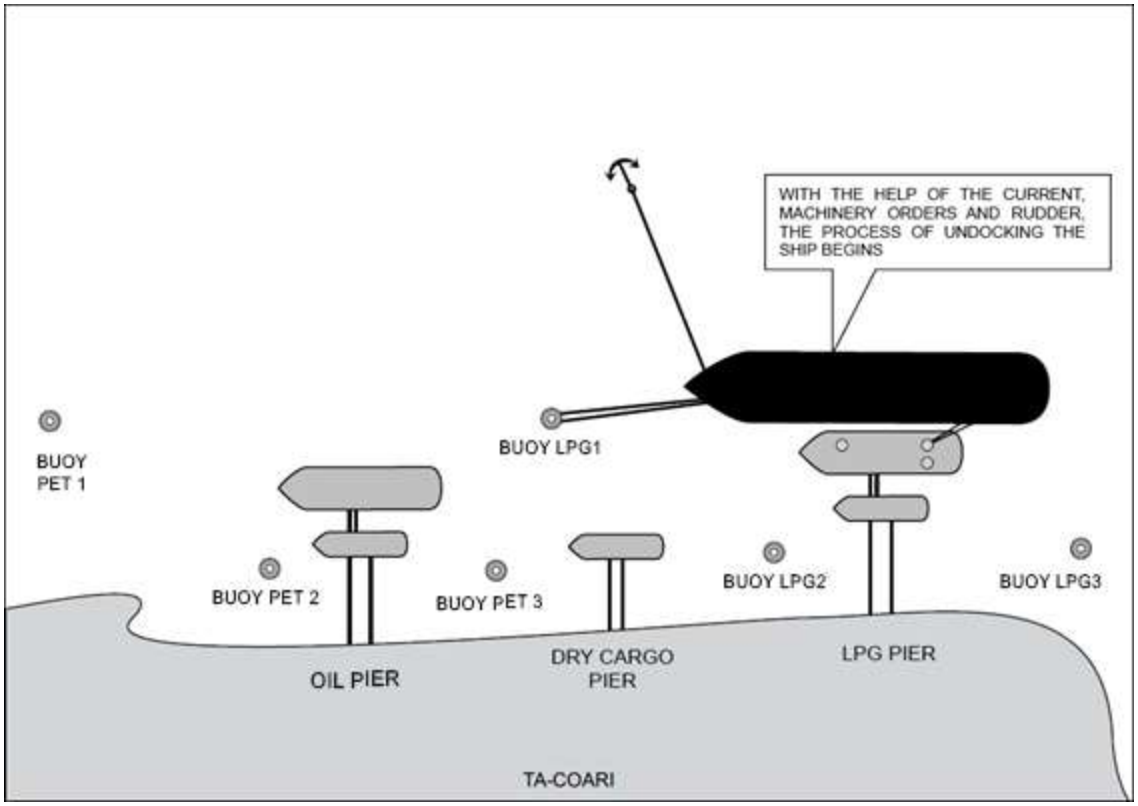
B7– SHIP MOORED



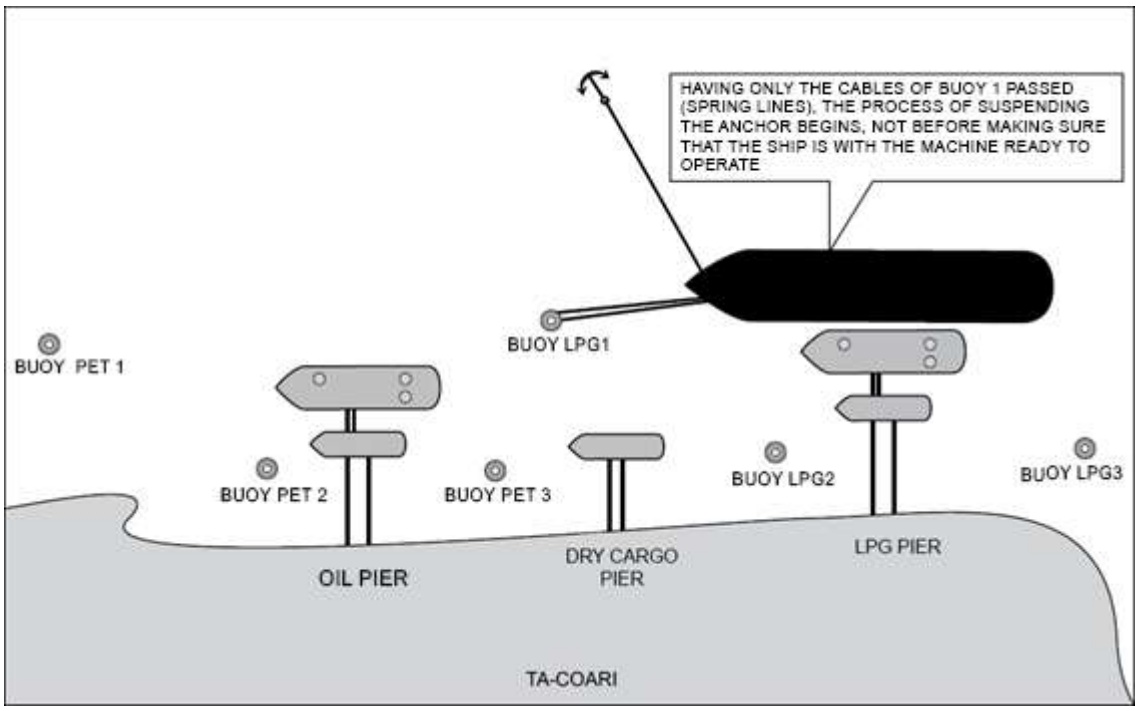
B8– START OF UNBERTHING



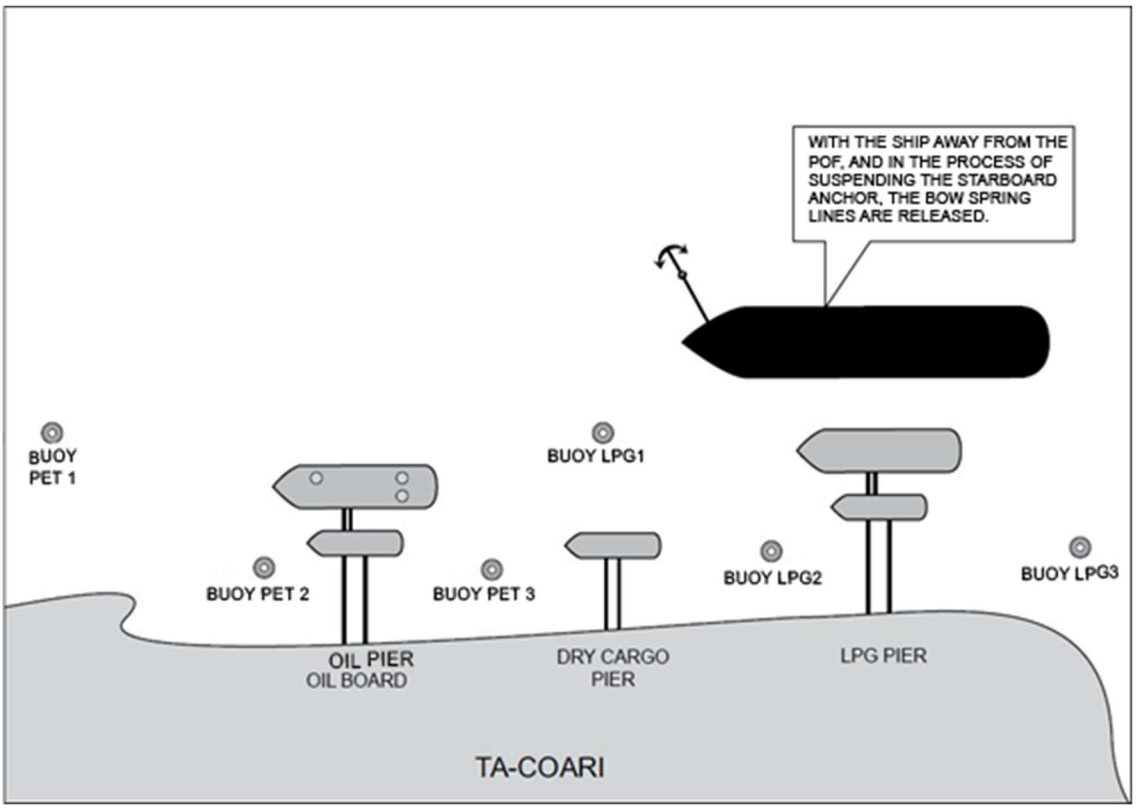
B9– RELEASE OF THE BOW AND STERN ATHWART



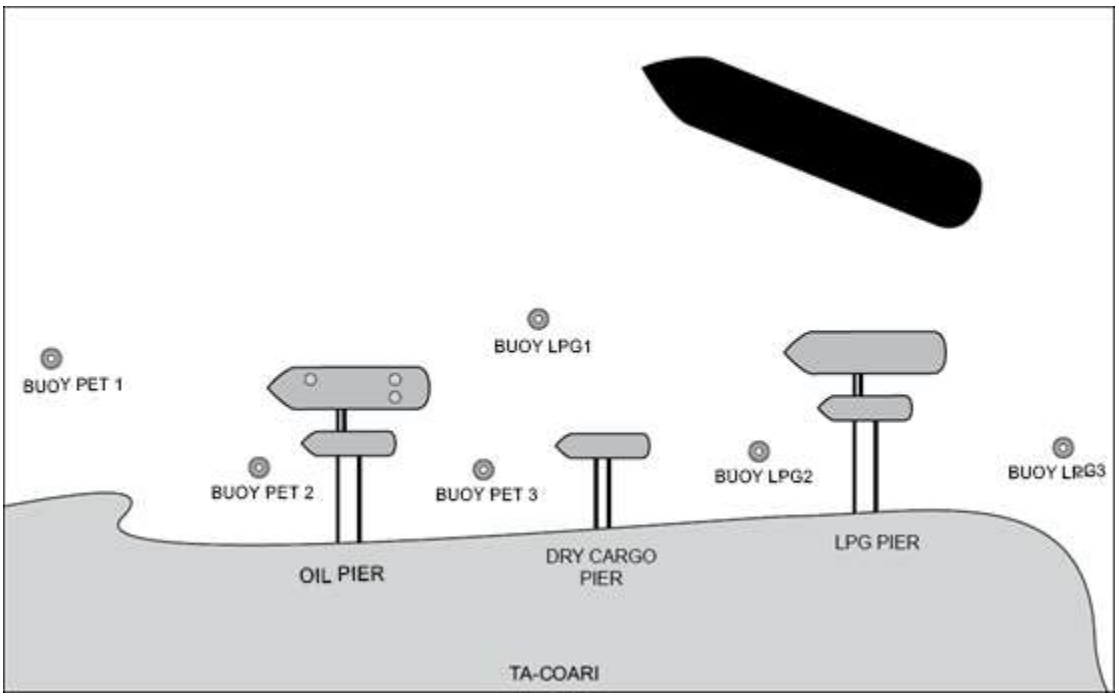
B10– RELEASE OF STERN SPRING LINES



B11– START OFANCHOR SUSPENSION



B12– PLACEMENT OF THE ANCHOR ON TOP AND START OF STARBOARD SIDE ROTATION



C– TA-COARI PORTS (BASIC SCHEME)