



PORT INFORMATION

Terminal Information Booklet (TIB)

Coari Waterway Terminal -
COARI WT
Coari, Amazonas

COARI TERMINAL

Terminal Full Address: Lugarejo de Porto Urucu, s/n

Terminal Contacts

Organization	Time	Telephone / Fax	Route DDP 749	VHF/ UHF Calling Channel	VHF / UHF Working Channel
Management – Coari WT					
Shift Supervisor	24 hours / 7 days	(55 97) 3303-2684	2684	03	03
Control Room	24 hours / 7 days	(55 97) 3303-2683	2683	03	03
POF-1 berth		(55 97) 3303-2619	2619	06/09	06/09
POF-2 berth		(55 97) 3303-2618	2618	06/09	06/09
Nautical Inspector's Room		(55 97) 3303-2636	2636	03	03
Safety (HSE)		(55 97) 3303-2638	2638	04	04
Gatehouse		(55 97) 3303-2622	2622	05	05

Port Services

Organization	Contact	Telephone	E-mail	VHF/UHF Channels	
				Calling	Working
Port Authority	Officer on Duty	(92) 2123- 4926	cfaoc.secom@marinha.mil.br	16	16

INTRODUCTION

This Port Information was prepared by Petrobras Transporte S.A. (**TRANSPETRO**) which operates the Coari Waterway Terminal (COARI - WT)

It provides essential information for vessels seeking to operate at the terminal. It is distributed to stakeholders in the Organized Port and to National Authorities. The Port Information is available in Portuguese and English.

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

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

TRANSPETRO will analyze any suggestions, recommendations or corrections to the matters addressed herein, in order to improve the content. If mistaken information is found that needs to be corrected, please contact:

Coari Waterway Terminal – COARI - WT

Coari Operation Sector Management
Lugarejo do Porto de Urucu, s/n
Margem direita, Zona Rural
69.460-000 Coari– AM
Phones: +55 (97) 3303-2688
+55 (92) 3182-3443

Petrobras Transportes S/A - TRANSPETRO

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

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

<https://transpetro.com.br>

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REVISIONS

Revision	Changes	Date	Preparation	Approval
V.0	Initial Version	10/06/2026	Nautical Advisor: Patrick Cuesta Telles Arevalo ON Jacqueline Ferreira Vieira Ives Marcelo Xavier	Nautical Advisor: Patrick Cuesta Telles Arevalo -

1. Emergency Procedures

1.1 GENERAL

EMERGENCY CONTACTS

Organization	Opening Hours	Acronym	Telephone	VHF / UHF Calling	VHF / UHF Working
Port Authority	24 hours	CFAOC	(92) 2123-4926	16	Port Authority
Pier-1 operator's gate	24 hours	POF-1	(97) 3303-2619	03	Pier-1 operator's gate
Pier-2 operator's gate	24 hours	POF-2	(97) 3303-2618	03	Pier-2 operator's gate
Coari-WT Control Room	24 hours	–	(97) 3303-2683	03	Coari-WT Control Room
Maintenance Team	24 hours	–	(97) 3303-2695 (97) 3303-2609	04	Maintenance Team
Operation Sector Management	7:30 am to 4:30pm	–	(92) 99112-4831	-	Operation Sector Management
Manaus Fire Department	24 hours	–	193	–	Manaus Fire Department
Coari Civil Defense	24 hours	–	(97) 98802-9347	–	Coari Civil Defense
Coari Municipal Department of the Environment	8:00 am to 5:00pm	–	(97) 99903-3704	–	Coari Municipal Department of the Environment
Environmental Protection Institute	24 hours	IPAAM	(92) 2123-6700	–	Environmental Protection Institute

Table 1

ENVIRONMENTALLY SENSITIVE AREAS

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

GENERAL DESCRIPTION OF THE EMERGENCY RESPONSE ORGANIZATION

The following table lists the Organizations responsible for dealing with possible emergencies involving vessels arriving at the Terminal.

Type of Incident	Responsible Organization	Other Organizations Involved			
Channel Collision	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 Vessel	Vessel	TRANSPETRO	Fire Department	Civil Defense	Port Authority
Fire at Berth	TRANSPETRO	Fire Department	Civil Defense	Port Authority	
Pollution	TRANSPETRO or Vessel	Port Authority of Coari	Department of the Environment	Ipaam	Ibama

Table 2

CONTINGENCY PLANS

The Emergency Response Plan (PRE) is Coari–WT's plan for emergency response at 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 local HSE (Health, Safety and Environment) department is responsible for updating it.

Coari-WT has an Emergency Response Center (CRE), equipped with modern equipment and various facilities for use in accidental pollution. Intensive training sessions are held periodically to ensure that Terminal employees are prepared to act in accordance with the PRE.

Located at a strategic point, it allows quick action in the fight against emergencies. Containment booms, oil skimmers and other equipment and materials necessary for the tasks are stored at the Terminal. The work vessels, support vessels, tankers and oil collection vessels are moored at the dry cargo pier and near the oil pier, in a permanent state of readiness.

The Terminal has a support boat for patient travel to Coari. A Nursing Technician works during business hours, a time when the largest number of people are present due to maintenance and construction work.

The most serious cases, or those that occur outside of business hours, will be referred to the municipal hospital, located in the city of Coari (about 16 km from the Terminal).

PREVENTIVE MEASURES ON BOARD

Emergency and fire-fighting equipment must be kept ready for use while the vessel remains moored. Fire hoses in service must be extended one forward and one aft of the cargo manifold.

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 must be taken to prevent oil from polluting the river.

PUBLIC RESOURCES TO COMBAT EMERGENCIES

At the Port of Coari, Transpetro, through Coari-WT, and other operational units activated under the Emergency Response Plan—has resources that can be used to mitigate river pollution incidents.

For other emergencies, public organizations provide resources according to their intended purposes.

LOCAL EMERGENCY SERVICES

The Civil Defense, the Military Police and the Coari Hospital Unit are activated according to table 1 of the Emergency Procedures item.

MUTUAL AID PLANS

The following institutions participate in the Mutual Aid Plan (MAP), and their resources are available as previously agreed upon in that plan:

- Amazonas Military Police Fire Department
- Transpetro / Coari-WT
- Petrobras / Isaac Sabbá Refinery (REMAN)
- Petrobras / UO-AM (Amazon Exploration and Production Operations Unit)
- Petrobras Distribuidora / BR Distribuidora (UNIMAN)

1.2 OIL SPILLS AND VAPOR RELEASE

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

TERMINAL COMBAT CAPABILITY

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 Coari-WT.

RESPONSE CAPACITY OF THE ENVIRONMENTAL AGENCY

The Coari Department of the Environment lacks the resources to respond to an oil spill in the river.

RESOURCES AVAILABLE FROM MUTUAL AID 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.

COMBATING A MINOR EMERGENCY

A minor emergency is one that can be controlled and extinguished using local resources. Local resources are described in the PRE.

COMBATING A MEDIUM EMERGENCY

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

COMBATING A MAJOR EMERGENCY

The Coari-WT PRE lists the actions to be taken and the responsible parties for each type of anticipated event that may occur within its facility, pipeline corridor, or vessels and involve 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.

1.3 FIRE AND EXPLOSION

Procedures to be adopted are found in the Coari Terminal's Emergency Response Plan – PRE.

1.3.1 EVACUATIONS (ESCAPE ROUTES AND MUSTER POINTS)

Primary escape route for vessels: Lifeboat on the side facing away from the terminal.

The vessel and its crew must be familiar with the terminal's emergency siren signals, as specified in the initial letter signed by the ship and the terminal.

1.4 BERTH COLLISION / DAMAGE

In case of collision or damage to the berths, the masters must inform the Safety Inspector, the Brazilian Navy and the protecting agent.

1.5 MEDICAL EMERGENCY

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

1.6 SECURITY BREACH

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

1.7 MAN OVERBOARD

Masters must IMMEDIATELY raise the Man Overboard emergency on VHF channel 16, inform the Brazilian Navy, the Terminal Safety Inspector and the vessel's Protecting Agent.

1.8 VESSEL MOVING AWAY FROM THE BERTH

Shipboard personnel shall alert the safety inspector as soon as possible. The Terminal has tugboats to assist in controlling the vessel's movement away from the berth and restoring its position.

1.9 EMERGENCY SHUTDOWN (ESD)

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

1.10 INCIDENT NOTIFICATION POLICY

The instructions for notification of incidents must be followed by the Captains according to:

- **Pollution Incident**

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

- **Safety Incident**

Similar action as for pollution incident.

- **Security Incident**

Generate a report as recommended in the ISPS Code.

2. Health, Safety and Environment Policies

2.1 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Crew members in areas outside the superstructures must remain wearing their PPE. Crew members in transit "going to" or "coming from" the Terminal gatehouse, will be exempt from the use of PPE.

2.2 ACCESS TO TERMINAL (CREW ASHORE AND VISITORS TO VESSEL)

For more information, the Terminal port security supervisor, who is trained in accordance with the requirements required by the IMO, may be contacted (see contacts table).

2.3 DECLARATION OF SECURITY (ISPS CODE)

The terminal has implemented security protection measures applicable to vessels and port facilities, in accordance with IMO requirements, through the adoption of the ISPS Code.

The terminal operates normally at security level 1.

2.4 ALCOHOL AND OTHER DRUGS

According to ISGOTT, item 13.4, for the sake of employee health and safety, the use of alcohol or other drugs has a detrimental effect on performance, behavior, and safety practices in the workplace; therefore, such use is prohibited at the Terminal..

Transpetro, with a view to supporting national and international authorities in combating drug trafficking and alcohol use in prohibited locations, complies with relevant preventive measures regarding the use, possession or criminal distribution of these substances.

2.5 SMOKING

The terminal does not have safe and demarcated areas for smoking, so no one is allowed to smoke within the limits of the terminal facilities.

2.6 PORTABLE ELECTRONIC EQUIPMENT AND NAKED LIGHTS

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

On the deck and in adjacent compartments, only intrinsically safe and explosion-proof electric lighting may be used, and it must strictly comply with the safety recommendations set forth in ISGOTT (latest edition) while the ship is at the pier.

It is forbidden to take photos of any area, equipment or people within the Terminal facilities without prior authorization from the Terminal management.

2.7 MAINTENANCE ON BOARD WHILE BERTHED

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

2.8 MATERIAL HANDLING

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

2.9 SAFETY DATA SHEET (SDS)

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

2.10 BENZENE AND H₂S

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

Transpetro encourages shipmasters to require crew members to use Benzene and H₂S detectors when outside the vessel's superstructure.

2.11 STATIC ELECTRICITY

Attention must be paid to precautions for preventing ignition risks from static electricity sparks during measurements, sampling, connections and cargo/discharge operations.

3. General Information

3.1 REFERENCE CHARTS AND DOCUMENTS

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

Nautical Charts

Area	Chart Number	
	Brazil (DHN)	British Admiralty
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	-
Approaches to Port of Coari	4108 B	-
Port of Coari	4108 B	-
Coari Terminal Port (Coari-WT)	4108 B	-

Table 3

Other Publications

Type / Subject	Editor or Source
Rules and Procedures of the Western Amazon River Port Authority	NPCF-CFAOC
Sailing Directions for the Northern Region	-
Atlas of the Hydrography of the Solimões River from Manaus to Tabatinga	4150

3.2 VESSEL/TERMINAL COMMUNICATION POLICY

See items below.

3.3 DOCUMENTS AND EXCHANGES OF INFORMATION

The items listed below must be provided by the Terminal or the Vessel, as indicated in the table:

Information	Prepared by:			Delivered to:			Remarks
	Terminal	Vessels	Both	Terminal	Vessels	Both	
Before Arrival							
Estimated arrival (ETA) and vessel information		X		X			According to ANNEX A1
Port support request	X				X		According to ANNEX A2
Before Cargo or Bunker Transfer							
Details of cargo / slop / ballast on board		X		X			According to Initial Letter
Essential information to the operation (complete on site)	X				X		According to Appendix C
Ship/Shore Safety Checklist			X			X	According to Annex II Part "A" – Transpetro Ship/Terminal Joint Operating Procedure
During Cargo or Bunker Transfer							
Repeat Ship/Shore Safety Checklist			X			X	According to Annex II Part "A" – Transpetro Ship/Terminal Joint Operating Procedure
After Cargo or Bunker Transfer, before departure							
Information required for unberthing the Vessel			X			X	Inform the quantities of fuels and water on board
After unberthing, at the exit of the Port							
Information relating to Port departure data		X			X		Departure time from the port and ETA in Manaus

Table 4

3.4 OPERATING HOURS

See item 5.5.3 GENERAL RESTRICTIONS

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

3.5 LOCAL TIME

Brasília Time in UTC-04:00

3.6 COMMUNICATION LANGUAGES

The communication of the Vessel/Terminal must be made in Portuguese or English.

3.7 USEFUL PHONE NUMBERS

See item **10. Contacts**

3.8 ENVIRONMENTAL MONITORING PROCEDURES

Crew members on deck duty shall be instructed to maintain uninterrupted surveillance of the areas adjacent to the vessels. If you notice any pollutants in the water or spot any marine or terrestrial wildlife, must notify the safety inspectors or operations technicians.

4. Description of the Port and Anchorages

4.1 GENERAL DESCRIPTION OF THE TERMINAL

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

Coari-WT is designed to transport crude oil and LPG from the Urucu production region, which are received and stored in the terminal's tanks and spheres. The Terminal is connected to the Geólogo Pedro de Moura Operations Base (BOGPM), also known as Polo Arara, in the Urucu production region, via a crude oil pipeline with a nominal diameter of 14 inches and a length of 281 km; an LPG pipeline, which transports crude oil and C5+, and an LPG pipeline with a nominal diameter of 18" and a length of 281 km, which transports LPG.

The terminal has two main floating river piers: one for ships and barges carrying oil, and another for ships and barges carrying LPG; both use loading arms. There is also a floating pier designed for dry cargo, the embarkation and disembarkation of personnel, and as a mooring point for support vessels.

The upstream berth, next to the oil pier, is formed by the Floating Operation Platform (POF-1) and mooring buoys. The Floating Operation Platform is interconnected to a Floating Support Platform (PAF), which is connected to the ground by an articulated walkway, called a truss, which rests on the PAF and has access through a ladder.



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

4.2 LOCATION OF ANCHORAGES

The anchorage area is bounded by the following geographic points, upstream from the entrance to Lake Coari:

Nautical Marks for the Coari-WT Anchorage Point:

Point	Latitude	Longitude	Note
A	04° 04' 00" S	063° 08' 02" W	According to information from the local Pilotage, this position does not interfere with the safety of navigation.
B	04° 03' 02" S	063° 08' 70" W	
C	04° 03' 01" S	063° 08' 06" W	
D	04° 03' 08" S	063° 07' 08" W	

Table 5

For more information, consult the local Pilotage service.

ANCHORING PROHIBITED

In the Coari port area, it is prohibited to anchor vessels outside the designated anchorage zone, as this would pose a risk to navigational safety

ANCHORAGE FOR PILOT BOARDING

- **In Itacoatiara** – In front of the city of Itacoatiara.
- **In Manaus** – The first is located abeam of the Manaus Waterway Terminal (Manaus-WT), on the opposite bank next to the Xiborena coast; the second is located upstream from the Bom Jardim stones, between longitudes 059° 59' 00" W and 060° 00' 00" W.

4.3 APPROACH TO TERMINAL

GENERAL DESCRIPTION

The approach to the terminal takes place along a stretch of river that allows for the navigation of oil tankers with a deadweight tonnage of up to 30,000 DWT and a maximum draft of 8.50 meters (full load) during the flood season, which is reduced to 7.00 meters (load reduced to accommodate the draft) during the dry season.

Vessels may call at the terminal's facilities only during daylight hours, subject solely to berth availability and favorable weather conditions.

When the vessel is passing the city of Coari and heading toward the final approach to Coari-WT, or 1 hour before arrival, the NOR may be issued and the ETA confirmed via marine VHF with the Terminal Control Room. The call will be on channel 16 (sixteen), after which you should switch to another working channel.

When the vessel is abeam of the red cliffs, on the opposite bank from the Esperança community, port support services must be requested. This will be carried out by the boats assisting with mooring, and the vessel will begin to move at reduced speed.

The approach to the Terminal will be made with an actual speed not exceeding 3.5 knots. The starboard anchor must be prepared.

When the vessel's bridge is in the vicinity abeam of the POF truss structure, and the distance from the Terminal is approximately 0.5 to 0.8 miles, as measured by radar, the starboard anchor should be dropped.

With assistance from the current, engine commands, helm commands, and the addition of mooring lines, the process of approaching the vessel to berth it on the port side begins.

NAVIGATION AIDS

Access to the terminal is via a natural channel and is supervised by the Brazilian Navy's Directorate of Hydrography and Navigation. When the ship is aligned with the city of Coari, the engines must be placed on standby; when the ship is aligned with the red cliffs on the left bank and the Esperança I community on the right bank of the Solimões River, the ship must begin to navigate at reduced speed.

4.4 ENVIRONMENTAL FACTORS

✓ WINDS

The predominant wind direction in Coari-WT is Northeast (NE) to Southwest (SW) 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.

A wind speed exceeding 20 knots is a limiting condition for “berthing.” However, it is extremely important for the Master and the Pilots to carefully assess the prevailing environmental conditions in order to ensure safe berthing.

Winds above 15 knots: 7.7m/s, force 4, MODERATE, when the vessel is moored strict attention should be maintained.

Winds above 20 knots: 10.29 m/s, force 5, FRESH; loading/unloading operations must be suspended.

Winds above 25 knots: 12.86 m/s, force 6, STRONG, the loading arms and/or hoses must be disconnected.

Winds above 30 knots: 15.43 m/s, force 7, NEAR GALE, the vessel must be unmoored, and a careful assessment by the Master and the Pilots is extremely important.

✓ WAVES

There are no records of waves capable of impairing berthing maneuvers, unberthing maneuvers, and vessel operations.

✓ RAIN

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

The flood period of the Solimões River is the rainy season in the region, which runs from November to June, with the maximum level in June and July. The low-water season runs from July through October, with water levels at their lowest in October and November.

✓ VISIBILITY

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

During the dry season, sailors may encounter stretches of water with limited visibility due to wildfires.

✓ CURRENTS

In the access channel to the Terminal, the river current reaches a speed of 2 to 4 knots. Easterly winds prevail and affect maneuvering, particularly for unloaded vessels.

During the rainy season, the river's outgoing current may exceed the values mentioned.

✓ RISING AND FALLING WATER LEVELS

With regard to the chart datum adopted, which is the average of the exceptional low water levels, changes in river levels due to flooding or other factors occur as follows:

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

Note: The reference level adopted based on a survey by Portobras is the zero level at Itapeuá, which corresponds to a reading of 7.05 meters on the Coari-WT water-level gauge.

✓ AIR HUMIDITY

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

✓ TEMPERATURES

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

5. Terminal Description

The Terminal is 16 km from the Port of Coari and 281 km from the Urucu production region. It is responsible for distributing Petrobras's (UO-AM, formerly UNBSOL) production from the Polo Arara, whose refined products help supply the North and Northeast regions of the country.

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

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

Handling an average of 20 ships and 20 barges per month, it moves a volume of 270,000 m³ of oil and LPG during loading operations. Coari-WT has two berths, one for loading Oil and the other for loading LPG.

All of the LPG produced at the Polo Arara passes through Coari-WT, where it is loaded onto ships and barges to supply the Northern Region, the states of Maranhão, and part of Ceará.

All oil produced at the Polo Arara also passes through Coari-WT and, loaded on ships and barges, is transported to the Manaus Refinery (REMAN). After being processed into refined products such as diesel, gasoline, and LPG, it is sent to REMAN's tanks and spheres. It is then sent to the fuel distribution companies that serve Manaus, other municipalities in the state of Amazonas, and other states in the Northern Region.

5.1 TERMINAL LOCATION

5.1.1 COORDINATES

The Terminal is located at the following coordinates:

- **03° 56' 20" S**
- **063° 10' 00" W.**

Charts, nautical publications, and information for mariners: Amazon River, 4108 B – From Cipotuba Island to Padre Island.

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

5.1.2 GEOGRAPHICAL LOCATION

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



Figure 1

5.2 TERMINAL LAYOUT



Figure 2

5.3 VESSEL ACCEPTANCE CONDITIONS

While the vessel is in port, various risk management measures are implemented to minimize risks and ensure safe operations.

Vessels with a history of unresolved problems will not be accepted and will be denied permission to operate at the petrochemical pier. Petrobras/Transpetro will not be held responsible for actions that fail to comply with the standard deadlines for this purpose.

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

5.4 MOORING MANAGEMENT AND CONTROL

The berthing and unberthing maneuvers of vessels at the Coari Waterway Terminal must always be carried out with the participation of two trained pilots, with the use of tugboats.

Whenever necessary, the vessel's turning maneuvers must take place upstream of the piers, at a safe distance from the Oil Pier; turning directly in front of the piers is prohibited.

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

During berthing, one (1) professional from the Vessel and Terminal Inspection and Operational Monitoring Group (GIAONT) and one (1) operations technician are stationed on the Pier, and 01 to assess the maneuver and guide the vessel's positioning relative to the loading arms. A Mooring Team is on hand to secure the mooring lines to the bollards and quick-release blocks.

At each pier, there is one (1) Operations Technician and one (1) Operations Assistant, who are responsible for operational oversight, exchanging information with the vessel, communications, preparing documentation, and monitoring the vessel's berthing and position. The Operations Technician and the Operations Assistant have VHF radios for simultaneous communication with the vessel and the Control Room.

5.5 MAIN RISKS

5.5.1 FOR BERTHING AND STAY

The climatic conditions of the access channel, the turning area and the berthing piers are normally quite favorable and safe for navigation, maneuvering and stay.

The main risks associated with the maneuvers and stay of the vessels in the berths of COARI-WT are:

- When berthed at POF-1, strong currents during falling river levels may cause the sterns of berthed vessels to swing away from the berth. When currents exceed 4 knots, it is recommended to reinforce or increase the number of head lines to at least three;
- When berthing at POF-1 and POF-2, due to strong wind currents, berthing may occur at 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 crew and pilots of the vessels with respect to the duties and mooring lines.

In the Terminal region there are no records of terrorist activity or piracy.

5.5.2 NAVIGATION

REFERENCES AND SIGNS:

- **From the confluence of Rio Negro to Coari-WT** – See charts 4106, 4107 and 4108.
- **Ponta de Catalão** – Catalão Lighthouse (03° 08' 6" S – 059° 55' 01" W) – Emitting white flashes lasting 1 second at the location known as 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" W.
- **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" W.
- **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** – A village with a church and a notable water tower located at the entrance to Lake Coari, on the right bank of the Solimões River, at longitude 063° 09' 00" W.

SHALLOWS, BANKS, ROCKS, AND OTHER OBSTACLES 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.

During the dry season, sailors may encounter stretches of water with limited visibility due to wildfires. Throughout the year, they may encounter stretches of reduced visibility, due to the heavy rains and fog that usually occur in the morning.

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

Due to frequent changes in navigable channels, vessels may need to anchor along the Manaus–Coari stretch to ensure that passages are made safely during daylight hours.

SECTION BETWEEN MANAUS AND COARI:

- **Passage around Moura Island** – Passage through the channel is restricted for large vessels at the two ends of the island due to shallow waters during the dry season.
- **Passage around Caldeirão Coast** – Existence of stone on the left bank, upstream from the city of Iranduba. It is visible in the dry season.
- **Passage around Calado Coast** – Limited by 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. In the dry season, large vessels sail along the left bank, between the bank and the city. Special attention must be paid to the rock located downstream of the channel. There are waves at this location.
- **Passage around Banco da Arraia** – The sandbar frequently shifts location, requiring extensive knowledge of the area for the safe navigation of large ships. During the dry season, navigation restrictions apply to all types of boats.
- **Passage around Ajaratuba Coast** – In the vicinity of the community of Porto Estrela, the passage is limited due to the shallowness in the dry season.
- **Passage around Ambé Coast, between the mouth of the Purus River and the city of Anori** – During the dry season, the area features isolated, mound-like shoals in various locations, restricting the passage of large ships.
- **Passage around Jamacanã** – During the dry season, the narrowing and shallowing of the channel limit the passage of large ships.
- **Passage in the stretch between the mouth of the Badajós River and the upstream end of Botija Island** – From this point on, all the way to the city of Coari, navigation presents the greatest challenge on the Solimões River. The banks change constantly, presenting the lowest depths and restricting the passage of large vessels during

the drought. The channel changes from one year to the next, so it is necessary to be familiar with the region to navigate safely.

In this stretch, because the navigable channels are narrow and shallow, the pilot must provide all visual aids. Therefore, this stretch must be navigated during daylight hours.

5.5.3 GENERAL RESTRICTIONS

- **Time restrictions** – Coari–WT (former Solimões Terminal - TESOL) – Berthing maneuvers must be performed during daylight hours and supported by appropriate boats for handling the mooring lines, which must be equipped with VHF radio. CFAOC authorized the nighttime unberthing maneuver of the LPG Pier until December 31, 2022.
- **Winds and currents** – The following conditions restrict berthing, unberthing, or the continuation of operations (while docked): winds > 25 knots and currents > 5 knots.
- **Recommended Maximum Draft (CMR)** – During the flood season: 8.50 meters. And in the dry season: 7.00 meters.
- **Berthing 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 30,000 DWT, 25,000 DWT and 18,000 DWT vessels operating on the oil pier, and 0.15 m/s for 8,900 DWT vessels operating on the LPG pier.

5.5.4 BEACONING IN THE TURNING BASIN

It is the master's responsibility to require the pilot to carry out the vessel's maneuvers within the limits of the turning basin. At Coari–WT, there is still no marked location for the turning basin. Generally, this maneuver is performed when the ship is unberthing and departing, or when the berthing maneuver fails.

The maneuver is performed upstream of the piers, at a safe distance from the Oil Pier, while the mooring lines are being retrieved and with the assistance of tugboats, in an area with adequate space and water depth.

6. Description of Berths

6.1 PHYSICAL DETAILS OF THE BERTHS

The following table presents the characteristics of the berths of the Terminal:

Pier	Distance between Fenders (m)	Flood/Dry Berth Depth (m)	Maximum Length of Vessel for Berthing (m)	DWT Maximum (t)	Products
POF-1	17.5 / 20.1	30.0 / 18.0	185	30,000	Crude oil
POF-2	17.5 / 20.1	28.0 / 16.0	185	30,000	LPG

DEPTH CONTROL

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

The points that define the maximum draft for navigation on the stretch from Manaus to Coari are shown on nautical charts based on the flood and ebb periods of the Solimões River.

MAXIMUM DIMENSIONS

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

The maximum size of vessels for berthing (daytime) in Coari-WT, considering that the Oil and LPG Piers have the same capacity and are intended for the following types of ships:

- **Deadweight tonnage:** up to 30,000 ton
- **Maximum length:** 187.00 m
- **Beam:** 27.10 m

6.2 BERTHING AND MOORING ARRANGEMENT

6.2.1 TABLE OF BERTHING AND UNBERTHING AT COARI-WT

Below are the details on berthing and unberthing at the Coari Terminal:

Pier	Period	DWT Vessel	Maximum Length (m)	River Conditions	Side	Maximum Draft (m/ft)
POF-1	Daytime	up to 30,000	185	Flood	Port	8.50 / 27
	Daytime	up to 18,000	135	Dry	Port	7.00 / 23
POF-2	Daytime	up to 30,000	185	Flood	Port	6.90 / 23
	Daytime	up to 9,500	135	Dry	Port	6.90 / 23

Table 6

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

6.3 SHIP TRAFFIC IN THE CHANNEL AND RESTRICTIONS ON SPEED, PASSING AND OVERTAKING.

The shape of navigable channels, depth and nature of the riverbanks affect the behavior of vessels. Therefore, controlling speed while navigating is an important factor in preventing accidents.

The vessel's movement in shallow waters (during the dry season) causes pressure variations in the liquid mass, which can cause the vessel to squat and seriously affect its steering. Therefore, the safety of navigation in shallow waters depends on the speed in relation to the river bottom.

In view of the potential damage to the shoreline, berthed boats and the facilities located on them, vessels are prohibited from traveling at speeds exceeding 10 knots within 150 meters of the shoreline, areas where boats are concentrated, and floating oil and LPG piers.

6.3.1 RECOMMENDED MOORING

Mooring all vessels bound for Coari-WT requires, at both piers, the use of the vessel's starboard anchor and a line to the stern buoy.

The vessel must berth on the port side to perform the mooring procedure described below. The spring lines and breast lines are secured to the bollards at the Floating Operating Port (POF), and the bow and stern mooring lines are secured directly to the two buoys secured to shore by stays, which are designated for this type of mooring.

At Coari-WT, the ships berth with the aid of two (2) tugboats. The berthing is guided by the pilots. The mooring service is done by a contracted company, with the use of two support boats.

The safety of the mooring is the responsibility of the Master of the vessel and will be evaluated by a qualified Safety Inspector. The Coari-WT may veto or interrupt an operation in which the vessel's mooring is judged unsatisfactory.

The following is the minimum configuration for mooring:

Pier	Head and Stern Lines		Breast line		Spring Lines		Note
	Bow	Aft	Bow	Aft	Bow	Aft	
POF-1	2	2	2	2	2	2	The mooring must be reinforced because the river current can reach 5 knots during high water (use 3 head lines).
POF-2	2	2	2	2	2	2	

Table 7

6.4 POSITIONING OF BOLLARDS, NUMBER OF MOORING LINES AND MAXIMUM LOADS

Pier	Bollards	No. of Mooring Lines	Maximum Loads (kgf)
POF-1	4 bollards 2 forward / 2 aft	6	50,239
POF-2	4 bollards 2 forward / 2 aft	6	50,239

Table 8

6.5 CHARACTERISTICS OF THE LOADING BERTH

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

This information is for informational purposes only and is based on historical maximum values. The operational conditions—arms, onboard connections, number of lines, number of pumps, pressure, flow rate, and temperature—must be defined during the ship's initial clearance.

Pier	Arm TAG	Arm Flanges		Product	Temperature (°C)		Max. Flow (m³/h)	Max. Pressure (kgf/cm²)
		Diameter	Class (lb/in²)		Min.	Max.		
POF-1	BC-8001	12"	150	Crude oil	Amb.	Amb.	2,000	10
POF-2	BC-8002	8"	300	LPG	Amb.	Amb.	650	15

Table 9

6.6 BERTHING

6.6.1 VESSEL MOORING

The vessel's mooring system must meet the requirements of item 6.2. Mooring lines must be maintained at all times to ensure that the vessel remains securely moored. All mooring lines must be kept under proper tension during operation, with the winch brakes applied, and the use of self-tensioning winches is not permitted.

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

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

Breast lines must be oriented as perpendicular as possible to the vessel's longitudinal axis and led as far forward and aft as possible.

Springs must be oriented as parallel as possible to the vessel's longitudinal axis.

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

The horizontal angle of head and stern lines in relation to the direction of a breast line perpendicular to the vessel's longitudinal axis must not exceed 45°.

7. Communication Before Arrival

The Terminal sends the Terminal Port Information Booklet (Port Information) to the vessel through the Agency after confirmation of operation at the terminal. The list of documents required for clearance with local authorities will also be sent.

7.1 TERMINAL INFORMATION FOR VESSEL

During the stay of the vessel in port, various actions are carried out to enable safe operation and manage risks in order to minimize them. At every stage, as described in the following sub-items, measures are taken to facilitate operations and plan them appropriately.

7.1.1 BEFORE ARRIVAL

The Terminal sends the Terminal Port Information Booklet (Port Information) to the vessel through the Agency after confirmation of operation at the terminal. The list of documents required for clearance with local authorities will also be sent.

Vessels destined for Coari-WT facilities must indicate the estimated arrival time (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 vessel's arrival must be communicated at least 24 hours in advance. The ETA information must specify whether the time mentioned is LOCAL or UTC.

Onboard repairs and washing in the vessel's cargo tanks should preferably be carried out in the anchoring area. To perform these services with the vessel berthed, prior authorization from the Terminal will be required.

7.1.2 ON ARRIVAL

The vessel must be aware that, upon berthing, following the safety inspection conducted by the Operations Safety Inspector (GIAONT) based on the ISGOTT Safety Checklist, if there are any outstanding issues that are not resolved by the crew, the vessel will not be authorized by the terminal to begin operations.

The port authorities are called by the vessels' agents when they pass through Manaus. Generally, the visit takes place while vessels are in Manaus on their way to Coari-WT.

The terminal does not provide bunker fuel or water.

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

The NOR (Notice of Readiness) may be issued when the vessel is passing the city of Coari and heading toward the final approach to Coari-WT, or 1 hour before arrival.

If the vessel arrives at the port before the first day of the scheduled time window, the permitted laytime will begin when the first mooring line is passed ashore or at 00:01 on the first day of the aforementioned time window, whichever occurs first.

If the vessel arrives at the port after the scheduled time window, the permitted laytime will begin when the loop of the first mooring line is secured.

Laytime ends when the vessel casts off its last mooring line.

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

The exchange of information between the terminal and the vessel is described in the loading/unloading procedure, which is formalized upon the vessel's initial clearance, in accordance with the regulations of N-2689 (Petrobras Standard on the Operation of Onshore and Subsea Pipelines).

7.2 VESSEL INFORMATION FOR TERMINAL

Terminal Form (ISGOTT Chapter 22)

8. Operational Information

8.1 VESSEL / PORT ACCESS

Access to the Coari-WT piers is provided by aluminum gangways with handrails, which are deployed from the vessel with the assistance of terminal personnel.

All vessels must be equipped with safe means of access for the embarkation and disembarkation of personnel, and must always keep their gangways and ladders ready to be lowered. When using a gangway, there must be sufficient space for unobstructed passage, and the gangway must be equipped with a safety net. Lifebuoys with lifelines must be available near the access means. The vessel's accommodation ladder or gangway must be used when necessary.

Crew members who, upon disembarking, use the Terminal's facilities must wear closed-toe leather shoes, long pants, and shirts with sleeves, and may only move within the pre-authorized area. The list of crew members who will disembark using the Terminal's facilities and services must be provided to the Terminal at the time of the vessel's initial clearance.

Crew members are prohibited from moving about the Terminal's facilities without prior authorization, except when traveling between the vessel and the Terminal's floating operating facility.

8.2 MEASUREMENTS, CALCULATIONS, SAMPLING AND INITIAL CLEARANCE

The start of the operation only occurs after the completion of the Initial Letter, during the Initial Clearance, by the onshore and on-board representatives, according to the information contained in **APPENDIX "E"**.

This procedure aims to establish an agreement between the terminal and the vessel, which can guarantee the minimum safety conditions for the beginning of the transfer of the cargo.

Onboard measurements and calculations will be performed by the vessel's crew and monitored by terminal representatives and other inspectors. The equipment used must be properly grounded to prevent ignition by static electricity sparks, and measuring instruments must be explosion-proof. Whenever possible, a vessel's inspection should be conducted without entering the tanks. If the cargo requires an internal tank inspection, all safety precautions inherent to entering confined spaces must be taken. In this case, the vessel must ensure the tanks are gas-freed after unloading is complete and in a "safe for entry" condition. If COARI-WT or the Inspection Authority rejects the inspected tanks, the delay will be charged to the vessel.

8.3 OPERATIONAL SAFETY CHECKLIST (LVSO)

Immediately after berthing and before the start of operations, in order to verify operational safety conditions, equipment, and procedures, GIAONT conducts a safety inspection in accordance with the Operational Safety Checklist, which is based on the latest edition of ISGOTT and tailored to the type of vessel.

In the end, it must reflect the exact condition of the vessel, when the Giaont Inspector must present the result to the vessel's Master or their legal representative. If any non-compliant item is observed that may affect the safety of the operation, it will only commence after the pending issue is remedied and the vessel is considered safe to operate.

The Inspector must immediately report any issues found to the Nautical Advisor and the Operations Supervisor; even if these issues are resolved, they must be recorded in Annex IV of the PMO and in the service log.

8.4 BALLASTING, DEBALLASTING AND SLOP POLICY

Vessels' ballast and deballast systems and tanks must be used solely for that purpose when they are isolated from other onboard systems. Ballast water to be discharged into the sea must be completely free of oil, any oily residue, or any other substance capable of causing pollution of sea or river waters. All ballast water control regulations must be strictly complied with by the Masters, and evidence of compliance may be requested at any time by the shore-based team.

SLOP

COARI-WT does not receive vessel SLOP.

8.5 TANK CLEANING

The COW operation is accepted, subject to prior authorization of the schedule for the purpose of the vessel's stay in the port and GIAONT for the purpose of operational safety.

8.6 PROCEDURES FOR CONNECTING/DISCONNECTING HOSES

8.6.1 BEFORE CARGO TRANSFER

See item 8.3 Operational Safety Checklist (LVSO).

ELECTRICAL INSULATION

The terminal performs transfers using hoses and loading arms. The loading arms are equipped with insulated joints and are grounded to the terminal's ground system; both are inspected periodically. For transfers using hoses, electrically continuous hose lines are used, with only one electrically discontinuous hose present.

RESOURCES FOR HOSE CONNECTIONS

The resources required for the connection are determined during the vessel's first contact with the terminal. The vessel must position the cargo manifold connections and install reducers and loading connections in a manner that allows for the coupling of the loading arms. Shore personnel perform the connection and disconnection of the arms and hoses, assisted by the vessel's crew, who operate the winches and cargo derricks when necessary. After the loading arms are connected, they are tested for leak tightness using the static pressure of the terminal's oil column and the vessel's pressure for LPG. A vessel's representative must monitor the entire operation and remain near the vessel's cargo manifold. All connected loading arms must be supported by a bracket, especially those connected to reducers.

MEANS OF COMMUNICATION

Communications with the vessels are conducted via VHF radios on a maritime frequency that has been previously agreed upon and registered. A secondary communication method, using land-based VHF radios, is established in case the primary system fails.

OPERATIONAL CONTROL

Coari-WT 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 controlling all Terminal operations, through the supervisory system.

SMALL CRAFT ACCESS

The prohibition against unauthorized small craft remaining alongside or in the vicinity of moored vessels must be strictly observed. Only Terminal service boats or authorized vessels may remain in the vicinity or alongside, provided they meet all safety requirements. Any violation of this rule must be reported to the competent authority.

PRODUCT RETURN AND OVERFLOW PROTECTION

The terminal does not have check valves to prevent product from flowing out to the ship when the onshore manifold (connection equipment) is aligned. During unloading, it is the vessel's responsibility to monitor for any unwanted inflows and to check tank levels in order to prevent overflows.

8.7 CARGO TRANSFER PROCEDURES.

The start of the operation only occurs after completion and signatures of the initial letter by the Terminal and onboard representatives.

Monitoring of pressures – During cargo transfer, the vessel's and shore representatives record the data on the vessel's manifold every hour. The terminal monitors internal pressure variables, and flow rates are checked in real time via the supervisory system in the control room and pressure gauges installed on the pier.

Operating flow – The flow rates of the operation, measured on the vessel 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. Any change in operating conditions must be communicated and documented between the parties.

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

Safety inspection – Intermediate inspections, according to Annex A of ISGOTT, will be carried out by GIAONT during the operation of the vessel.

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

LPG Operations – the vessel must meet all the conditions pertinent to product tankers. In addition, it will be necessary to provide advance notice of any requirements for flow or pressure reduction during loading. The Terminal has a particle filter and resources 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 onboard tank gassing-up operations or to optimize cargo operations.

RESTRICTIONS ON EXCESSIVE SMOKE AND SOOT BLOWING

It is prohibited to perform soot blowing or boiler pipe cleaning while the vessel is berthed. Precautions must be taken to ensure that no sparks escape through the funnel. Failure to comply with these regulations 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.

RESTRICTION / CONDITION FOR VESSELS ALONGSIDE

The prohibition against unauthorized small craft remaining alongside or in the vicinity of moored vessels must be strictly observed. Only terminal service boats or authorized vessels may remain in the vicinity of or alongside ships, provided they meet all safety requirements. Any violation of this rule must be reported to the competent authority.

PROPELLER MOVEMENT RESTRICTION

Vessels at berth may not operate their propeller(s) while they remain connected to the loading arms. A turning gear may be used, provided the terminal operator is duly notified; however, the propeller must be turned so slowly as to ensure absolute safety. Vessels shall be liable for any damages resulting from these proceedings.

INTERMEDIATE INSPECTIONS

Interim inspections, as specified in the ISGOTT ANNEX, will be conducted by GIAONT every 4 hours while the vessel is in operation.

8.8 DRAINAGE, CARGO MEASUREMENT, SAMPLING AND DOCUMENTATION

HOSE DRAINAGE

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

FINAL ONBOARD MEASUREMENT

These operations will be carried out by the vessel's crew and supervised by terminal representatives and other inspectors. The equipment used must be properly grounded, and the measuring instruments must be explosion-proof.

FINAL RELEASE

This occurs after reconciling the quantities transferred and completing the port-call documentation.

8.9 INERT GAS

In the event of difficulties or problems with the vessel's inert gas system, operations will be suspended until the system complies with the minimum acceptable standard.

Vessels must have atmospheres that are inert with respect to flammability and explosion in the tanks to be loaded.

8.10 BUNKERING

The Terminal does not provide bunker fuel.

8.11 DRINKING WATER

The Terminal does not supply water.

8.12 UNBERTHING AND LEAVING THE PORT

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

The pilot usually remains on board the vessel and disembarks at the same boarding point for the trip to Coari-WT, where a pilot boat will be waiting for him.

8.13 COMPLIANCE WITH THE ISPS CODE

The Coari Waterway Terminal has implemented business security protection measures applicable to vessels 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 protection measures can be triggered by the vessel through the Port Facility Security Officer (PFSO) or through VHF radio, **channel 16**.

The Terminal operates normally at security level 01.

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

9. Port or Anchorage Organization

9.1 PORT CONTROL OR VTS

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

Additional information, regulations, and current notices can be obtained directly from the Manaus Port Authority's website: <https://www.marinha.mil.br/cfaoc>

9.2 MARITIME AUTHORITY

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

The Port Authority has determined that inspections by tax and health authorities must be conducted in Manaus when the vessel calls at Coari-WT. In some cases, and subject to prior arrangement, the inspection may be conducted upon the vessel's return.

Vessels bound for Coari-WT will be inspected by Port Health, Customs, and the Federal Police. The vessel's agent must take the necessary steps in this regard.

Any and all documents related to the vessel's clearance at the last port must be submitted to the port authorities.

9.3 PILOTAGE

Pilotage on the Amazon River is mandatory starting from Santana, Amapá, when traveling upriver, whenever a vessel enters via the northern channel. Pilotage is mandatory for vessels bound for Coari-WT

The pilots embark in Itacoatiara-AM or Manaus-AM. The pilotage service must be requested by Petrobras' Maritime Agency or by the vessel's owner. Once the vessels have berthed, they must remain in a condition deemed satisfactory by the pilot and the terminal operators.

The schedule of the pilotage service, including for chartered ships that are destined for Coari-WT, is made by the Maritime Agency in Manaus, during business hours through the phone numbers (92) 3071-9592 and (92) 3302-1775 and 24-hour service (92) 99308-6826.

Pilotage services must be requested through Petrobras' Maritime Agency. Maritime Agency phone numbers should be made available by the Shipowner.

The request must be made 24 hours in advance for vessels that pass from Itacoatiara directly to Coari-WT. If there is any change, the Pilotage must be communicated 12 hours in advance.

For vessels departing from Manaus to Coari, the request must be placed 24, 12 or 8 hours in advance. If there is any change, the Pilotage must be communicated 6 hours in advance.

For all situations, Pilotage service is requested by the vessel's agent. In emergency situations, depending on availability, the pilot will be assigned to the vessel at the earliest possible time.

9.4 MARITIME SERVICES

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

Service providers may access the vessel only with approval from Coari-WT's security department.

Without the written permission of 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 vessel is berthed.

9.5 SUPPORT VESSELS

The Terminal has two (2) diesel-powered and steel-hulled vessels to assist in the berthing and unberthing tasks. It is mandatory to call the Terminal vessels for maneuvers. The call is made directly by the pilot. The vessels will be made available to the pilots in a timely manner for the maneuver.

Boats for transporting personnel: The Terminal does not have specific boats for transporting personnel. When authorized to use the terminal facilities, the crew will disembark via the aluminum ladder connecting the terminal and the vessel. When it is necessary to use gangways for personnel access, this service will be provided by the Terminal's boats.

Embarkation and disembarkation of materials: The Terminal uses support vessels for the delivery and receipt of materials from berthed vessels with their prior authorization.

Communication between support vessels and large vessels: The support vessels are equipped with VHF for continuous communication between the large vessel and the support vessels during berthing and unberthing maneuvers. In the event of a radio communication failure between the support vessels and the large vessel, standardized whistle signals must be used.

10. Contacts

Points of Contact in Manaus

Western Amazon River Port Authority (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

Pilotage of Manaus (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

Amazonas State Environmental Protection Institute (IPAAM)

(92) 2123-6700

Brazilian Institute of the 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

28 de Agosto Hospital and Emergency Room

(92) 3643-7100

Dr. João Lúcio Pereira Machado Hospital and Emergency Room

(92) 3249-9063

Adventista de Manaus Hospital

(92) 2123-1311

São Lucas Hospital and Clinic

(92) 4002-3633

Santa Júlia Hospital

(92) 2121-9000 / 9090

Prontocord Heart Hospital

(92) 2123-7500

Points of Contact in Coari

Municipal Department of the Environment

(97) 99903-3704

Municipal Department of Public Security and Social Defense

(92) 98802-9347

Mayor Dr. Odair Carlos Geraldo Regional Hospital

(97) 98805-6650

11. DEFINITIONS

ANP - National Petroleum Agency.

BP (Bollard Pull) – Static pull.

Bunker – Marine fuel for vessels.

Port Authority – Maritime Authority.

CIS – International Code of Signals.

COW (Crude Oil Washing) - Cleaning the vessel's cargo tanks with the product it is carrying.

CRE – Emergency Response Center.

Squat Effect - Increase in the draft of a vessel as a result of the increase in displacement speed.

Accommodation ladder – A straight metal structure with side balusters and handrails. The steps are self-leveling, adjusting to the slope, and feature a non-slip surface. This type of ladder is positioned parallel to the ship's side, extending from a retractable platform secured to the deck.

Pilot ladder – A flexible ladder consisting of cables with wooden and/or rubber rungs, in accordance with the Safety of Life at Sea (SOLAS) Convention.

Beaufort Scale – Scale that measures wind intensity based on sea state.

ETA – Estimated Time of Arrival.

FEPAM - State Environmental Protection Foundation.

GIAONT – Ship/Terminal Inspection and Operational Monitoring Group.

IMO – International Maritime Organization.

IBAMA - Brazilian Institute of the Environment.

ISGOTT – International Safety Guide for Oil Tankers and Terminals.

ISPS – International Ship and Port Facility Security Code.

Neap tide – A tide with a small amplitude that follows the day of the first quarter or last quarter moon.

Spring tide – The greatest tidal ranges observed during the new and full moons, producing the highest high tides and the lowest low tides.

NPCP – Port Authority Rules and Procedures.

NT – Tanker.

OCIMF – Oil Companies International Marine Forum.

PEI – Individual Emergency Plan.

PRE – Emergency Response Plan.

Pilot – Professional duly qualified and authorized by the maritime authority to perform maneuvers.

SIGTTO – Society of International Gas Tanker & Terminal Operators.

Slop – Waste tank.

Safety of Life at Sea (Solus) — International Convention on the Safety of Life at Sea.

SIGTTO – Society of International Gas tanker and Terminal Operators

STCW – Standards of Training, Certification and Watchkeeping

STS – Ship-to-Ship, ship-to-ship cargo transfer operations

STS SUPERINTENDENT - Member of GIAONT (Vessel and Terminal Inspection and Operational Monitoring Group), responsible for overall advisory oversight of STS/STB operations for vessels docked or anchored in sheltered areas, and acting as IN when necessary.

SUPRG – Rio Grande Port Superintendence, the port authority.

DWT – Deadweight Tonnage.

VHF (Very High Frequency) – Radio frequency used in maritime operations.

VTS (Vessel Traffic Service) – Traffic Service for the Vessel.

12. BIBLIOGRAPHY AND SOURCES OF CONSULTATION

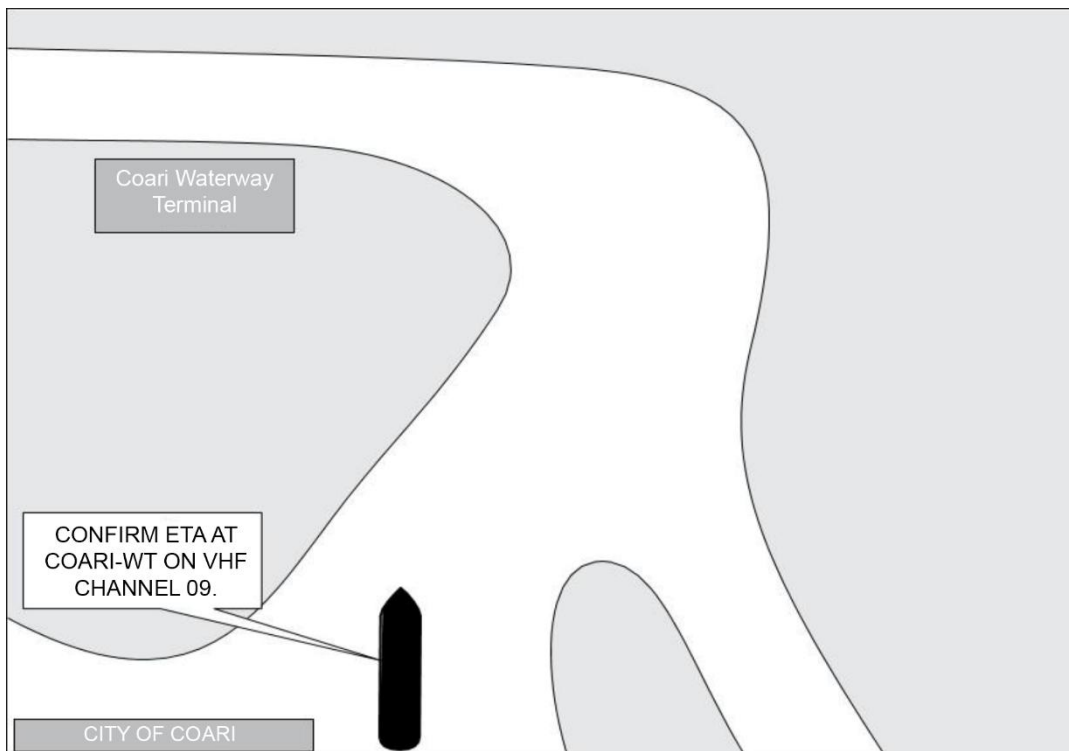
Atlas da Hidrovia do Rio Solimões de Manaus a Tabatinga – 4150, 1ª edição, 2001 – DHN– Diretoria de Hidrografia e navegação. Cartas Náuticas 4107 A/B e 4108 A/B. Marinha do Brasil.

Normas e Procedimentos da Capitania Fluvial da Amazônia Ocidental – NPCF-CFOAC. Roteiro Náutico da Região Norte. Diretoria de Hidrografia e Navegação. Marinha do Brasil.

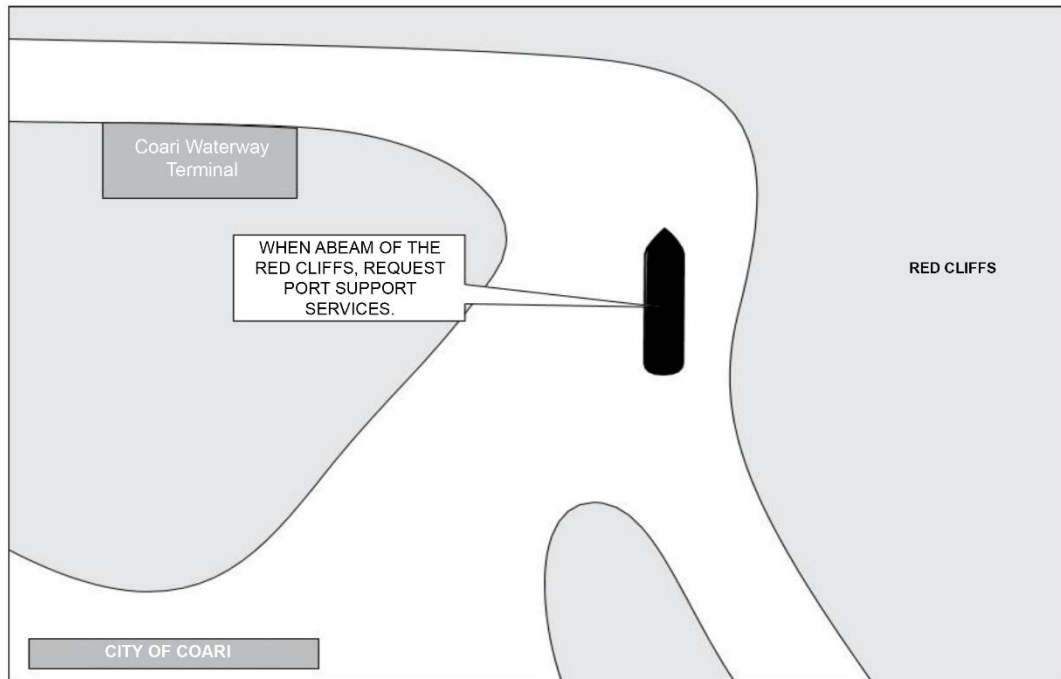
13. APPENDICES

APPENDIX A – OIL PIER BERTHING AND UNBERTHING PROCEDURE

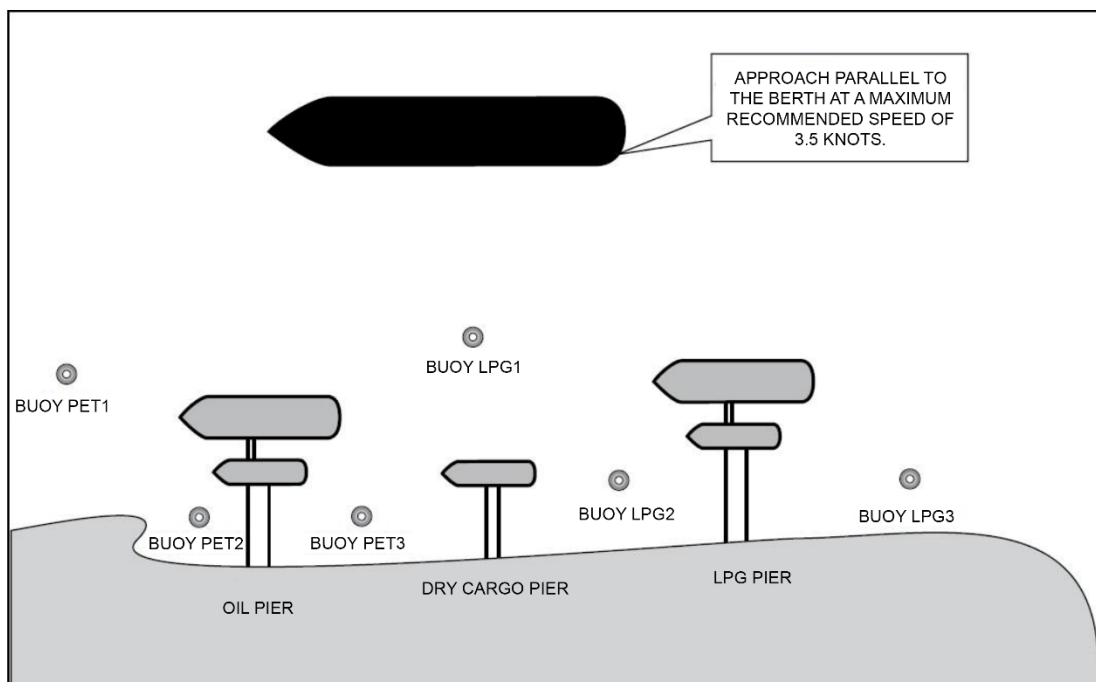
A1 – COARI – WT APPROACH – ETA CONFIRMATION



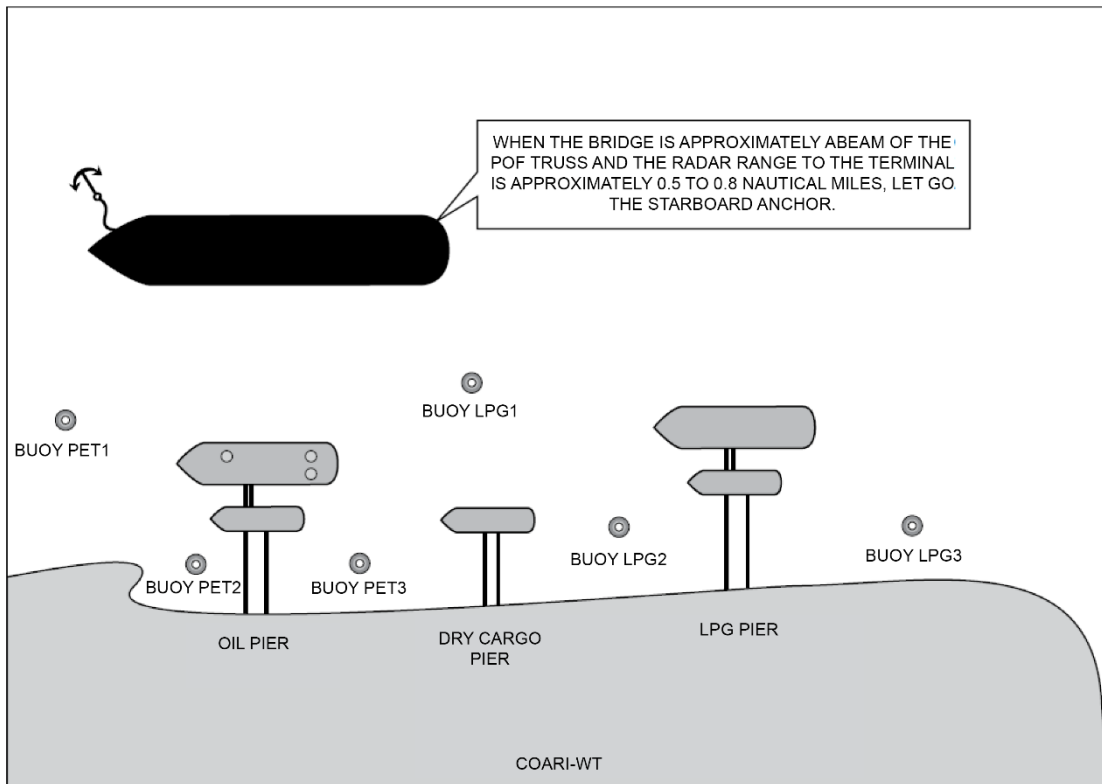
A2: PORT SUPPORT REQUEST



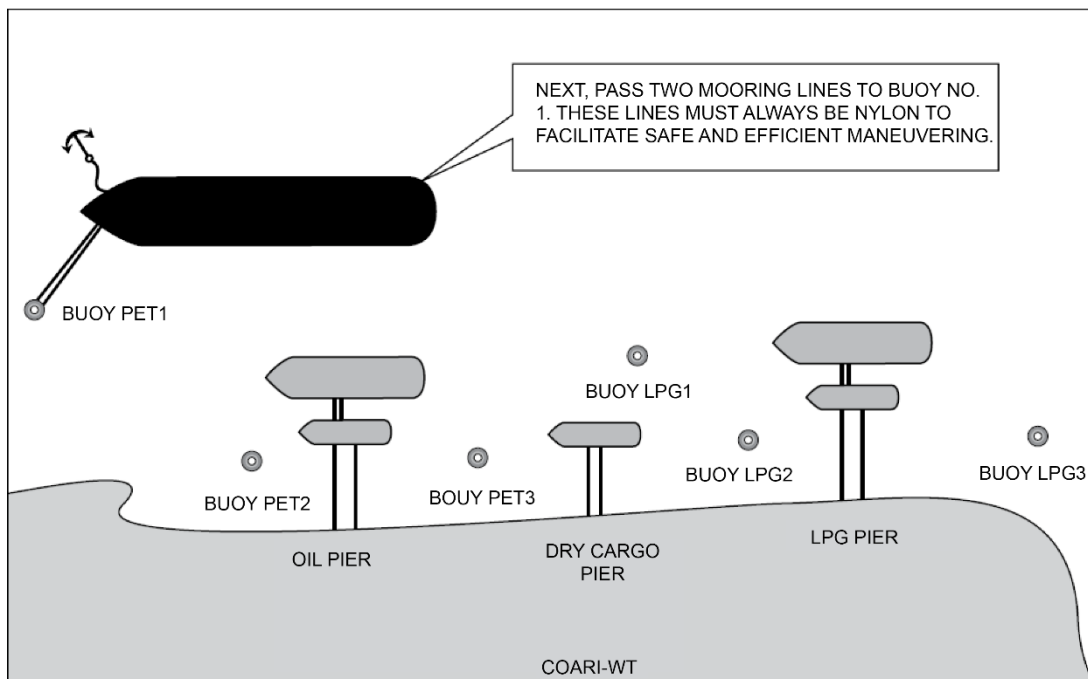
A3: APPROACH TO BERTHING



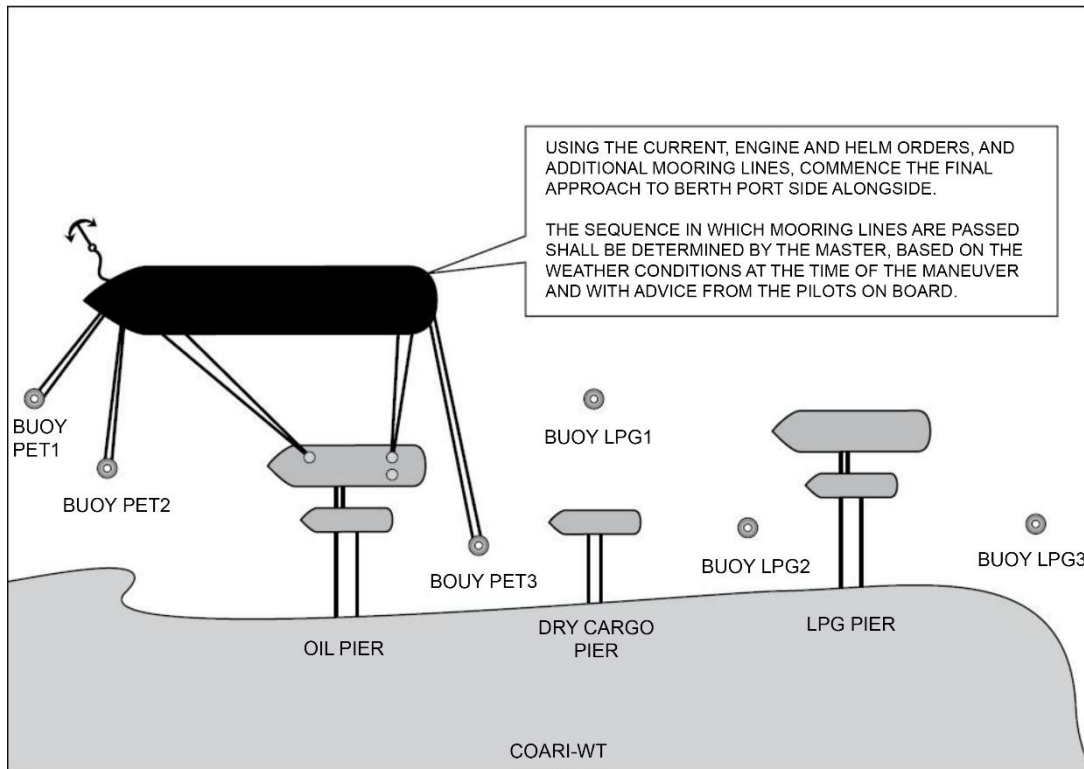
A4: DROPPING ANCHOR



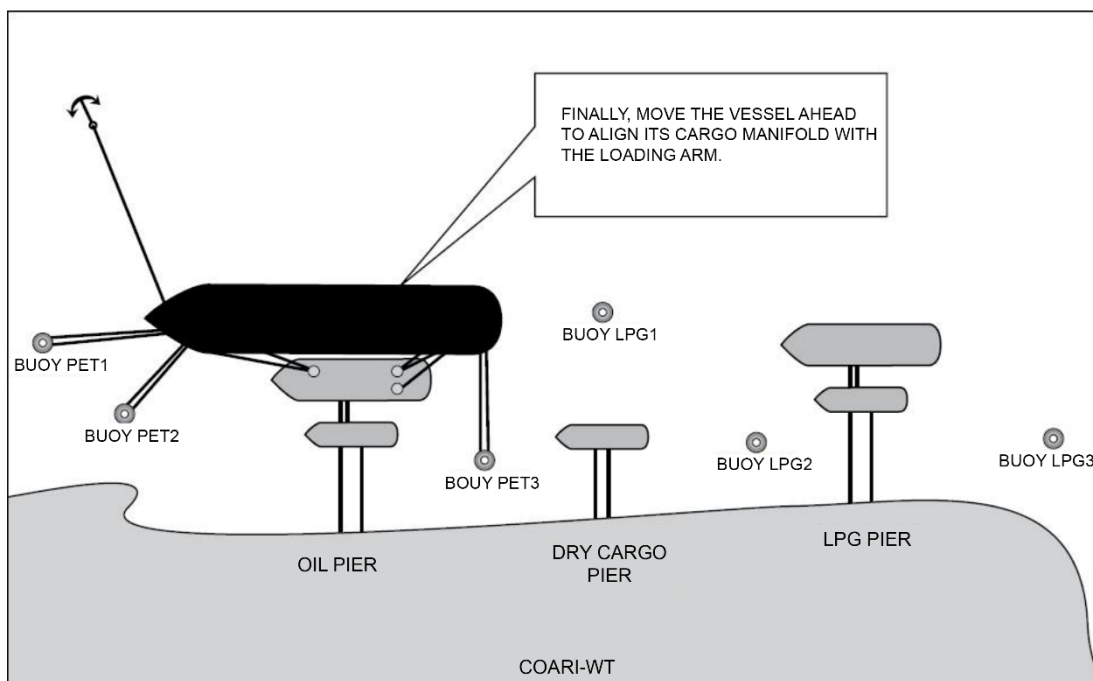
A5: START OF MOORING



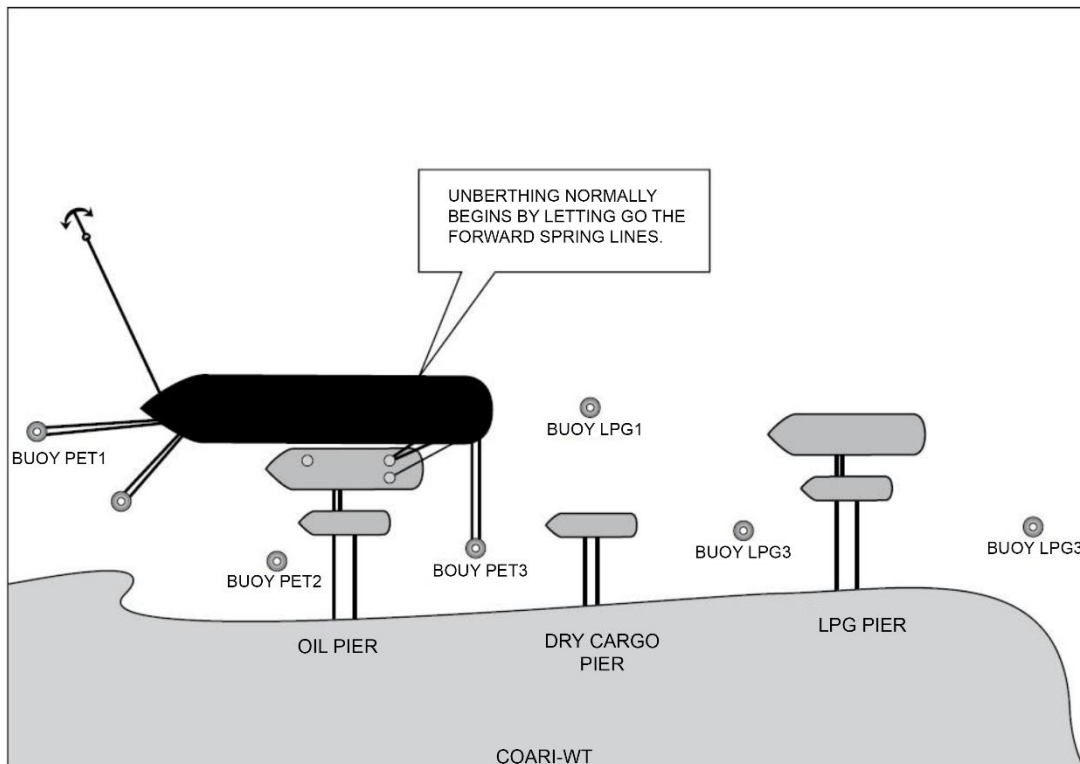
A6: BERTHING



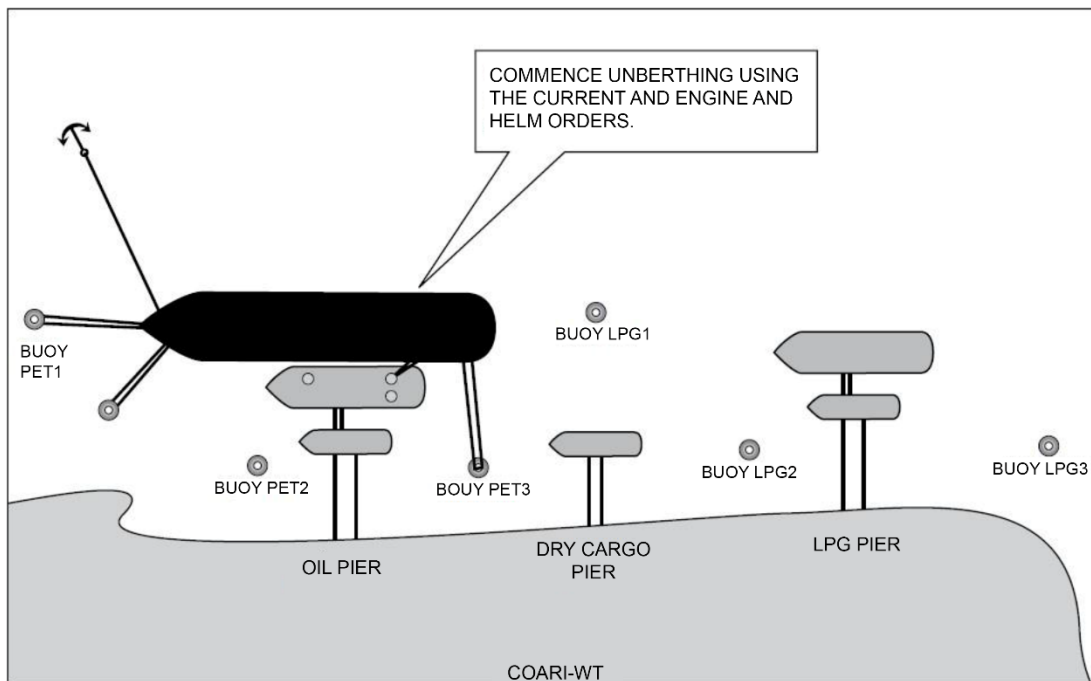
A7: BERTHED VESSEL



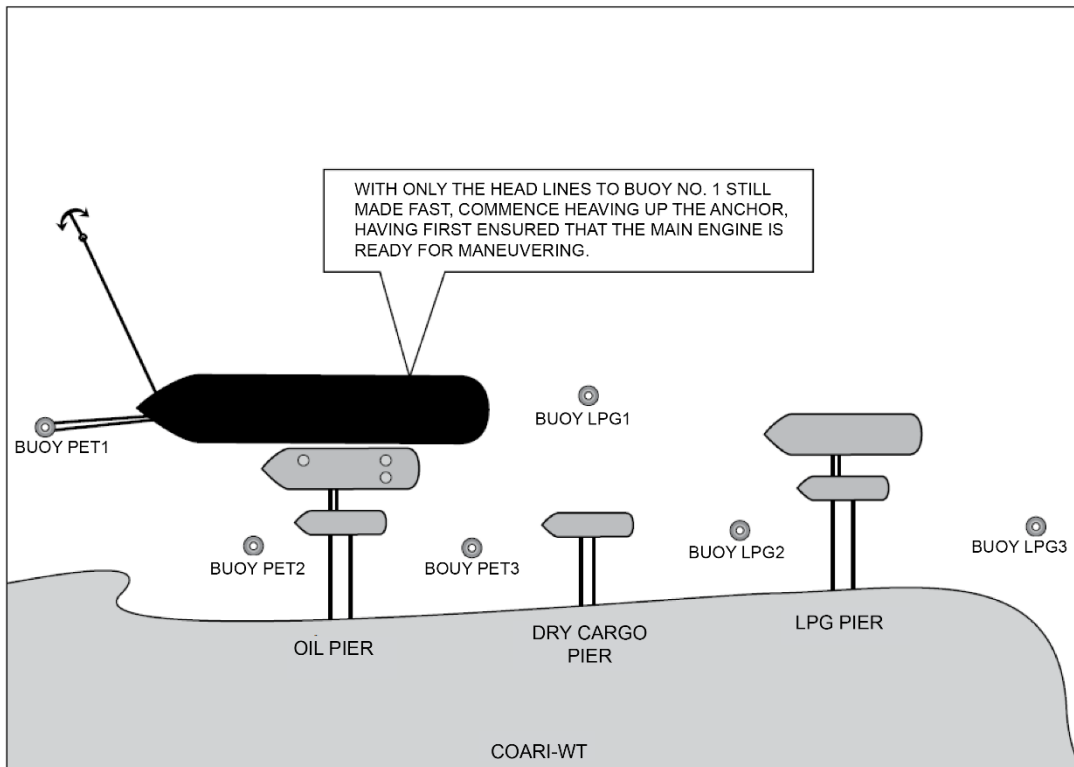
A8: START OF UNBERTHING



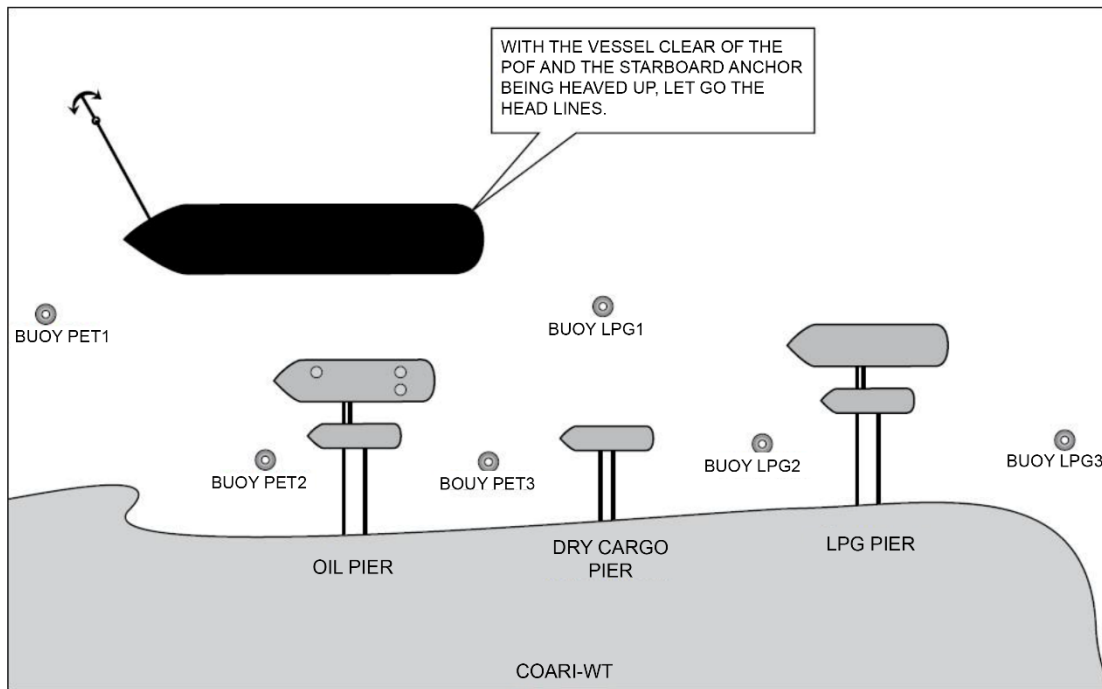
A9: CASTING OFF FORWARD AND AFT BREAST LINES



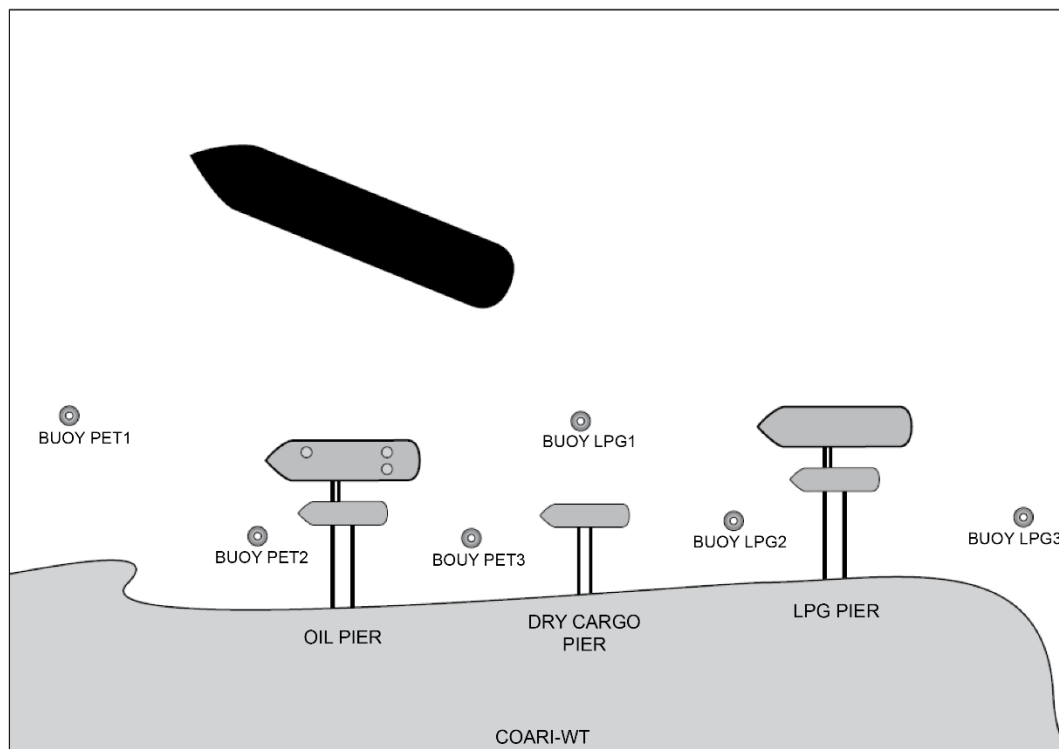
A10: CASTING OFF AFT SPRINGS



A11: COMMENCE HEAVING UP THE ANCHOR

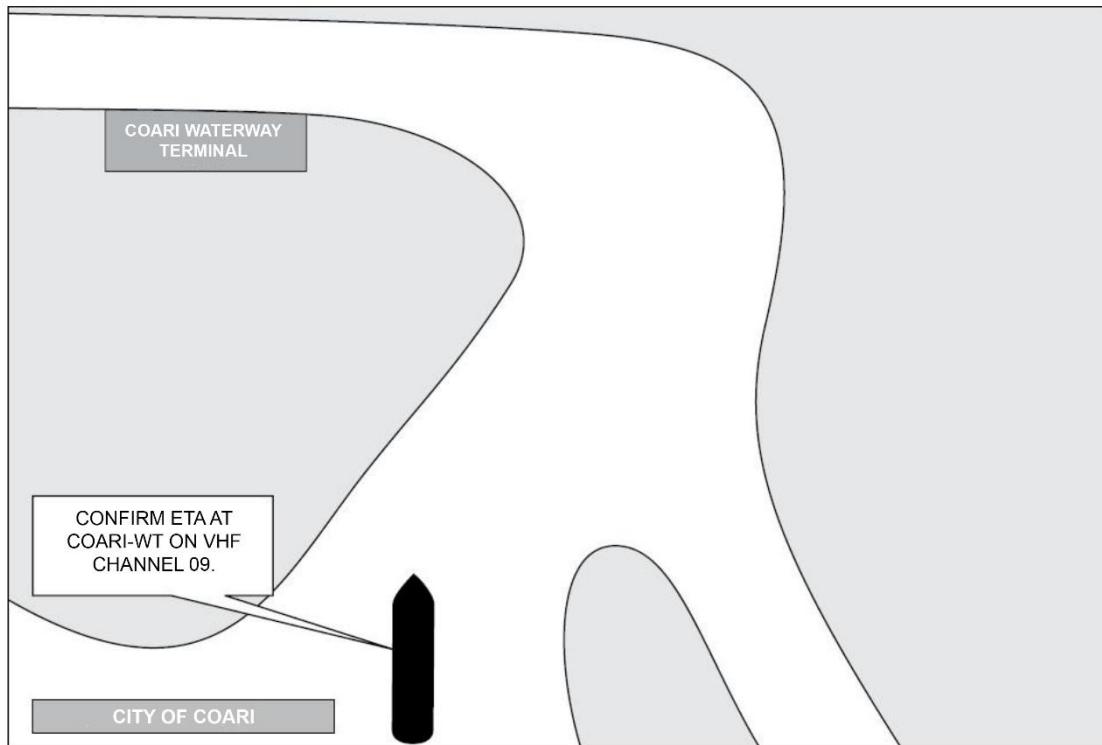


A12: ANCHOR AWEIGH, AND COMMENCING TURN TO STARBOARD

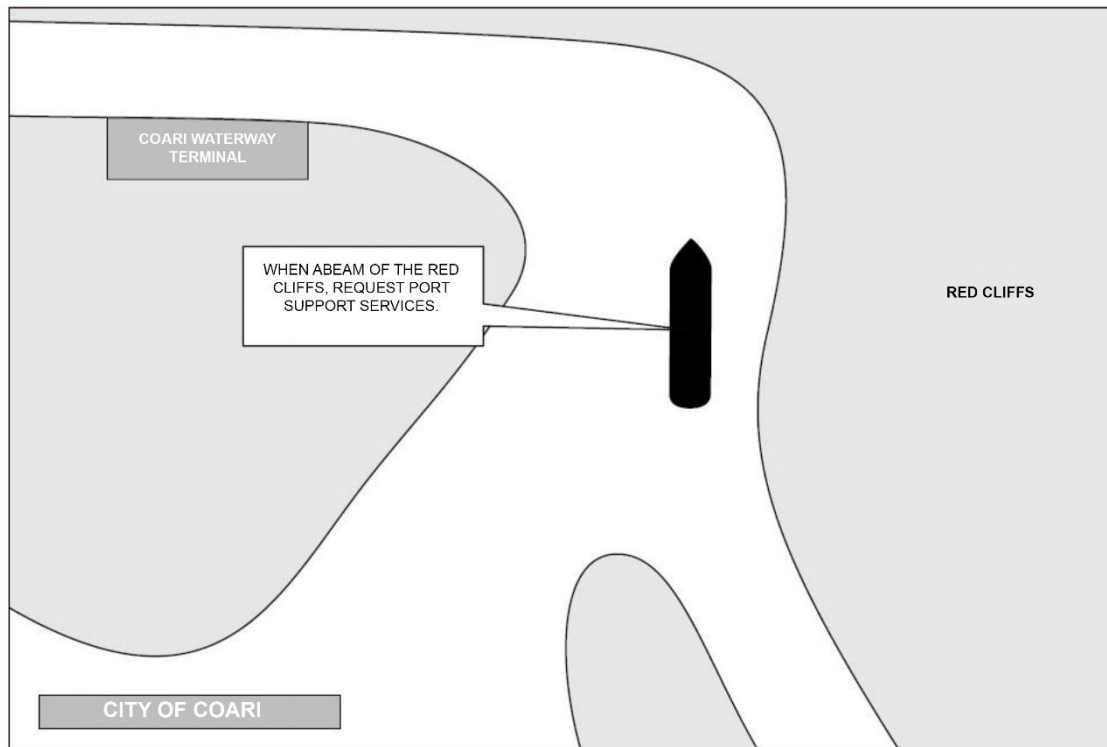


B – LPG PIER BERTHING AND UNBERTHING PROCEDURE

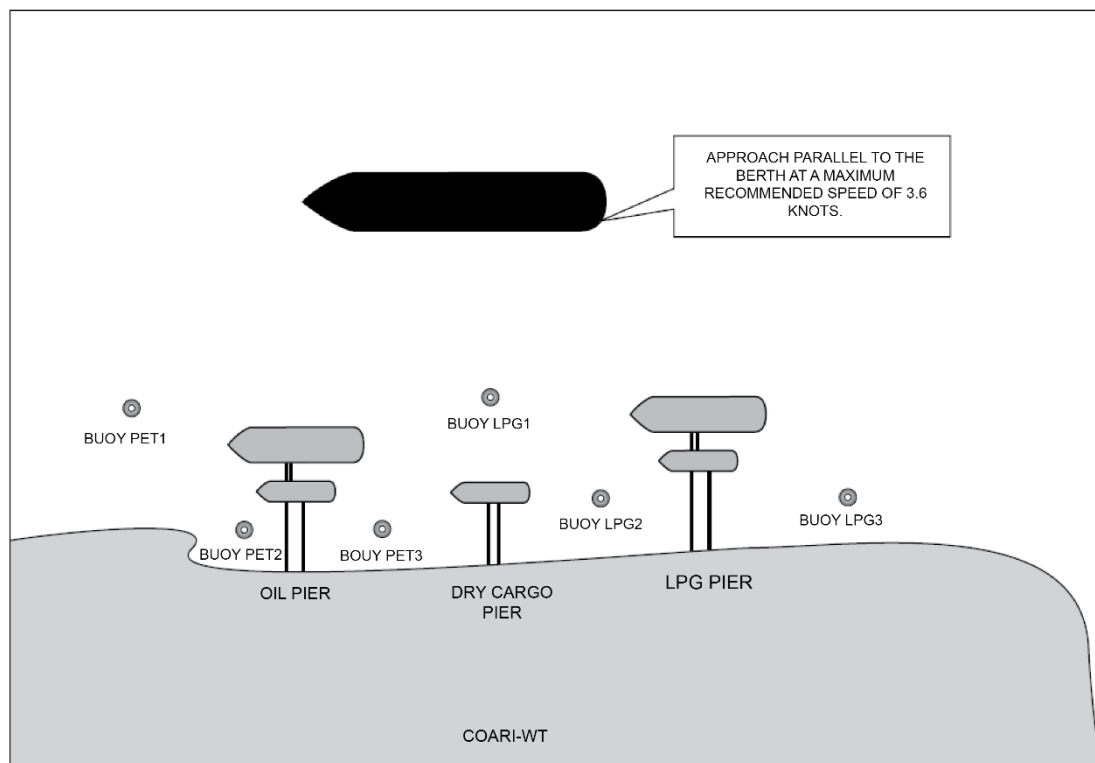
B1: COARI – WT APPROACH – ETA CONFIRMATION



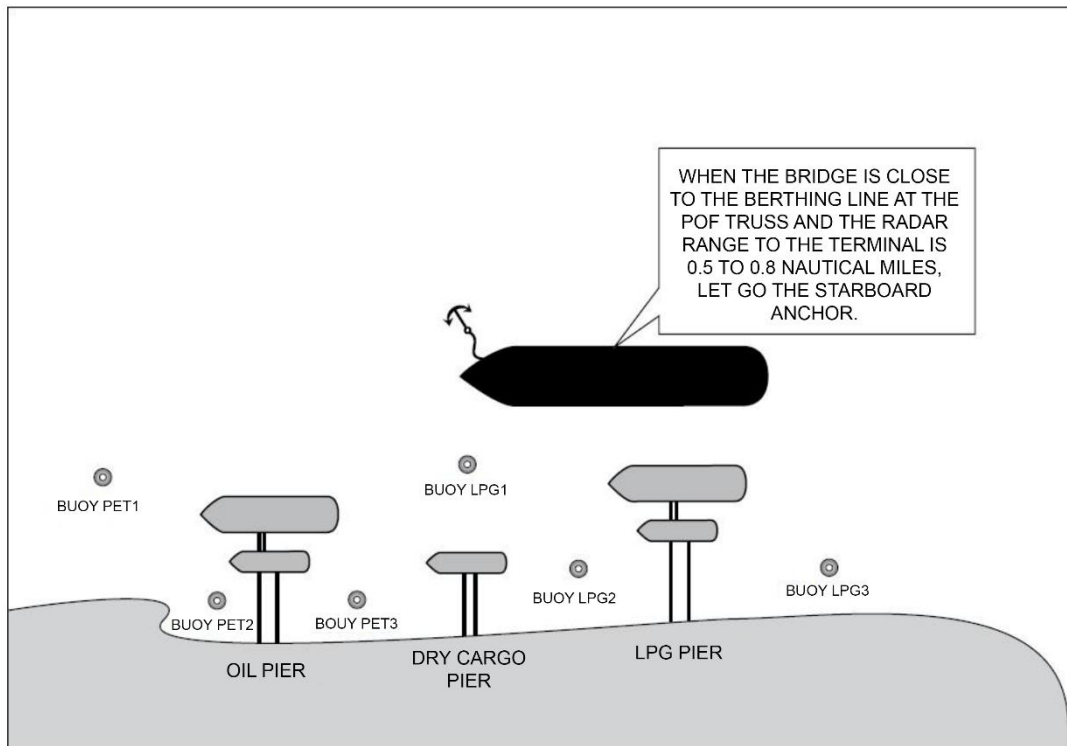
B2 – PORT SUPPORT REQUEST



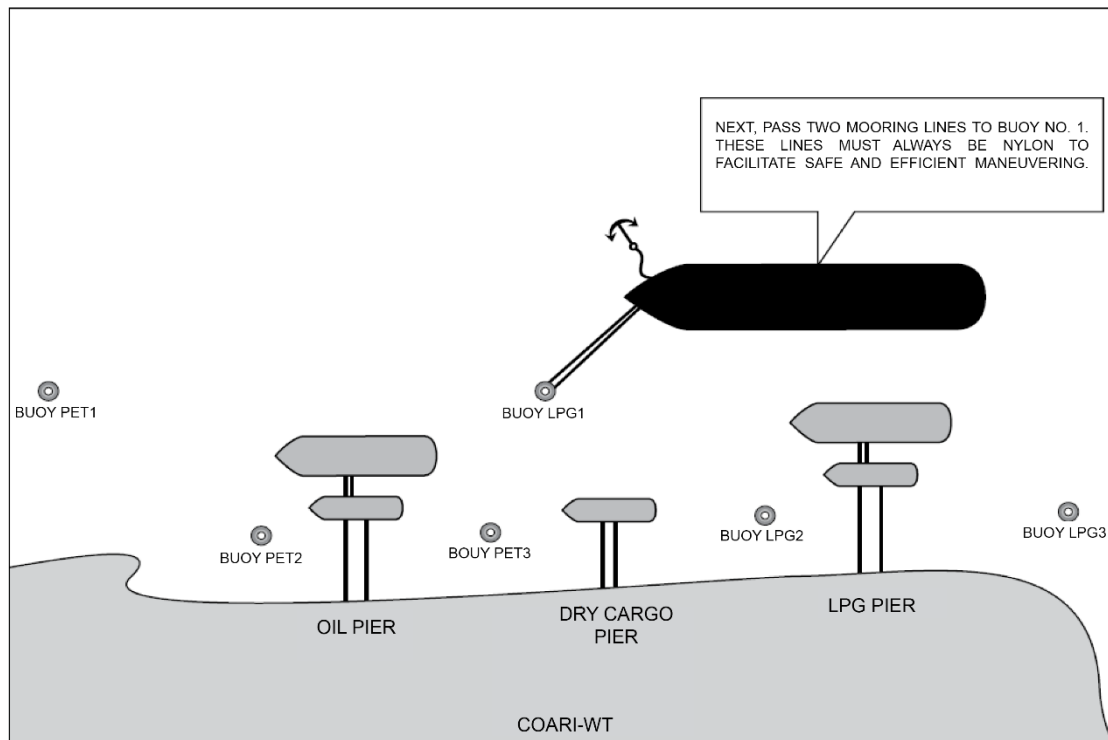
B3 – APPROACH FOR BERTHING



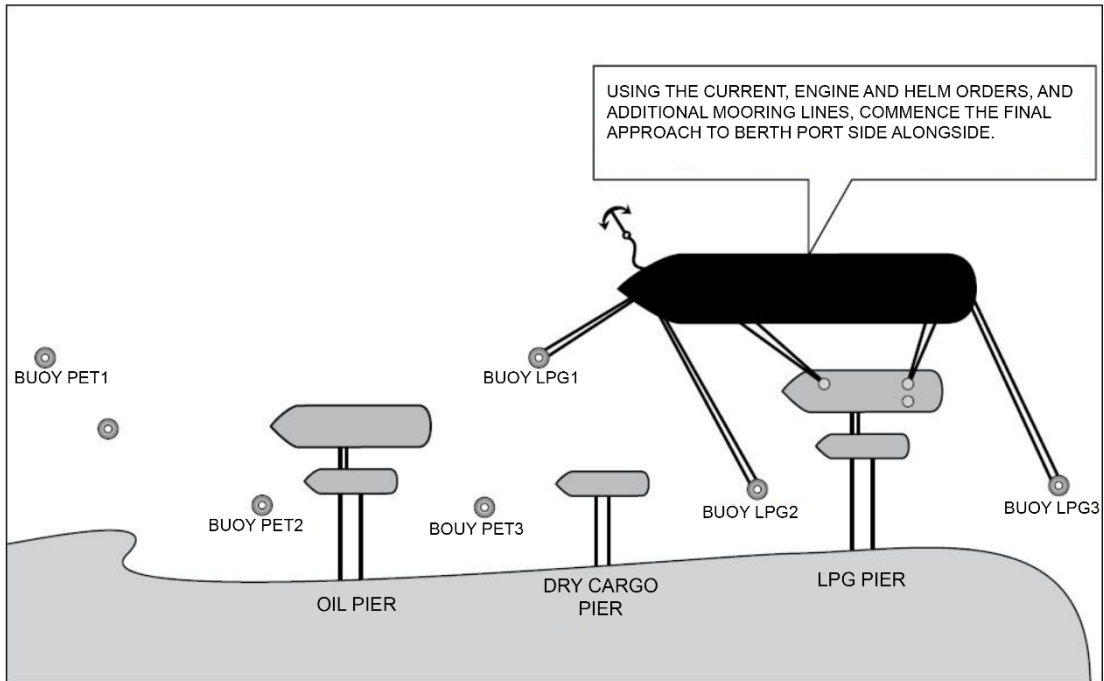
B4 – DROPPING ANCHOR



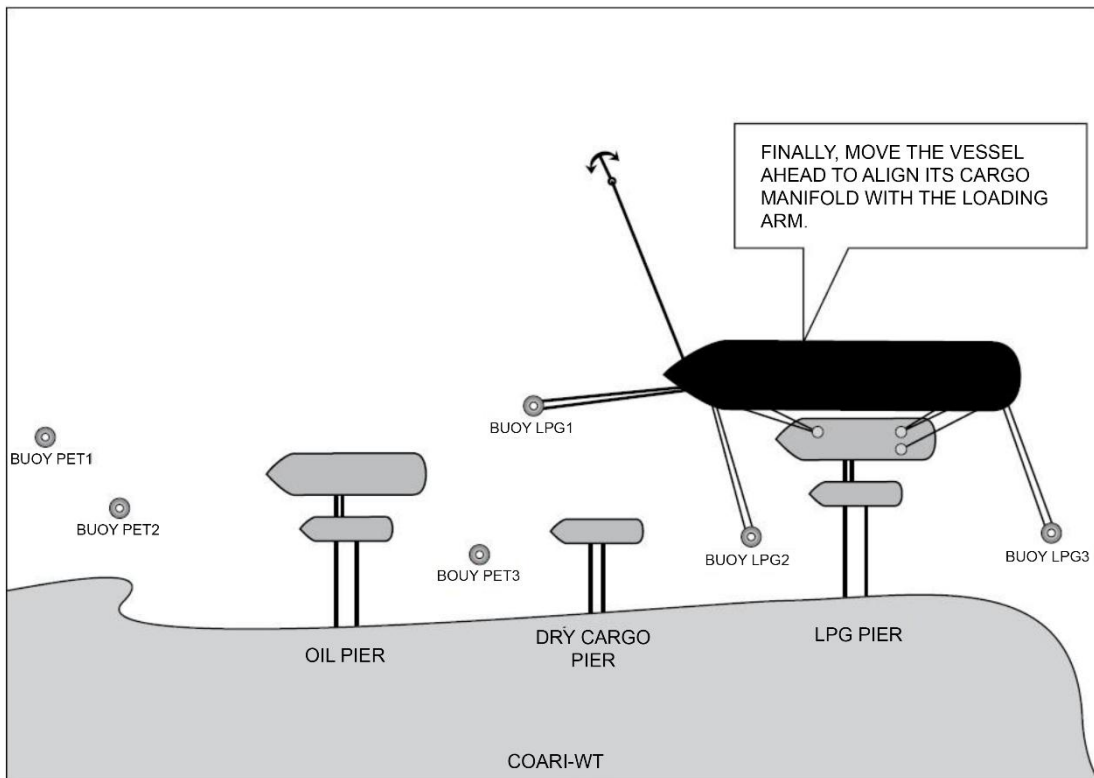
B5 – START OF MOORING



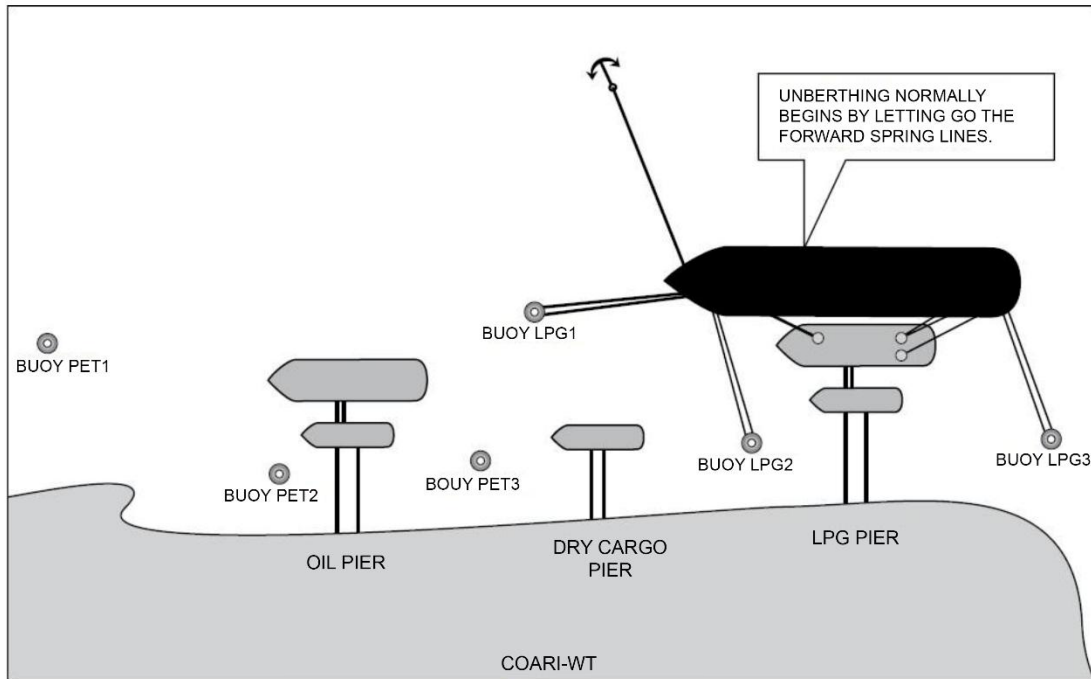
B6 - BERTHING



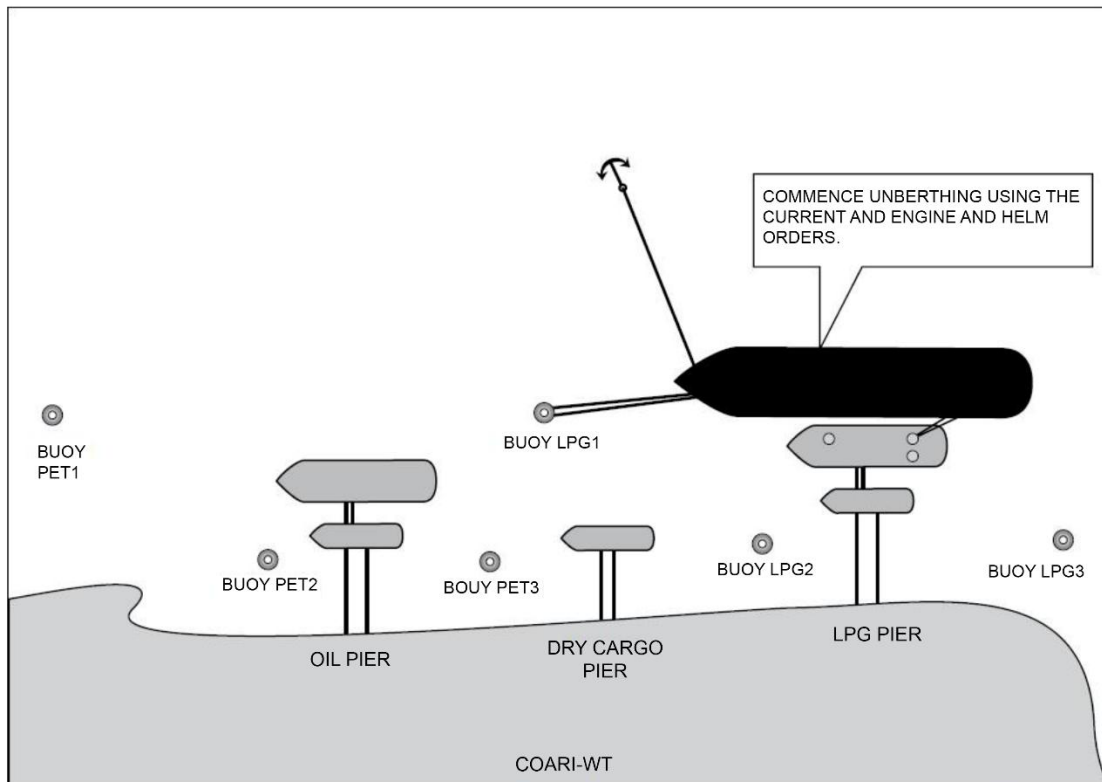
B7 – BERTHED VESSEL



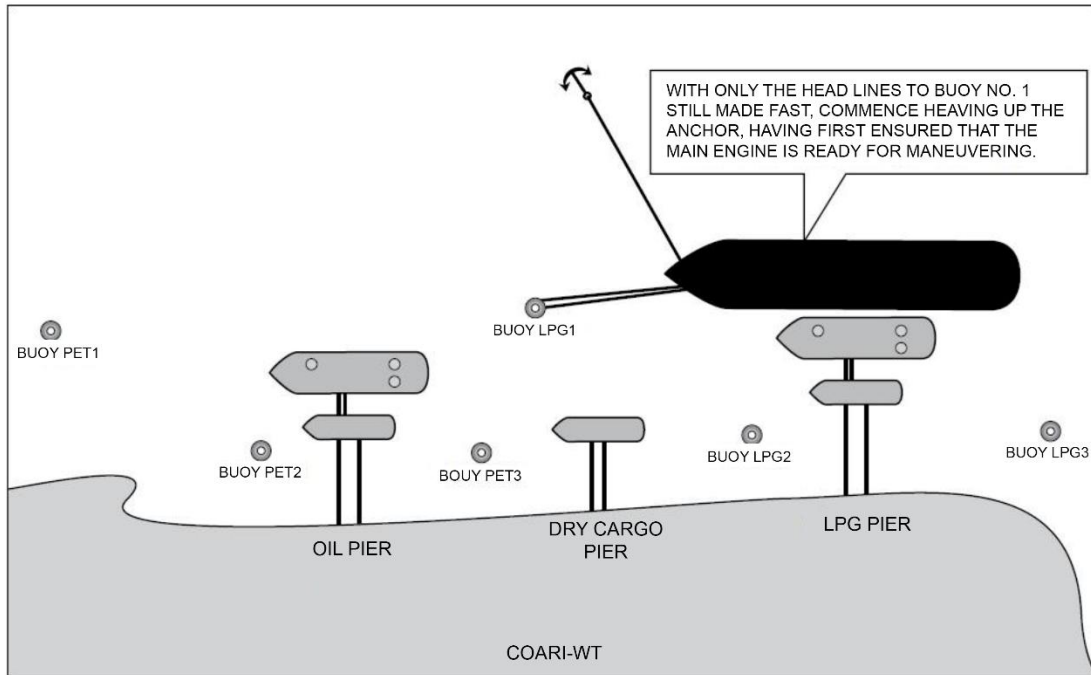
B8 – START OF UNBERTHING



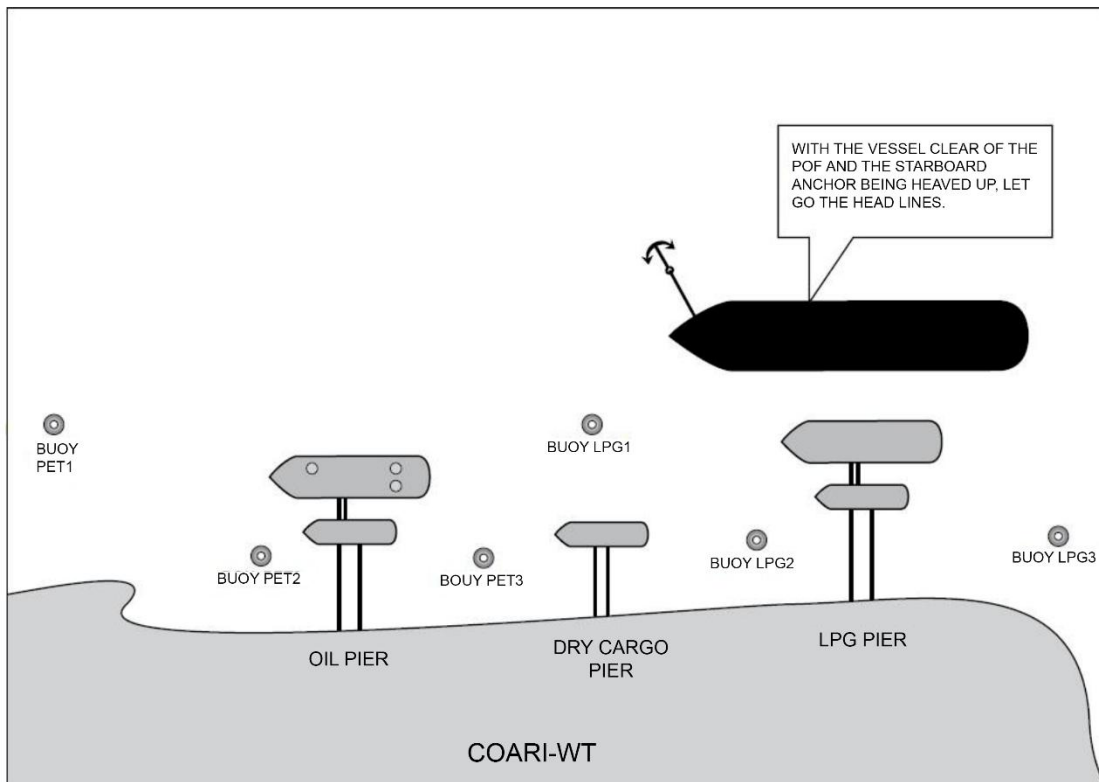
B9 – CASTING OFF FORWARD AND AFT BREAST LINES



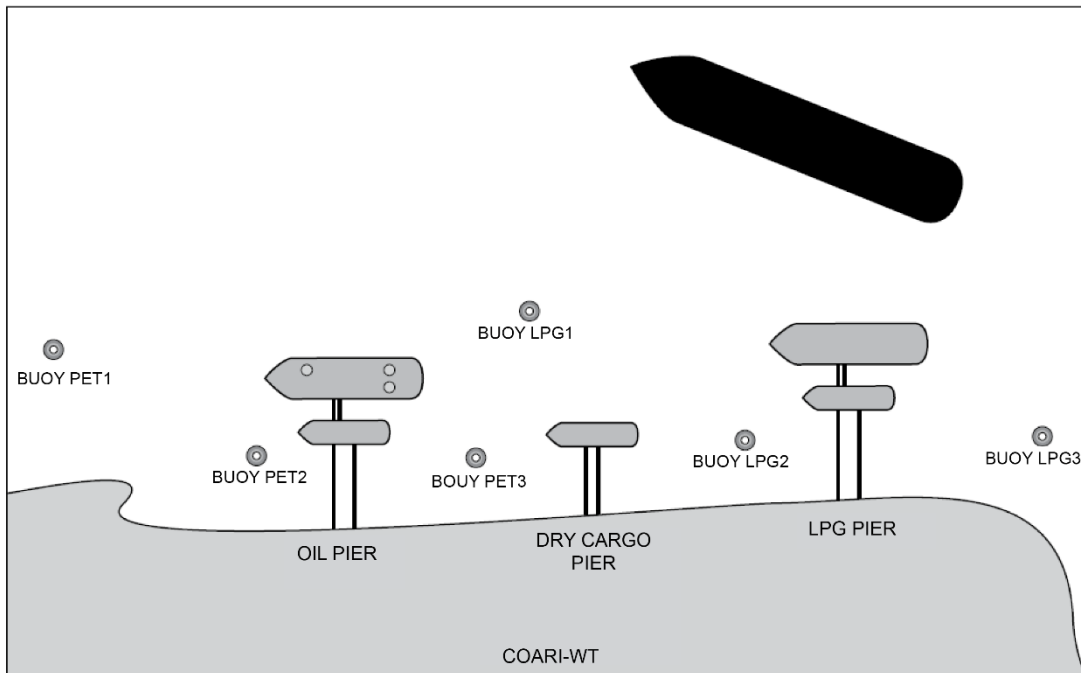
B10 – CASTING OFF AFT SPRINGS



B11 – COMMENCE HEAVING UP THE ANCHOR



B12 – ANCHOR AWEIGH, AND COMMENCING TURN TO STARBOARD



B13 – COARI WT PORTS (BASIC LAYOUT)

