

# PORT INFORMATION

Terminal  
**ARACAJU**

*4<sup>th</sup> edition*



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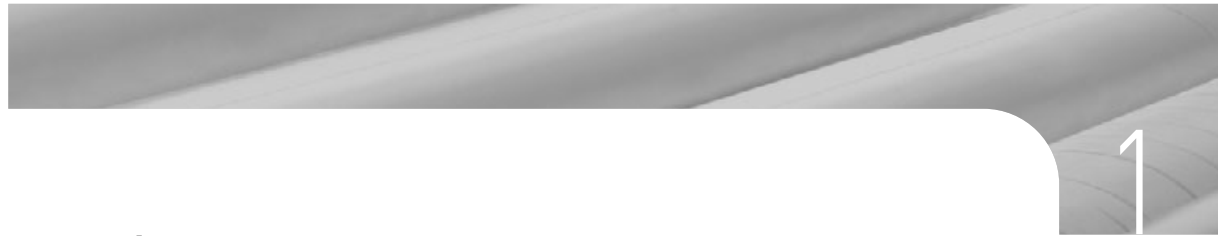
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## INTRODUCTION

This Port Information is prepared by Petrobras Transporte S.A. (Transpetro), which operates the Marine Terminal of Aracaju (Maritime Terminal of Carmópolis – Tecarno) in the Multi-buoy Mooring system in Sergipe.

It presents essential information for ships operating at the Terminal, is distributed for the interested parties at the Port, National and Local Authorities, as well as the different branches of the company.

The Port Information has versions in Portuguese and English languages.

The information contained herein serves to supplement, but never to supersede or alter, any legislation, instructions, guidance or official publications, either national or international. Therefore, anything that conflicts with any of the aforementioned documents should be ignored.

The Terminal holds itself the right to change any information herein presented, with no advance notice.

Transpetro will analyze any suggestions, recommendations or corrections to the topics addressed herein, in order to improve the information. Where any information is found to be incorrect and require updating, please contact:

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The most recent version of this Port Information can be obtained at the following address: **[www.transpetro.com.br](http://www.transpetro.com.br)** .

## DEFINITIONS

**BP** – Bollard Pull – Ship’s longitudinal Static Traction.

**CPSE** – Harbor Master of Sergipe.

**Dry tide** – A condition in which the tide reaches the minimum amplitude at a certain time of the year.

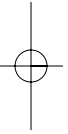
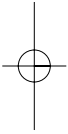
**GIAONT** – generic designation for the professionals inspecting the operational safety. The name comes from “Safety Surveyor Staff”.

**IMO** – International Maritime Organization.

**Syzygy tide** – A condition in which the tide reaches the maximum amplitude at a certain time of the year.

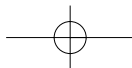
**UTC** – Universal Time Control.

**VTS** – Vessel Traffic Service.



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# CHARTS AND REFERENCE DOCUMENTS

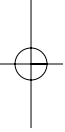
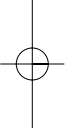
Terminal Information may be obtained in the publications listed below.

## Nautical Charts

Area	Chart Number
	Brazil (DHN)
From Recife to Belmonte	60
From Maceió to Itarari River	1,000
Sergipe River Bar	1,003
Barra dos Coqueiros Port	1,001

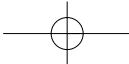
## Other Publications – Brazil (DHN)

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



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## DOCUMENTS AND INFORMATION EXCHANGE

The items listed below must be provided by the Terminal or the Ship, as indicated on the table.

Information	Prepared by:			Delivered to			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
<b>Before arrival</b>							
Estimated Time of Arrival (ETA) and ship information		X		X			According to Appendix P
Essential Terminal information	X				X		Appendixes A to O
<b>Before cargo or Bunker transfer</b>							
Details about on-board cargo, slop or ballast		X		X			According to Appendix Q
Essential operating information (fill in locally)	X				X		According to Appendix Q
Ship//Terminal Safety Checklist			X			X	According to Isgott Appendix A

*continue*

Information	Prepared by:			Delivered to			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
<b>During cargo or Bunker transfer</b>							
Repeat Ship/Shore Safety Checklist			X			X	As per Isgott Appendix A
<b>After cargo or Bunker transfer, before departure</b>							
Information required for unberthing the Ship			X			X	Quantity of fuel and water on-board
<b>After unberthing, on leaving port</b>							
Information concerning Port departure data		X		X			Pilot disembarkation time, and port departure time

## DESCRIPTION OF THE PORT AND ANCHORAGE AREA

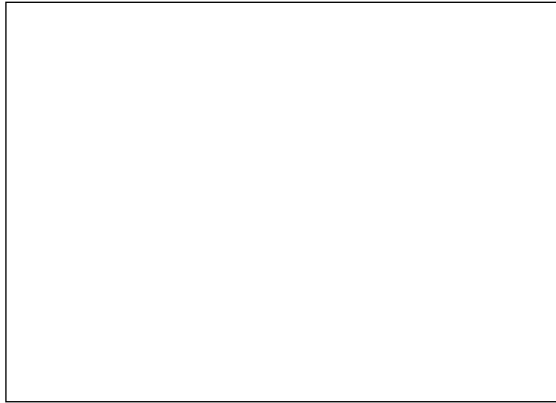
### 5.1 General Description of the Terminal

The Shore facilities of the terminal are located in the city of Aracaju, Av. Melicio Machado s/n km 2, Atalaia Velha District. The Maritime facilities of the Terminal are located on the Brazilian East coast (Atalaia Velha Beach) and in unsheltered maritime area, nearly 3.8 nautical miles away from the beach, and the system berth is on a depth of 18 meters.

It is an ocean terminal of the Multi-buoy mooring system type, with 6 buoys installed near the Aracaju port. The berth was designed to accommodate ships with up to 65,000 DWT. However, in favorable circumstances and under criteria of the captain and Mooring Master, it is possible to accommodate ships with up to 115,000 DWT.

The oil pipeline that connects the Terminal to the Multi-buoy mooring system is comprised of 26-inch pipes, coated with 4-inch-thick concrete. In the end of the underwater oil pipeline there is a "Plem", from where 2 lines of underwater hoses, named North and South, leave, with 120 m of extension and class 300 PSI.

In the picture below we can view a ship berthed on the Multi-buoy mooring system.



## 5.2 Location

### 5.2.1 Multi-buoy mooring system coordinates

→ Latitude: 11° 02' 39,823" S

→ Longitude: 037° 00' 53,154" W

### 5.2.2 General Geographic Location

It is located on the East Brazilian coast, Aracaju, Sergipe, Brazil.

### 5.2.3 Local time

The local time is 3 hours behind the Greenwich meridian. From October to February, it is usual to adopt daylight saving time, and the time difference goes to 2 hours behind Greenwich.

## 5.3 Approaching the Terminal

### 5.3.1 General description

With the berth on open sea, the terminal can be safely accessed both from NNE and from SSW. The coast has an alignment of 035/215°.

Between the rivers Sergipe and Vaza-Barris, the coast is almost exclusively comprised of dunes and coconut trees, following a straight line and offering few conspicuous points to serve as a reference.

The ships must beware of the existence of 23 fixed production platforms, which are great points for bearings and have their positions listed on item 5.3.3.2.

The Aracaju Lighthouses are a good landing and navigation resource:

Description	Geographic Coordinates	Charts (DHN)	Luminous Range Luminoso	Geographic Range
Sergipe Lighthouse Radio – NRORD 1428	Lat.: 10° 59' 16" S Long.: 037° 02' 18" W	1,000 e 1,003	39 MN	18 MN
PRB-1 Lighthouse – NRORD 1401 (Petrobras PRB-1 Platform)	Lat.: 10° 39' 20" S Long.: 036° 38' 06" W	1,000	26 MN	14 MN
São Cristovão Lighthouse – NRORD 1438	Lat.: 11° 07' 79" S Long.: 037° 08' 71" W	1,000 e 1,003	23 MN	16 MN
Santa Izabel Lighthouse – NRORD 1402	Lat.: 10° 49' 38" S Long.: 036° 56' 12" W	1,000 e 1,001	White: 26 MN Red: : 21 MN	17 MN

From within the Terminal storage area we can mention the tank 4305, which, due to its dimensions (79 m of diameter and 14.5 m of height) and white color, can be seen from a considerable distance. At night, the LPG plant flares from UN-SEAL can also be seen from a considerable distance.

### 5.3.2 Approaching the Multi-buoy mooring system

Since it is an ocean terminal, the Multi-buoy mooring system can be accessed from any direction in the sea. However, according to the direction from where the wind blows, different approaches to enter the system berth can be made. Due to the variations that may occur, the terminal offers the services of a Mooring Master who will guide the ship maneuvers in the system and its mooring.

The design geographic coordinates for the mooring buoys and Plem are listed below.

Place	Latitude	Longitude
Buoy 1	11° 02' 43,096" S	37° 00' 54,850" W
Buoy 2	11° 02' 31,675" S	37° 00' 49,673" W
Buoy 3	11° 02' 41,034" S	37° 00' 57,866" W
Buoy 4	11° 02' 32,713" S	37° 00' 52,971" W
Buoy 5	11° 02' 38,652" S	37° 01' 00,211" W
Buoy 6	11° 02' 32,290" S	37° 00' 57,820" W
Plem	11° 02' 39,823" S	37° 00' 3,154" W

### 5.3.3 Anchorage areas

The anchorage areas for oil tankers that wait for berthing or daybreak is determined by the coordinates:

- Latitude: 11° 03' 30" S
- Longitude: 036° 58' 30" W
- Latitude: 11° 04' 30" S
- Longitude: 036° 59' 30" W
- Local depth: 25 meters (82 feet) – MLWS

Many times, the mooring master will embark while the ship is still operating on the anchorage area surroundings. This anchoring place offers immediate access to the berth. In this area, there is a good securing bed, but since its nature is diversified (mud and fine sand), it is recommended that the NTs do not stay with the iron on a single position for more than 24 hours: otherwise, there will be difficulty for casting off.

There are two anchorage areas for supporting vessels:

#### North Anchorage Area

- Latitude: 11° 01' 35" S
- Longitude: 037° 01' 01" W
- Latitude: 11° 02' 08" S
- Longitude: 036° 58' 50" W

#### South Anchorage Area

- Latitude: 11° 03' 22" S
- Longitude: 037° 01' 15" W
- Latitude: 11° 09' 22" S
- Longitude: 037° 00' 14" W

#### 5.3.3.1 Mooring Master embarking point

Into daylight, one of the Mooring masters will embark nearly 1 mile SE away from the multi-buoy mooring system. He will guide the works for mooring, connection, disconnection, etc. If they arrive at night or for waiting a space in the berth, they must anchor in the point specified on item 5.3.3 in this manual.

**Note:** A team of moorers and 2 Terminal Operators will embark along with the Mooring Master.

The Ship must provide accommodation for the people who embarked along with the Mooring Master, since they will stay on board until the end of the operation. A total of 12 people is the estimated embarked team.



### 5.3.3.2 *Forbidden anchorage areas*

Under no circumstances should the ships anchor in the area between the beach and the buoys and in the surroundings of the underwater oil pipelines (N and S) that come from the oil extraction platforms.

In addition to the underwater oil pipeline that interconnects the shore tanks with the multi-buoy mooring system berth, there are more gas and oil pipelines targeted at the outflow of the production from maritime fields.

Anchoring is forbidden in areas delimited on charts by reserved limit lines.

In the Caioba field there are four platforms (PCB 1,2,3 and 4), whose positions are:

→ **PCB-1**

Latitude: 11° 00' 28,812" S  
Longitude: 036° 55' 58,361" W

→ **PCB-2**

Latitude: 11° 00' 01,146" S  
Longitude: 036° 55' 29,514" W

→ **PCB-3**

Latitude: 10° 59' 44,818" S  
Longitude: 036° 55' 25,794" W

→ **PCB-4**

Latitude: 11° 00' 25,285" S  
Longitude: 036° 55' 46,598" W

In the Guaricema field the platform positions are:

→ **PGA-1**

Latitude: 11° 05' 53,645" S  
Longitude: 037° 02' 57,416" W

→ **PGA-2**

Latitude: 11° 09' 51,480" S  
Longitude: 037° 03' 09,707" W

→ **PGA-3**

Latitude: 11° 08' 33,236" S  
Longitude: 037° 02' 24,456" W

→ **PGA-4**

Latitude: 11° 07' 53,607" S  
Longitude: 037° 02' 51' 582" W

→ **PGA-5**

Latitude: 11° 09' 12,487" S

Longitude: 037° 02' 09,211" W

→ **PGA-6**

Lat: 11° 09' 22,432" S

Longitude: 037° 02' 09,211" W

→ **PGA-7**

Latitude: 11° 12' 2,55" S

Longitude: 37° 04' 54,92" W

In the Dourado field:

→ **PDO-1**

Latitude: 11° 05' 53,645" S

Longitude: 037° 02' 09,694" W

→ **PDO-2**

Lat: 11° 06' 48,80" S

Longitude: 36° 58' 4,40" W

→ **PDO-3**

Latitude: 11° 07' 06,19" S

Longitude: 36° 58' 49,12" W

→ **ANM DO-1**

Latitude: 11° 06' 47,880" S

Longitude: 036° 58' 25,357" W

Delimitation of forbidden anchoring area:

- A) Latitude: 10° 59' 17" S and Longitude: 37° 02' 54" W
- B) Latitude: 10° 59' 17" S and Longitude: 36° 59' 30" W
- C) Latitude: 10° 57' 35" S and Longitude: 36° 58' 54" W
- D) Latitude: 10° 57' 35" S and Longitude: 036° 55' 12" W
- E) Latitude: 11° 01' 36" S and Longitude: 036° 55' 12" W
- F) Latitude: 11° 11' 20" S and Longitude: 36° 58' 29" W
- G) Latitude: 11° 11' 20" S and Longitude: 037° 04' 30" W
- H) Latitude: 11° 01' 47" S and Longitude: 037° 04' 39" W

**5.3.4 Port Control or VTS (Vessel Traffic Service)**

The Aracaju Port and the Multi-buoy mooring system do not have special traffic and navigation control services. The maritime traffic in the area is managed by the Aracaju Harbor Master.

For additional information, rules and notices in force, please visit the CPSE website:  
<http://www.cpse.mar.mil.br>

### 5.3.5 Pilotage

There are no pilots for the terminal. All maneuvers will be guided by the ship captain, who may be assisted, if desired, by a mooring master from the terminal, who will embark on the anchoring area.

This Mooring master will guide the mooring works, the hose connection and ship removal from the berth.

The services provided by the mooring master are not charged and are under express consent and conditions that Transpetro will not be held reliable for any damages and losses resulting from this guidance, assistance or acts suggested or performed by the mooring master.

The NT captain must inform the mooring master of any special conditions of his NT, such as deficiency in the navigation equipment, towropes, windlass, winch or lack of other necessary items that may jeopardize the mooring works, connection, etc. The NTs must be moored according to the mooring master's satisfaction.

The mooring master will notify any unsatisfactory operational condition to the terminal manager. The manager may reject the NT for future loads, except if the deficiencies indicated are resolved.

### 5.3.6 Boats and port services

For berthing and unberthing maneuvers, the Terminal has 2 boats for helping the mooring and casting off works and emergencies, under responsibility of the on board Loading Supervisor.

It is not viable to supply potable water, fuels, lubricants or foods during the ship stopover time in the berth, since this is an ocean terminal.

For the same reason of the previous item, there are no facilities of any other type, such as:

- Tugs
- Shears or barges
- Laundry
- Repairs on the ship
- Tank cleaning
- Compensation of the needle or calibration of the radiogoniometer

However, one of Petrobras' boats can be used for transporting the crew and for small services.

General supplies and articles are, in limited quantities, acquired from local suppliers via the agency in Aracaju.

#### **5.3.6.1 Supply of nautical charts and other publications**

There is no supply of charts, routes or other publications in Aracaju. However, if requested to the Transpetro agent, such resources may be provided.

#### **5.3.6.2 Certification agencies**

In Aracaju there are no inspectors from Bureau Veritas or LRS, who may come from Rio de Janeiro by the agency request.

#### **5.3.6.3 Consulates**

France and Portugal have consular offices in Aracaju. In Salvador, there are representations from Austria, Belgium, Denmark, France, Germany, England, Italy, Netherlands, Nicaragua, Norway, Portugal, Spain, Sweden, Switzerland and Uruguay.

#### **5.3.6.4 Lubricant oil**

Only in case of emergency. The supply of lubricant oil is expensive and offered only in small amounts. It is difficult to buy and deliver it.

#### **5.3.6.5 Mail service**

There is a regular mail service in Aracaju. Letters must be addressed to the attention of the agent. On its turn, the letters will be delivered on board with the arrival.

#### **5.3.6.6 Medical and dental care**

Medical treatment or hospitalization may be offered by private hospitals in Aracaju. There is availability of dental surgeons in the area. Usually, the agent makes the arrangements for providing this service. In case of emergencies (accidents, etc.), the first aid procedures may be performed by Petrobras.

#### **5.3.6.7 Oil product inspection**

There are no oil inspectors headquartered in Aracaju. If requested in advance to the agency, foreign inspectors may come and provide this service.

#### **5.3.6.8 Provision of food and general supplies**

General supplies and articles are, in limited quantities, acquired from local suppliers, via the agency in Aracaju.

### **5.3.6.9 Repairs on radar and radio**

Small repairs on radar and radio may be made, if warned in advance to the agents.

### **5.3.6.10 Communication between supporting boats and ships**

The Supporting boats are equipped with VHF for continuous ship/boat communication during the berthing and unberthing maneuvers. The watch is maintained 24 hours a day in channel 12 (156.60 MHz), throughout the operation with the ship, to meet needs in case of emergencies.

As an alternative to the communication, each boat has a cellular phone:

- Anchova Boat: (55 79) 9978-4855
- Bonsucesso Boat: (55 79) 9971-4016

### **5.3.7 Risks to navigation**

#### **5.3.7.1 References and signals**

- Sergipe Lighthouse Radio – NRORD 1428 (Latitude: 11° 07' 79" S – Longitude: 037° 08' 71" W), Charts 1000 E 1003 from DHN.
- PRB-1 Lighthouse – NRORD 1401 (Latitude: 10° 39' 20 "S – Longitude: 036° 38' 06" W) Chart 1000 from DHN
- São Cristóvão Lighthouse – NRORD 1438 (Latitude: 11° 07' 79" S – Longitude: 037° 08' 71" W), Charts 1000 E 1003 from DHN.
- Santa Izabel Lighthouse – NRORD 1402 (Latitude: 10° 49' 38" S – Longitude: 036° 56' 12" W), Charts 1000 E 1001 from DHN.

#### **5.3.7.2 Dangers and Obstacles to Navigation**

Ships headed to the multi-buoy mooring system from Tecarno must have special precautions when navigating near the oil extraction platforms over the underwater pipes (chart 1003).

Navigation less than 500 meters away from the platforms is forbidden.

The tankers must restrict as much as possible any incursion to within the 10-meter isobath and keep distance from the São Cristóvão bar beds SW from the multi-buoy mooring system, which constantly change positions.

### 5.3.8 General restrictions

- Winds: Limiting for berthing, unberthing or operation maintenance (when berthed) in the measures below: Winds > 35 knots
- Maximum Draft Recommended (MDR): Since the average depth in the multi-buoy mooring system point is of 18 m, a 4 m (10 feet) space is recommended between the keel and the bed in order to offer security, even if the conditions of the sea where the operation is being developed are severe, since the port is on open sea and subject to variation of waves. Therefore, the maximum draft permitted is: 14 meters (49 feet).
- During the winter, it is recommended to operate in the system with ships of maximum 65,000 DWT, due to the adverse conditions of the sea in this region during this season.
- Ship Mooring and Casting off only into daylight.
- For safety issues, it is not recommended to use steel wires when mooring ships to the system. Thus, the ships must make available wires with the following specifications: 8-leg twisted polypropylene naval rope, DN 80,0 mm (circular approximately 11"), 220 m length fake, in white, breaking strain 58,200 Kgf.

### 5.3.9 Depth control

In Tecarno, the draft limit for berthing and unberthing in the system does not change throughout the year. The points that limit the maximum draft in berthing on the Terminal are described on the previous item.

### 5.3.10 Maximum dimensions

The berth was designed to accommodate ships with up to 65,000 DWT. However, in favorable circumstances and under criteria of the captain and Mooring master, it is possible to accommodate ships with up to 115,000 DWT.

## 5.4 Environmental Factors

### 5.4.1 Winds

Offshore winds are almost non-existent in this region. The winds that blow between 040° and 160° (counted counterclockwise) are irrelevant.

From October to March, the E winds, sometimes SE winds, prevail; 78% of the predominant winds have force 2 to 4, that is, are weak to moderate.

Strong winds (8 beaufort) rarely occur; 19% of calm conditions and the remaining 2.3% of weak winds (force between 1 and 3).

#### **5.4.2 Waves**

Usually, all waves in the Aracaju area are caused by the predominant wind. However, during to the periods of transition in which they occur, many times one has the impression that the waves are of dead sea (breakers). 60% of the waves are from 0.5 to 0.9 meter high.

During an entire year of observation, studies demonstrated that during only 1.4% of the time available for operation the terminal would be closed for loading. In this period, the waves reached 2 or more meters of height.

#### **5.4.3 Rains**

The average annual rainfall is of 1,103 mm. April, May and June are rainy months.

#### **5.4.4 Visibility**

Usually the visibility is good, except when there are rainstorms.

#### **5.4.5 Tides and currents**

The tides have a semi-daytime nature. In the bar, the flood tides generate currents that pull towards S and, during fallings, pull towards N.

The tide amplitude ranges from 0.6 meter in the quarter tides to 2.3 meters in the syzygy tides.

The port determination for flood tides is 04h46m.

The tide current speed rarely exceeds 2 knots.

The currents registered at the Terminal area are determined due to different and simultaneous currents, which act according to different and combined gradations.

Although these causes have been identified as being winds, tides, salinity and temperature, none of them was sufficiently greater to be considered as the main cause.

Most of the currents run parallel to the coast without changing much in speed and direction. The lack of constancy leads us to the conclusion that they cannot be attributed to the Brazil current. The maximum speed registered was 1 knot.

The occurrence was communicated due to the fallings and NE winds, currents to SSW with speed higher than the usual.

#### **5.4.6 Salinity**

The average salinity of seawater is 35.5 ppm, with small seasonal variations. The higher average value found on the Northeast coast, in the latitudes from 26° S to 32° S, is 37.2 ppm.

#### **5.4.7 Density**

The average density of seawater ranges from 1,022 to 1,025.

#### **5.4.8 Atmospheric pressure**

The local average annual atmospheric pressure is 1,013.2 mb.

#### **5.4.9 Air humidity**

The relative air humidity throughout the year is approximately 82%. Bulletins to navigators are transmitted by stations PWZ and PPR. For further details, please refer to the publication DH 8 Lista de Auxílios Rádio.

#### **5.4.10 Temperatures**

The temperatures observed during one year oscillate from 18.2°C, in June, to 30.8°C, in February.



## DESCRIPTION OF THE TERMINAL

### 6.1 General Description

The Maritime Terminal of Carmópolis was officially opened on November 21<sup>st</sup>, 1967. Since then it is responsible for storing and embarking the oil produced in Sergipe and Alagoas, that is, from the shore producer fields (Carmópolis, Siriri and Riachuelo) in Sergipe, Pilar, S. Miguel dos Campos and T. Martins in Alagoas, and from the Continental Platform of Sergipe.

Through the oil tanker discharge, it occasionally discharges the oil coming from UN-RNCE and UN-AM, for further embarking in larger size oil tankers.

The terminal has installed operational capacity of 148,000 m<sup>3</sup>, to store oil.

Tecarno aims at reducing the stopover time for the ships berthed on its multi-buoy mooring system by moving the oil through a planned and optimized manner, through loading and unloading ships, facilitating oil outflow and distribution with agility, quality and safety for the personnel, facilities and the environment.

### 6.2 Physical Details of the Multi-buoy Mooring System

The multi-buoy mooring system is of the conventional, multi-buoy type. The ships are moored to two anchors forward and to six buoys.

In each buoy two nylon ropes with 9" of circumference are fastened. The ships are loaded through a underwater oil pipeline with 26"Ø, which bifurcates into two hose lines. Any of the lines can be hoisted, but the connection will always be via BE. Each of the hose lines is 120 m long, and the design pressure is 300 psi.

The line ends are marked by rope buoys. There is a steel wire with Ø of 3/4" and 150 m, for hoisting the hoses.

The 10" Ø flanges are connected to the ship manifolds through a quick uncoupling device, and the connection flanges are of Ø10", ANSI standard, CLASS 150 PSI.

The system berth is under an 18 meter depth.

The longitudinal ship axis will have its direction changed in relation to the system axis bearing according to the predominant wind direction.

### 6.2.1 Mooring buoy features

- **Type:** Cylindrical
- **Weight:** 6,600 Kg
- **Thrust:** 153,000 N (15,600 Kg)
- **Diameter:** 3,200 mm
- **Height:** 1,980 mm
- **Manufacturing:** Arsenal of Navy/Rio/CEG
- **Year:** 1966/1987

### 6.2.2 Anchoring system features

It is comprised of the following elements:

- **63.5 mm (2,1/2") anchors chains:** 65 Phantomed
- **Main 8 ton anchors:** 6
- **Auxiliary 2 ton anchors:** 10

### 6.2.3 Buoy sustaining power

- **Buoys 1 and 2:** 990 KN (101,032 Kg)
- **Buoys 3 and 4:** 907 KN (92,532 Kg)
- **Buoys 4 and 5:** 778 KN (79,363 Kg)

## 6.3 Mooring Arrangements

The mooring is performed by a contracted company, under guidance of the captain and the mooring master, according to alternatives mentioned on annexes B, C, D, E, F and G.

### 6.3.1 Conditions for embarking the mooring Master and the Supervisor

The ships must have a perfect pilot ladder sufficiently long to reach the terminal boat and available beside the gangway ladder, so that the people embarking on the ship can pass to the gangway ladder after climbing 2 or 3 meters.

### 6.3.2 Mooring recommended

Every ship headed to Tecarno must be qualified for performing the mooring described below. A safe mooring is the responsibility of the Ship's Captain and will be assisted by a mooring master. Tecarno may veto or interrupt an operation where the ship mooring is considered unsatisfactory.

The anchors must be ready to go. In essence, two approaches can be made: one by NE and other by SW, depending on where the wind blows from.

Appendices E, F and G present three diagrams related to the alternatives for approaching the berth. The first example, when the predominant wind is of ENE, the second of E, and the third of SE. The ship will always be moored to two separate anchors from a certain distance and with equal ropes that enable the bow to be midst the anchor lines. The angle formed by them must be of approximately 90°. It is necessary to arrange the anchors so that a line that joins both anchors is perpendicular to the wind line. The first anchor to be released is the one by which the ship will land (windward current); then, the leeward current anchor will be released, entering with the first anchor line (windward current), paying attention so that the second anchor line has the proper rope so both enable the ship to land evenly.

Soon after the first anchor is released, the first mooring line can be delivered to the boat that will shackle them to the mooring buoys at windward, in the order given by the mooring master.

Mooring will only be performed at daylight.

## 6.4 Features of Berth for Loading and Discharging

Loading is performed through a 26" underwater oil pipeline, 7.15 Km long from the coast. At its end two 120 m long hose lines and class 300 PSI bifurcate, connected to a Plem.

The load manifold must preferably be equipped with 10" flange, ANSI standard, 150 PSI. Usually, the N line will be used, except for special conditions. The flow is nearly 3,300 m<sup>3</sup>/h (20,442 bbl/h).

The amidship, a crane or derrick with capacity for 10 TON shall be in conditions of hoisting and connecting the hose determined, always at BE.

The ship windlass (drums, brakes, jaws, etc.) shall be in perfect operation conditions, so that the anchor lines and anchors can be released, turned or adjusted.

A forward winch must be equally prepared for entering with the steel hose collection wire.

Different connection and fastening equipment (straps, joints, quick coupling manifolds, etc) will be supplied by the Terminal and embarked immediately after the arrival of the NT.

## 6.5 Berthing and Laytime Management and Control

The ship berthing and unberthing maneuvers in the Aracaju Terminal must always be performed with the participation of a qualified Mooring master and using the supporting boats.

A team of moorers is available for placing the mooring lines in the buoys and slip hooks.

One or two operators remain embarked in each ship, being responsible for operational tracking, exchange of information with the ship, communications, elaboration of documentation, and monitoring of berthing, as well as for the ship position. This operator has VHF radio for simultaneous communication with the ship and control room.

## 6.6 Main Risks to Berthing and Laytime

The weather conditions in the area are considered good for operating tankers during most of the year. The main risks associated to ship maneuvers and laytime in the Tecarno berths are:

- When berthed, winds with force > 35 Knots.
- The risk described above requires greater attention from the ship crew and Mooring masters in relation to the mooring works and lines.
- The beginning of Laytime is characterized by the end of mooring, when the ship arrives and directly berths, or starts 6 hours after the official time of arrival, if the ship ever anchors.

# PROCEDURES

During the ship laytime at the port, various steps are taken to make it possible to operate safely and manage the risks, in order to minimize them. At every stage, as described in the sub-items below, measures are taken so as to facilitate the operations and plan them adequately.

## 7.1 Before Arrival

When berthed, and after the Terminal Operator has undertaken the safety inspection based on the Operational Safety Checklist from Isgott, the ship will not be authorized by the terminal to start its operations if there are pending issues not solved by the crew.

On-board repairs and washing the ship's cargo tank should preferably be carried out at the anchorage area. To carry out these services with the ship berthed, prior authorization from the terminal will be necessary.

The ships heading to the Tecarno facilities must indicate the estimated time of arrival (ETA) 72 and 48 hours in advance, directly to the respective Agent. Change to or confirmation of the ship's arrival shall be communicated at least 24 hours in advance. The ETA information must specify whether the time informed is local or UTC.

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

## 7.2 Arrival

The port authorities are brought into play by the ships' agents when necessary according to the arrival and berthing schedule. Usually, the visit is made after berthing.

The information from the terminal to ship, and vice-versa, are described in the Appendices "D" and "E", respectively.

The official time of arrival is considered the one when the ship reaches the anchorage area or when the Mooring master embarks, whichever occurs first. However, the time when the notice of operational readiness is issued will not be the time of arrival, except if the NT is really ready to operate, under all aspects.

The NTs will be loaded at a time, following the order of arrival, except when the manager, under special circumstances, gives priority to a ship out of line or when there is change in the bunker schedule from Petrobras.

Please find below the list of important telephone numbers in the port:

**Sergipe Harbor Master:** (55 79) 211-1666

**Associação de Práticos de Aracaju (Pilot Association of Aracaju):**

(55 79) 211-5699 / 213-7199

**Aracaju Port Management:** (55 79) 280-5000

**Federal Police Superintendence:** (55 79) 3179-1800

**Port Healthcare Service – Sanitary Inspection:** (55 79) 214-0859

**Delegacia da Receita Federal (Internal Revenue Service):** (55 79) 259-6917

**Tecarmo:** (55 79) 243-1414 / 212-5977 / 212-5995

**Santa Maria International Airport:** (55 79) 212-8540 / 212-8554

**Military Police:** (55 79) 211-1158

**State Hospital gov. João Alves Filho:** (55 79) 259-3637

**Healthcare Services:** (55 79) 136

**Cesportos:** (55 79) 3179-1842

## 7.3 Berthing

### 7.3.1 Ship mooring

The mooring lines must receive permanent care so that the ship is always berthed. All the lines must be kept under adequate tension during the operation, with the winch brakes on. The use of automatic tensioning winches is not permitted.

All the mooring lines must be of same type, gauge and material (8-leg, naval polypropylene twisted rope); mixing mooring lines is not permitted.

Mixed mooring lines are those in which the lines executing the same function have different type, gauge and materials.

Cables for emergency towing must be left hanging down to the waterline, along the bow and quarter of one of the boards, and fast to the on-board bollards, with the rope hands on waterline throughout the entire operation.

Additionally, all oil tankers must comply with Resolution A535 from the IMO assembly, which describes emergency towing and its forward and aft equipment, consisting of strong lifting handle and towing rope. This equipment must be extended and accessible for immediate connection when the ship is in the multi-buoy mooring system berth.

### 7.3.2 Ship/boat access

All ships must provide safe access means for personnel embarking and disembarking, and always maintain its ladders ready to be lowered. Lifesaving buoys with guide rope must be available near the access means. The gangway ladder, along with the pilot ladder, must be used when it is necessary to access the ship (check item 6.3.1 above).

The crew disembarking must wear leather footwear, long pants and shirts with sleeves. When arriving on the Terminal port facilities, the luggage will be checked, due to the procedures from certification ISPS Code.

In case of foreign ships, if there are passengers or crew to disembark, they shall arrange for the inspection of their documents by the Federal Police, Customs and Port Healthcare Department (contact the local agent).

## 7.4 Before Cargo Transfer

**Electrical grounding:** The loading hoses are electrically and individually grounded.

**Connections and Reductions:** The resources necessary to connection are established on the first contact between the ship and the terminal. The ship must have the manifolds and install load reductions and connections in order to enable the loading hose coupling. The shore personnel make the hose connections and disconnection, aided by the on-board personnel, who handle the winches and derrick, when necessary. After the loading hose connection, it will be tested for tightness, using the static terminal column pressure for this purpose. An on-board representative must accompany the entire operation, and must be close to the ship's load manifold.

**Safety Inspection:** The operation can only start after the initial letter has been filled in by shore and onboard representatives. The Ship/Shore Safety Checklist. (Appendix A of "Isgott") is checked and filled by the on-board Operator during the initial ship release.

**Communication Means:** Communications with the ships are carried out via VHF radios in maritime frequencies previously agreed and registered. A secondary mean, via cellular phone, is established for faults of the main system.

In case of faults in the radio communication system, the operation cannot be started or must be suspended if it is occurring, until the problem is solved.

**Operational Control:** The Tecarno control room is located on the Terminal storage area, on its terrestrial facilities. The operators responsible for controlling all terminal operations, through the supervisory system, work in these rooms.

The control room can be contacted via VHF radio on maritime frequency, channel 16 (156.80 MHz), or through the telephone numbers (55 79) 243-1414 / 212-5252 / 212-5250 / 9979-4869.

**Tank Inspection:** Whenever possible, a ship must be inspected without the need for entering the tanks. If the cargo requires the internal tank inspection, all safety precautions inherent to entering confined spaces shall be taken. In this case, the ship must arrive with its tanks degassed and on "free for man" condition. If Tecarno or the Inspector reject the tanks inspected, the delay will be debited to the ship.

**Verification of Quantities:** The onboard measurements will be carried out by the ship's personnel and inspected by the terminal representatives or other inspectors. The material used must be duly grounded, and the measuring instruments must be explosion-proof.

**Ballast Jettisoning:** The ships must arrive at the Terminal with the ballast minimally clean to enable maneuver according to the predominant weather conditions. With the purpose of preventing water pollution, all ships that stop at the Terminal for loading must transfer the tanks before the arrival. Before approaching the berth, the captains must make sure that all tanks, lines and pumps are free from oil. The transfer works must mandatorily be made 50 miles away from the Brazilian coast.

The Terminal does not have the facility for receiving any part of dirty ballast. If a dirty ballast remaining on board is verified after the mooring, the ship must return to the sea for the necessary cleaning. In this case, a new notification of operational readiness must be issued.

**Cleaning:** It is forbidden to carry out steam cleaning or to clean boiler piping while the ship is berthed. Precautions must be taken so that sparks do not escape from the smokestack. The non-compliance with this regulation will result in one or more of the sanctions below: immediate interruption of operations; fine applied by the relevant authorities; compulsory ship unberthing from the system; notification on the infraction to the ship owners; liability on the ship for the fines, demurrage and all other correlate expenses resulting from this fact.



**Access of Small Boats:** The prohibition on non-authorized small boats remaining alongside or near berthed ships shall be strictly observed. Only the terminal service vessels or the vessels authorized can be in the vicinities or side by side, provided that they meet all safety conditions. Any violation of this rule shall be communicated to the competent authority.

**Protection from Product Return and Overflowing:** the terminal does not have retaining valves to prevent the product from exiting to the ship when the shore manifold is aligned. During discharges, it is up to the ship to monitor possible undesirable receptions and the tank levels, with the purpose of avoiding overflows.

**Propeller Maintenance:** The ships berthed must have their propulsion system in state of readiness throughout the operation, so they are able to cast off, clearing the berth, after disconnecting the hose in case of any emergency.

## 7.5 Cargo Transfer

**Pressure monitoring:** during cargo transfer, the monitoring is registered by the representatives aboard and ashore at the ship's manifold, hour by hour. The terminal controls the internal pressure variables and flows are checked on real time via the supervisory system available in the control rooms.

The following pressures can be admitted on the on-board manifold during the loading operation:

- With 4 pumps working, zero pressure;
- With up to 3 pumps, pressure up to 5.0 Kgf/cm<sup>2</sup>;

During the discharge operation, the pressure on the on-board manifold cannot exceed 19.0 Kgf/cm<sup>2</sup>.

**Operation Flow:** The operation flows, measured on the ship and on the terminal, and the total volume moved are checked on an hourly basis and compared between the parties having a limit parameter for operational control, according to the system used. Any changes in the operating conditions must be communicated and documented between the parties.

The maximum pressure and reception flow determined by the ship will be maintained if they are below the terminal capacity:

- For product with °API below or equal to 35.0 = 2,800 m<sup>3</sup>/h
- For product with °API higher than 35.0 = 3,300 m<sup>3</sup>/h

It is expressly forbidden to close valves that may cause counterpressure in the system during the operation.

**Slop and Ballast Discharge:** Slop, ballast and deballast pipes and tanks must be designated for this purpose only, and remain isolated from other pipes aboard. The water ballast to be discharged into the sea shall be totally free of oil, any oily residues or other substances that may pollute the seawater. The Terminal does not have facilities for receiving ballast.

**Tank Cleaning:** The COW operation is accepted, depending on prior authorization from schedule for ship laytime on the port purposes and from Initial Safety inspection for operational safety purposes.

**On-board Repairs:** No repairs or maintenance work involving a risk of sparks or other forms of ignition may be carried out while the ship is berthed at the terminal multi-buoy mooring system. In extreme cases, all the safety rules shall be complied with and fulfilled.

**Safety Inspection:** The intermediate inspections, according to Appendix A of the "Isgott", will be performed by the on-board Operator during the ship operation every 6 hours.

**Emergency Stop:** Interrupting the ship loading and discharging must be requested via radio or other communication mean whenever there is a situation that may offer danger, whether to the ship or the terminal. The operations shall also be temporarily suspended during lightning storms, thunderstorms and/or squalls. The operating personnel at the terminal are authorized to interrupt/suspend the operation in case of non-compliance with any safety-related rules and standards globally accepted and adopted in the maritime oil transportation. The Ship's Captain is entitled to interrupt the operation when there are reasons to believe that onshore operations are not safe, as long as he gives the Terminal operators advance notice. In any emergency situation, the Aracaju terminal will interrupt the on-going operations so that all available resources are focused on mitigating the disaster. The actions and contacts for every type of emergency are described in the management's Emergency Plan and the key telephones are listed in section 9.

## 7.6 Cargo Measurement and Documentation

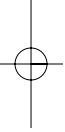
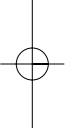
After finishing the operation, you must start draining part of the loading hose used so to make its disconnection feasible. The ship representative shall arrange for drainage of the onboard stretch.

**Final On-board Measurements:** They will be carried out by the ship's personnel and inspected by the terminal representatives or other inspectors. The material used must be duly grounded, and the measuring instruments must be explosion-proof.

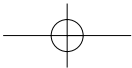
**Final Ship Release:** It occurs after the quantities moved are compared and after the lay-time documentation is filled up.

## 7.7 Unberthing and Leaving Port

During the unberthing and maneuvers for leaving port, the limits and hazards listed in section 5.3 and its sub-items must be observed.



PORT INFORMATION



# ORGANIZATION OF THE PORT AND ANCHORAGE AREA

## 8.1 Port Control or VTS

This section does not apply to Tecarno.

## 8.2 Maritime Authority

The Maritime Authority to which the Terminal is subordinated is the Aracaju Harbor Master. It is the Maritime Authority within the Aracaju port limits, and it is up to this authority to determine the actions and charge the people liable for any incident within the port limits.

The authority determines that the visit from fiscal and sanitary authorities be made before the ship is berthed to the Tecarno multi-buoy mooring system. Occasionally, and if formalized in advance, the inspection may be carried out with the ship berthed.

The ships headed to Tecarno will be visited by the Port Health Inspection, Customs and Federal Police.

The ship's agent must make the necessary arrangements.

Each and every document related to the ship clearance on the last port shall be presented to the port authorities.

### 8.3 Pilotage

Check item 5.3.5 above.

### 8.4 Tugs and Other Maritime Services

#### 8.4.1 List of boats available at the Terminal

The Terminal has 2 (two) diesel-propelled boats with steel wreck for helping the berthing and unberthing works and emergencies.

Tecarno holds responsibility only for the operation of its own Boats (Anchova and Bonsucesso).

#### 8.4.2 Other relevant maritime services

The list of companies below is merely a courtesy of Tecarno, which has no responsibility for the quality of the service provided, terms or personnel qualification.

The release of access to the ship by service providers will be conditioned to the approval from the Asset Inspection service of Tecarno.

Without a written permission from the Terminal representative, no repair or maintenance work of any nature that may involve risk of sparks or other ignition means could be performed while the ship is berthed.

##### 8.4.2.1 Maritime agencies

###### **H. Dantas Comércio, Navegação e Indústria Ltda.**

Terminal Hidroviário Jackson Figueirido, 15 – Centro  
ZIP Code: 49.010-550 – Aracaju – SE – Brazil  
Phone: (55 79) 2106-9855 / 2106-9858

###### **Agência de Navegação e Despachos Andrade Ltda.**

Av. Rio Branco, 186/103 – Centro  
ZIP Code: 49.000-900 – Aracaju – SE – Brazil  
Phone: (55 79) 3214-5240 / 3211-9190

###### **Memar**

Rua B/A, 226-B – Rosa Maria  
ZIP Code: 49.100-000 – São Cristóvão – SE – Brazil  
Phone: (55 79) 3257-1839 / 9983-8520

**Petrobras Agência Marítima**

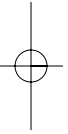
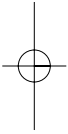
Av. Melício Machado, s/n – Atalaia Velha  
ZIP Code: 49037-440 – Aracaju – SE – Brazil  
Phone: (55 79) 212-5455  
Fax: (55 79) 212-5446  
Mobile: (55 79) 8802-8006

**8.4.2.2 Ship repairs and divers**

Company	Telephone/Fax (55 79)	Specialty
Marno	3257-1500	Diving Services

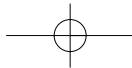
**8.5 Other Major Users**

Not applicable to Tecarno.



PORT INFORMATION

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# EMERGENCY PLAN

## 9.1 Emergency Contacts

The table below indicates the essential contacts, with telephone number, fax number, and radio channels/frequencies.

Organization	Operating Times	Telephone (55 79)	Fax (55 79)	Cellular (55 79)	VHF/UHF Call
Harbor Master	24 hours	3211-7380	-	-	CN 16 (156,800)
Boats	24 hours	-	-	9978-4855 9971-4016	CN 16 (156,800)
Tecarmo Control Room	24 hours	3243-1414 3212-5250 3212- 5252	212-5292	9979-4869	CN 16 (156,800)
Supervision Tecarmo	07:30 am to 5 pm	3212-5995	-	9979-4874	-
Tecarmo Management	07:30 am to 5 pm	3212-5992	212-5488	9979-6511	-
Fire Department Aracaju	24 hours	3243-3637 193	-	-	-

*continue*

Organization	Operating Times	Telephone (55 79)	Fax (55 79)	Cellular (55 79)	VHF/UHF Call
Civil Defense Aracaju	24 hours	199	–	–	–
Aracaju City Hall	8 am to 5 pm	3179-3726	–	–	–
CRE – Centro de Resposta a Emergências (Emergency Response Center)	24 hours	3212-5396	–	9978-6655	–
Ibama	24 hours	3214-2513	–	–	–

## 9.2 Environmentally Sensitive Areas

On the Tecarno Emergency Plan the areas most sensitive to environmental impact are described, listed by sensitivity maps and highlighting, according to the area selected, the points subject to greater impact when this type of event occurs at the Terminal area.

## 9.3 General Description of the Organization of Emergency Combat Services

The responsibilities for handling possible emergencies involving vessels arriving at the Terminal.

### Incidents within the Port/Terminal Area

Incident type	Organization in charge	Other organizations involved			
Collision on the Port	Harbor Master	Civil Defense	Transpetro	–	–
Ship running aground	Harbor Master	Civil Defense	Transpetro	–	–
Collision on the multi-buoy mooring system	Harbor Master	Transpetro	Civil Defense	–	–
Ship sinking	Harbor Master	Civil Defense	Fire Department	Transpetro	–
Fire onboard	Ship	Transpetro	Fire Department	Civil Defense	Harbor Master
Pollution	Transpetro or Ship	Harbor Master	CRE	Ibama	–

## 9.4 Emergency Plans

The PEL (Local Emergency Plan) is the emergency fighting plan of Tecarno in all of its facilities. It is available in all operational areas, in boards located on the operation maintenance rooms and administrative building entrances. The local SMS (health, environment and safety activity) is responsible for updating this.

The emergency and fire fighting equipment must be kept ready for use while the ship is berthed. The operational fire hoses must be extended, one forward and one aft on the load manifolds.

A pollution fighting kit (sawdust, rags, shovels, buckets, squeegees, transfer pumps, etc.) must be kept ready for use in case of oil spill. Supplementary precautions must be taken to prevent pollution of the seawater with oil.

Tecarno has an Emergency Response Center (CRE) complete with modern equipment and various facilities for use in accidental pollution. Intensive training sessions are held periodically to qualify the terminal employees to act according to the PEL (Local Emergency Plan). Located at a strategic point, it can be called into action quickly when combating emergencies. Floating boom, oil collectors and other equipment and materials necessary to works are stored in its shed.

During the entire operation the Terminal keeps an Oil Recover tug ready near the Multi-buoy Mooring System, in order to fight any accidental pollution.

## 9.5 Public Resources for Combating Emergencies

At the Aracaju Port, only Transpetro/Petrobras, through Tecarno, and other operational units, activated through the local emergency plan, have resources that can be used to mitigate sea pollution cases. For other emergencies, the public organizations offer resources according to what they are destined to.

### 9.5.1 Local emergency services

The Fire Department, Civil Defense, Military Police, and hospital units in Aracaju are called according to table in section 9.1.

### 9.5.2 Mutual Assistance Plans

The institutions listed below are part of the PAM (Mutual Support Plan) and their resources are available as previously agreed upon in this plan:

→ Military Fire Department

- Transpetro/Tecarno
- Aracaju City Hall (Civil Defense)
- CRE
- Petrobras/UN-SEAL

## 9.6 Fight Against Oil Spills

The sub-items below describe the resources available for fighting against pollution at the areas adjacent to the terminal.

### 9.6.1 Combat capacity of the Terminal

The resources available at the terminal for combating oil spillage situations are listed in the PEL, which is available in all the administrative, operational and maintenance areas of Tecarno.

### 9.6.2 Combat capacity of the environment agency

The Center for Environment Resources (CRA) does not have resources for combating oil spillage in the sea.

### 9.6.3 Resources available from the mutual support plans of other Terminals

The resources available in other Transpetro terminals for fighting against pollution emergencies occurring at the terminal surroundings are listed in the PEL.

### 9.6.4 Tier-2 combat

Organization designated to combat a significant pollution incident. In these events, regional Transpetro and Petrobras resources are requested. These resources, their readiness and how they are called into action are described in the PEL.

### 9.6.5 Tier-3 combat

Organization designated to combat a significant pollution incident. In these events, national Transpetro and Petrobras resources are requested. These resources, their readiness and how they are called into action are described in the PEL.

## 9.7 Combating Large-Scale Incidents

The PEL at Tecarno lists those actions and those responsible for every type of event expected to occur within its unit, pipelines or vessels, and which involve third parties. For events not foreseen in this document, Transpetro and Petrobras will provide all the national or international resources within their reach.

## 9.8 Sea Pollution and Garbage Packing

### Preventing pollution is extremely important.

Brazilian laws are very severe with respect to water pollution along the coast. It is forbidden to launch any type of material, debris, garbage, oil or pollutant substances in the waters of Aracaju port or in the maritime area of Tecarno. Heavy penalties will be imposed by the port authorities on those who infringe this law, including being arrested as provided for under the law. The ships' captains are in charge of ensuring that no oil or contaminated water will be pumped or spilt from their ships.

All sea valves, both from cargo tanks and holds, must be conveniently closed before any operation. The cargo transfer must be made very carefully, in order to prevent mistakes or delays from causing spills.

All scuppers must be threaded to prevent water contamination in case of spills due to overflowing.

The aim is to completely eliminate the operational sea pollution due to oil and other harmful substances, as well as to minimize accidental spills.

It is forbidden to throw any type of sewage or directly discharge to the sea during the stopover in the multi-buoy mooring system, or even in the entire extension of the ocean area, where different platforms are located.

Ship captains must inform the Harbor Master and port authorities about any spill of polluting substances in the Tecarno or the port area and the Contingency Plan will be enforced for pollution combat.

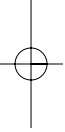
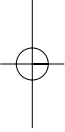
The terminal does not have resources for collecting and discharging the garbage from on-board, and the agent must be contacted when such measure becomes necessary.

During the ship stopover in the multi-buoy mooring system, the garbage must be kept in reservoirs and in adequate, closed packages, and must be kept so. As aforementioned, there is no collection.

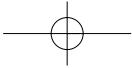
It is expressly forbidden to leave any garbage container hanging over the edge of the ship or near it, where there is risk of it falling into the sea.

The terminal has barriers, oil collector, ferryboat, safety material and supporting vessel.

**IMPORTANT:** Pollution may be qualified as crime under the Brazilian legislation, according to Law 9605 of February 12<sup>th</sup>, 1998, which describes the penal and administrative sanctions resulting from behaviors and activities harmful to the environment, both for the polluting party and the party that failed to prevent such actions.



PORT INFORMATION



# CONTACTS

The tables below indicate the Organization, Title, Telephone, Fax, E-mail and Radio Channel/Frequencies.

## 10.1 Terminal

Location	Contact	Telephone (55 79)	Fax (55 79)	VHF/UHF Channels	
				Call	Conversation
Terminal Supervisor	Supervisor	3212-5995 9979-4874	3212-5488	–	–
Terminal Control Room	Operator	3243-1414 9979-4869	3212-5292	16	12
Terminal Coordinator	Coordinator	3212-5992 9979-6511	3212-5488	–	–
Security (SMS)	Inspector	212-5447	3212-5488	–	–

## 10.2 Port Services

Location	Contact	Telephone (55 79)	Fax (55 79)	E-mail	VHF/UHF Channels	
					Call	Conversation
Harbor Master	Official on duty	3211-1666	3211-3182	–	16	–
ATMAR	Administrative Assistant	3212-2399	3212-2399	–	16	12
ATMAR (Supervision)	Supervisor	9972-6413	–	–	–	–
Boats	Captain	9978-4855 9971-4016	–	–	–	–

### **10.3 Selected Navigation Agents and Suppliers**

The table in section 8.4.2.1 has the list of these companies and their respective contacts.

### **10.4 Selected Navigation Agents and Suppliers**

The table in section 8.4.2.1 has the list of these companies and their respective contacts.

### **10.5 Local Authorities, State and National Agencies**

The table in section 9.1 has the list of these authorities and their respective contacts.



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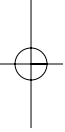
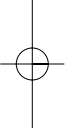
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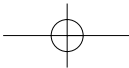
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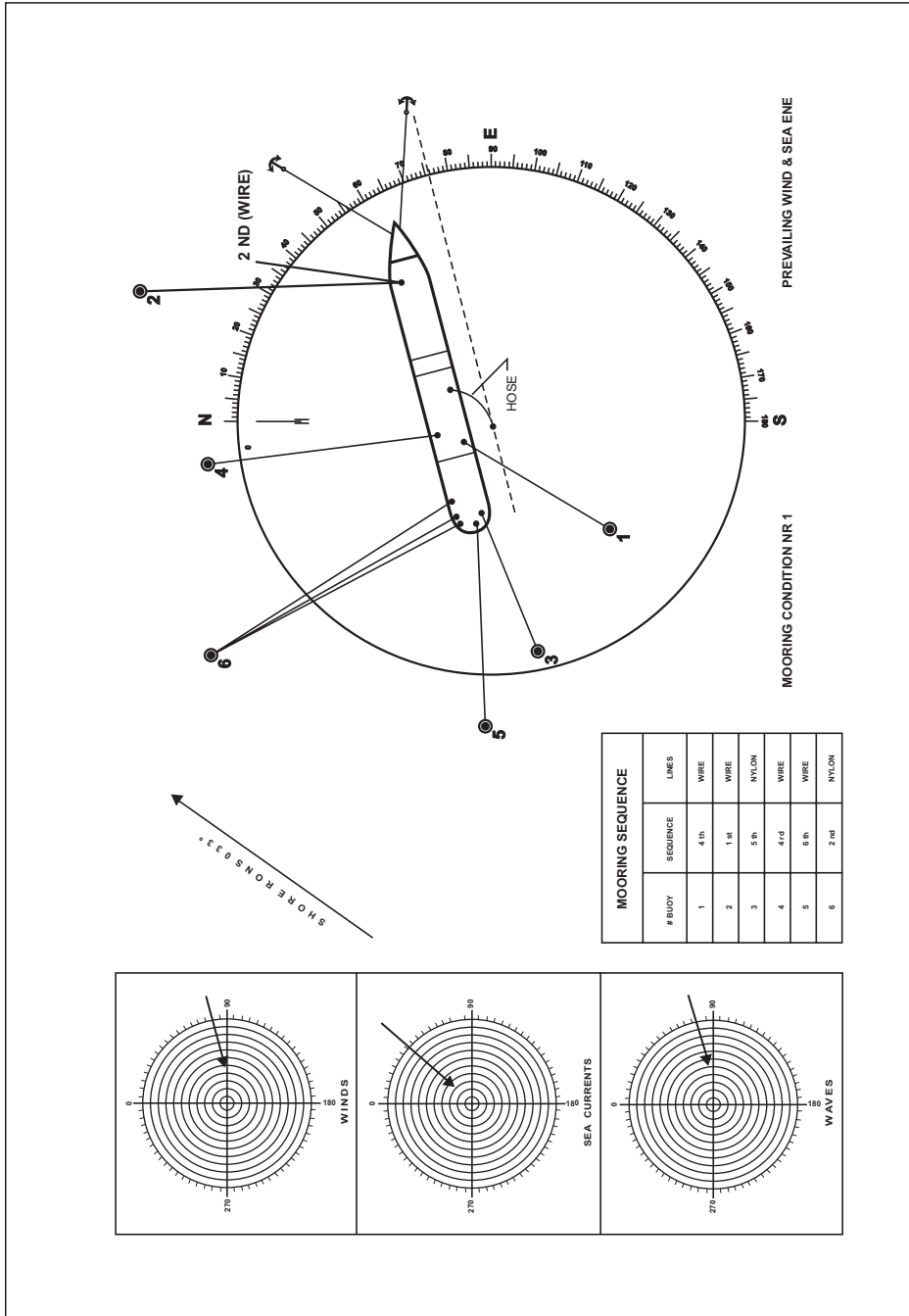


# APPENDICES

## A – Location map of the Multi-buoy Mooring System.

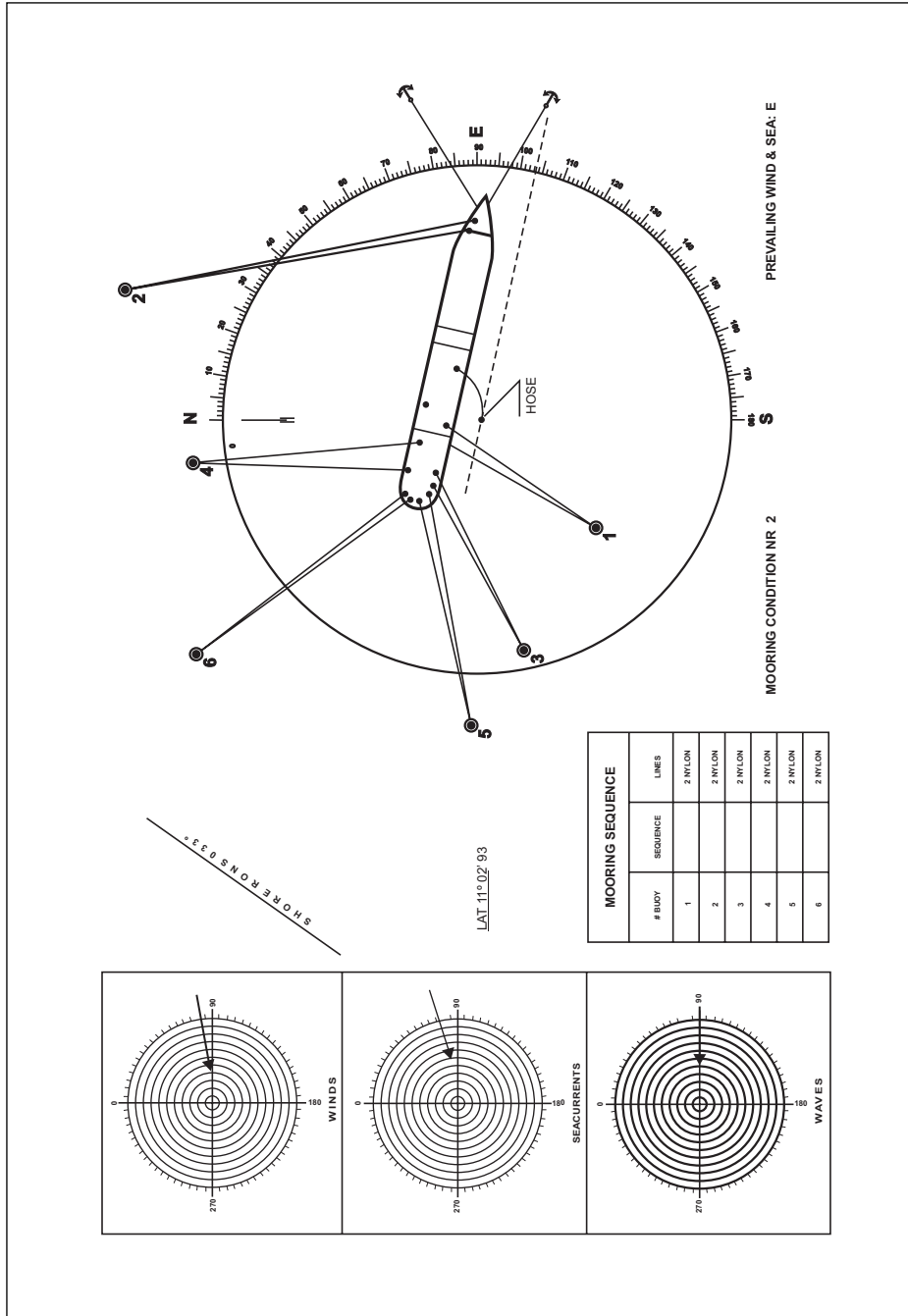
Carta náutica

**B – Report on mooring with ENE wind and sea.**

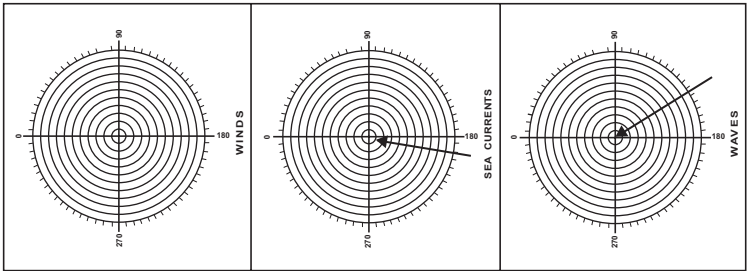
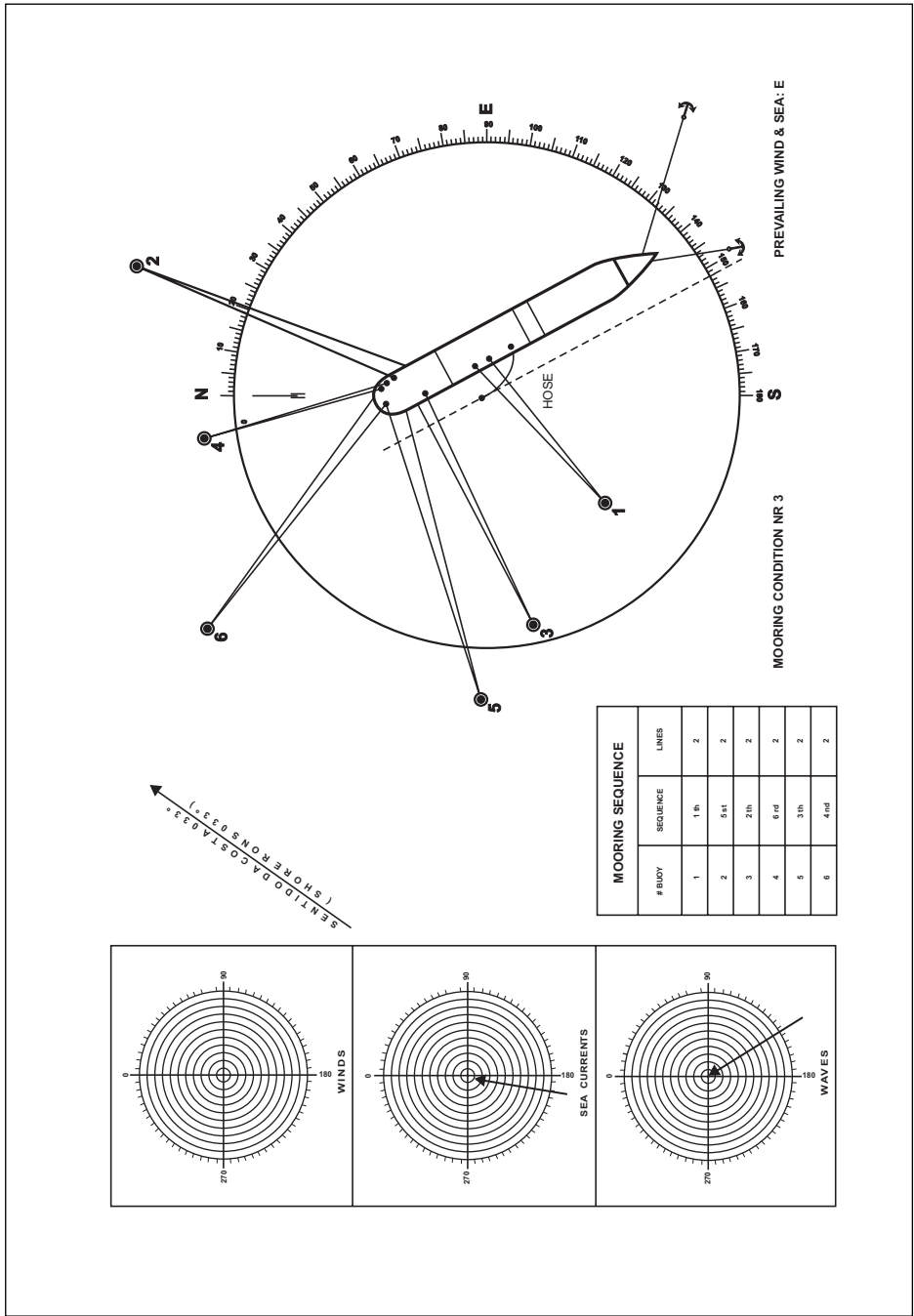


PORT INFORMATION

C – Report on mooring with E wind and sea



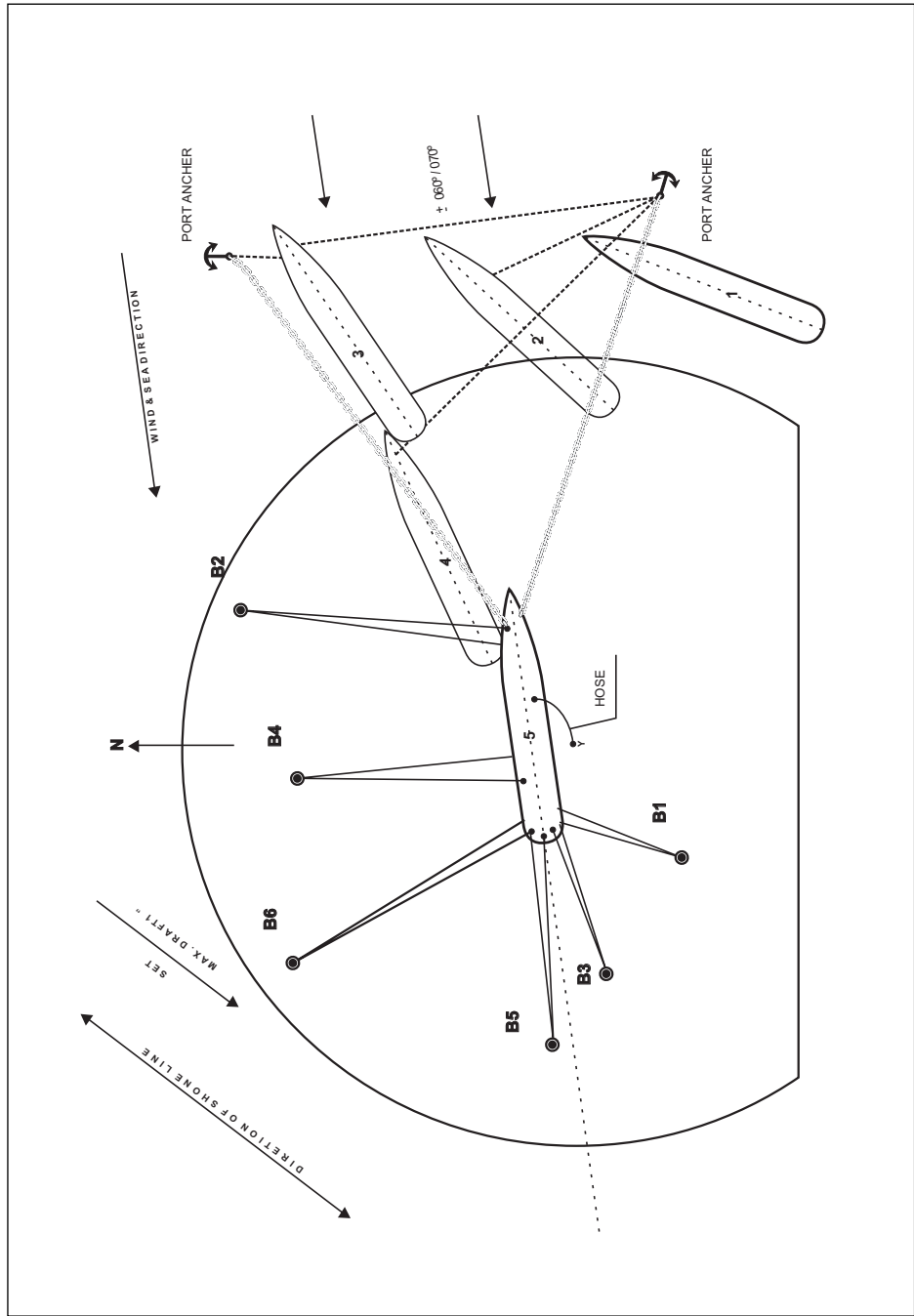
D – Report on mooring with SE wind and sea



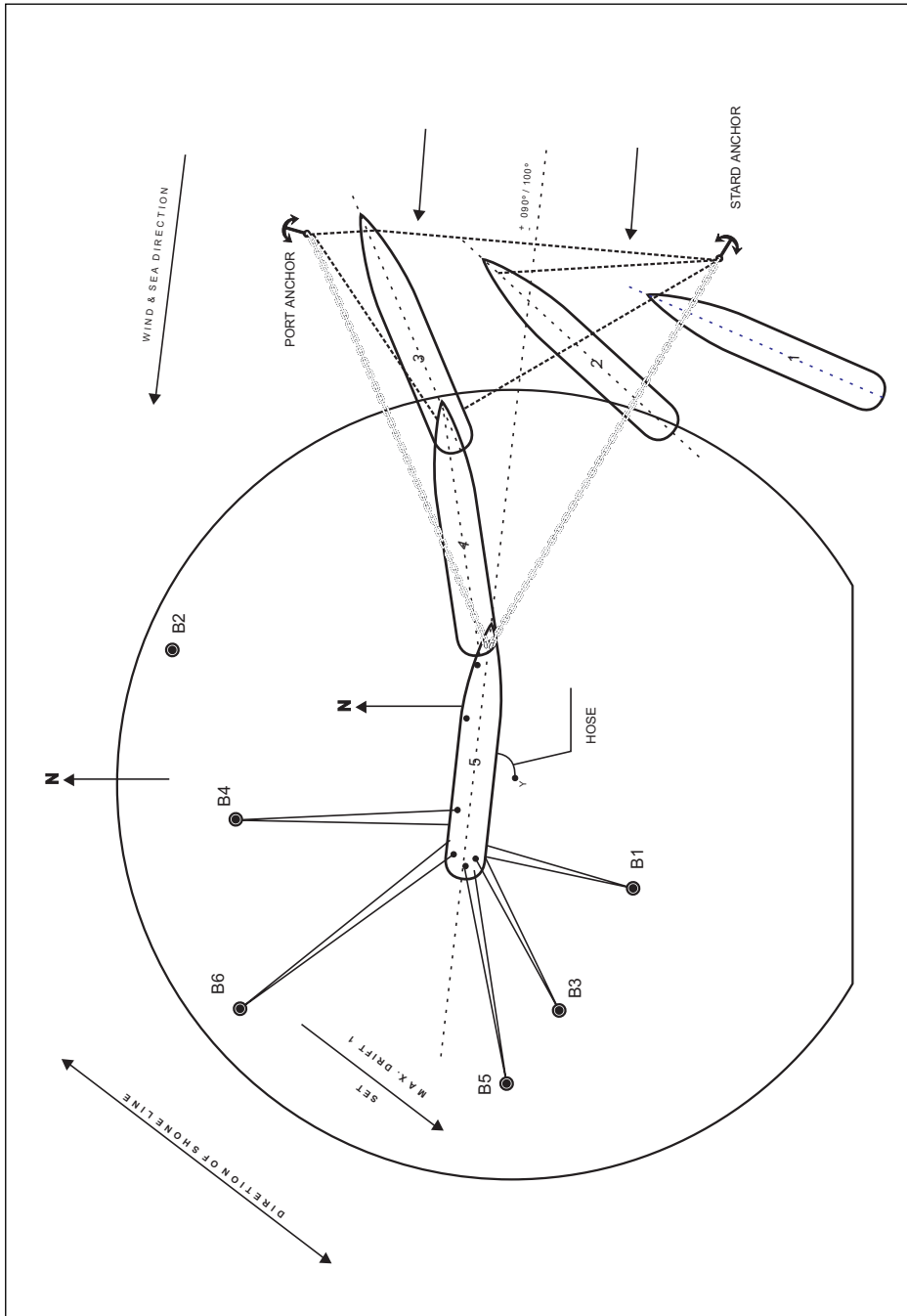
# BODY	MOORING SEQUENCE	
	SEQUENCE	LINES
1	1th	2
2	5th	2
3	2th	2
4	6th	2
5	3th	2
6	4th	2

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### E – Plan on mooring with ENE wind and sea



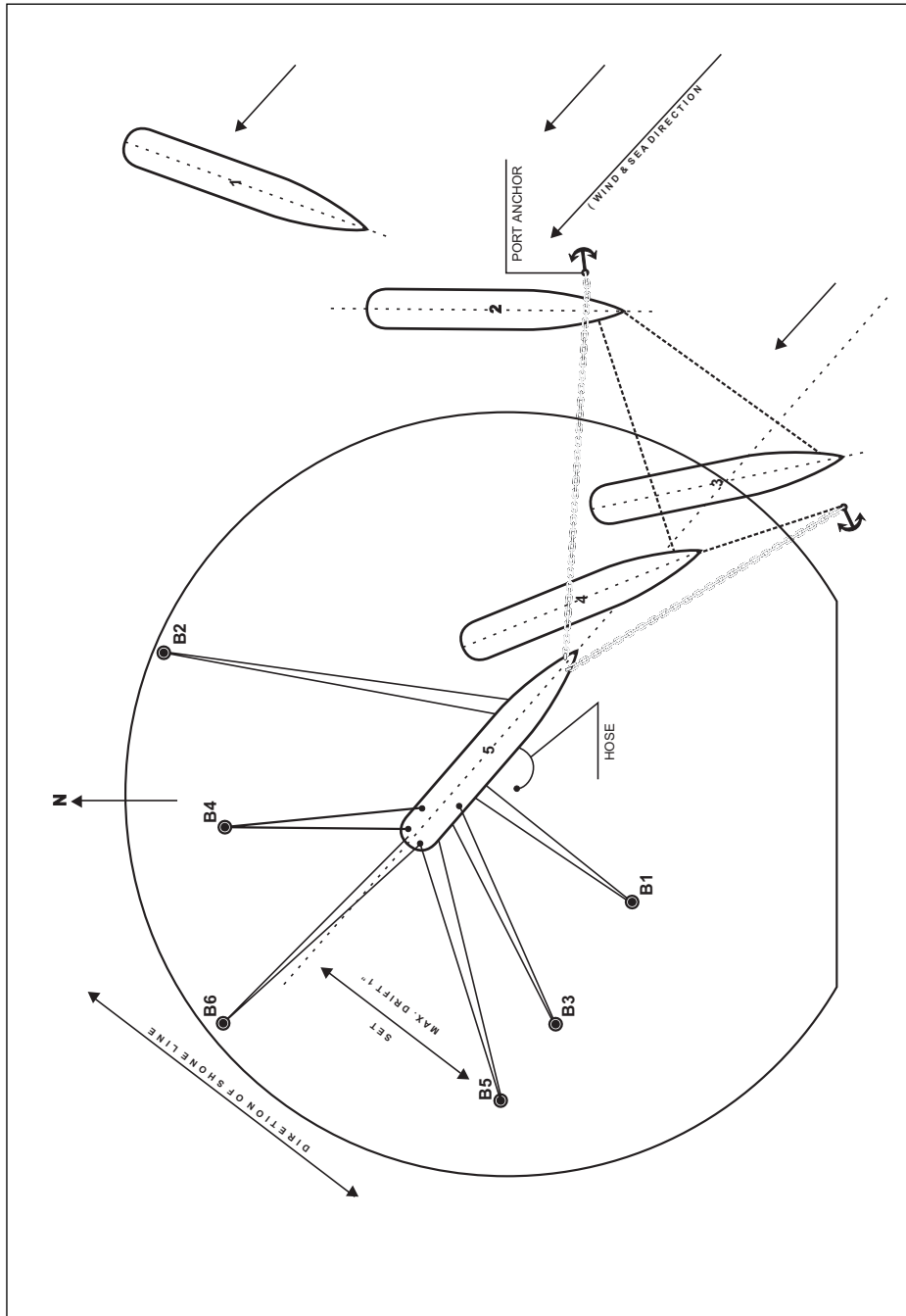
### F – Plan on mooring with E wind and sea



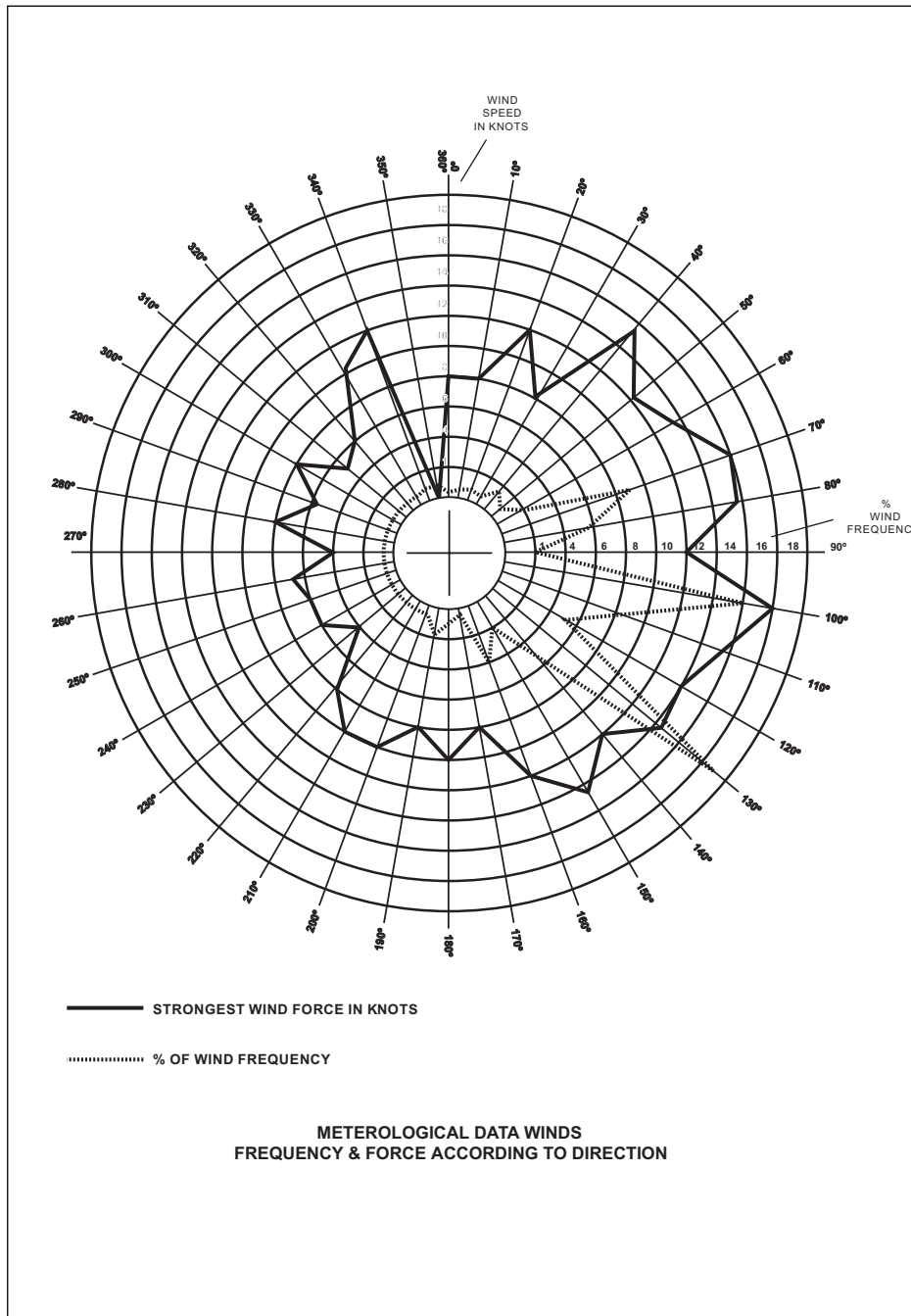
PORT INFORMATION



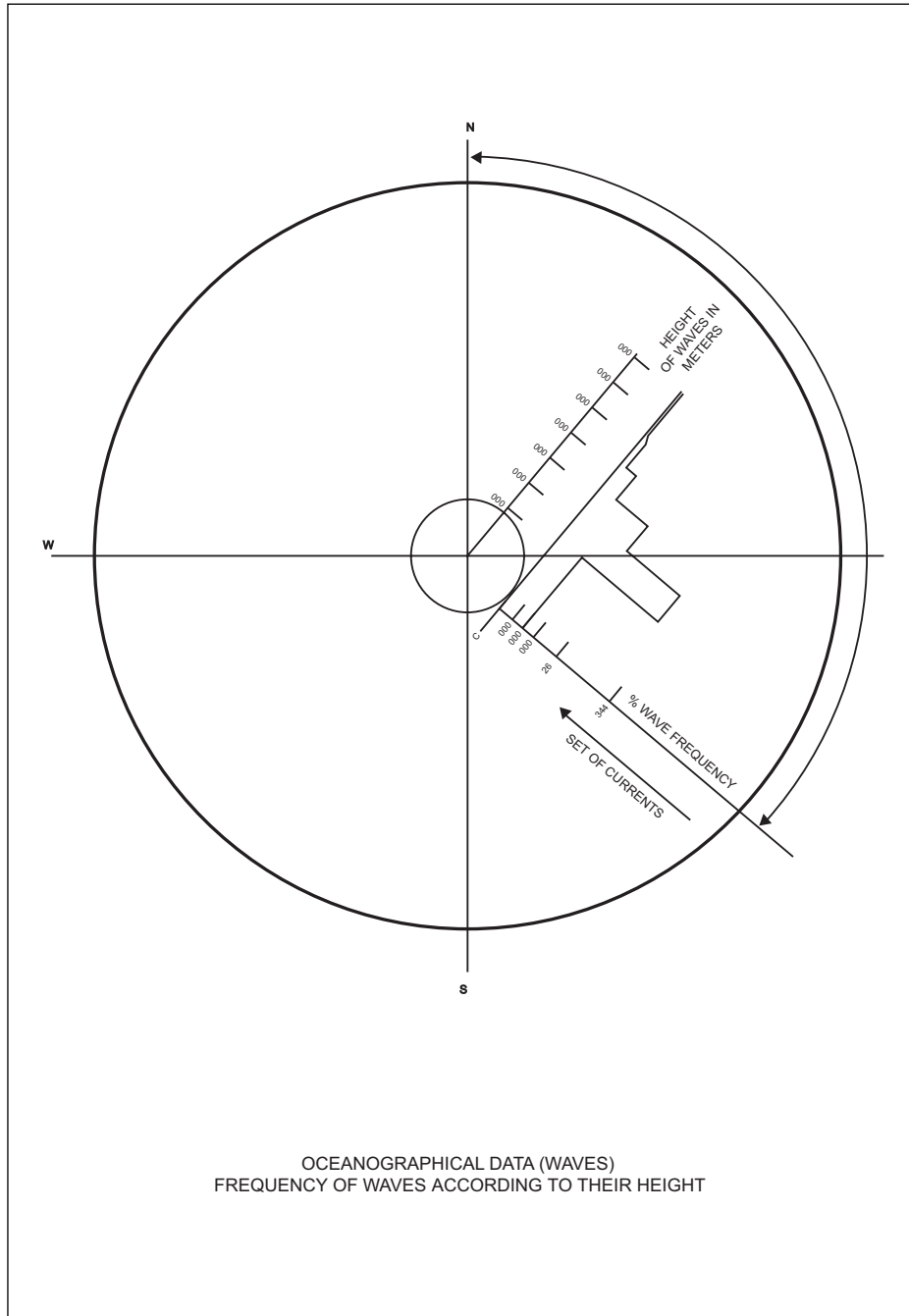
### G – Plan on mooring with SE wind and sea



### H – Wind force and frequency.

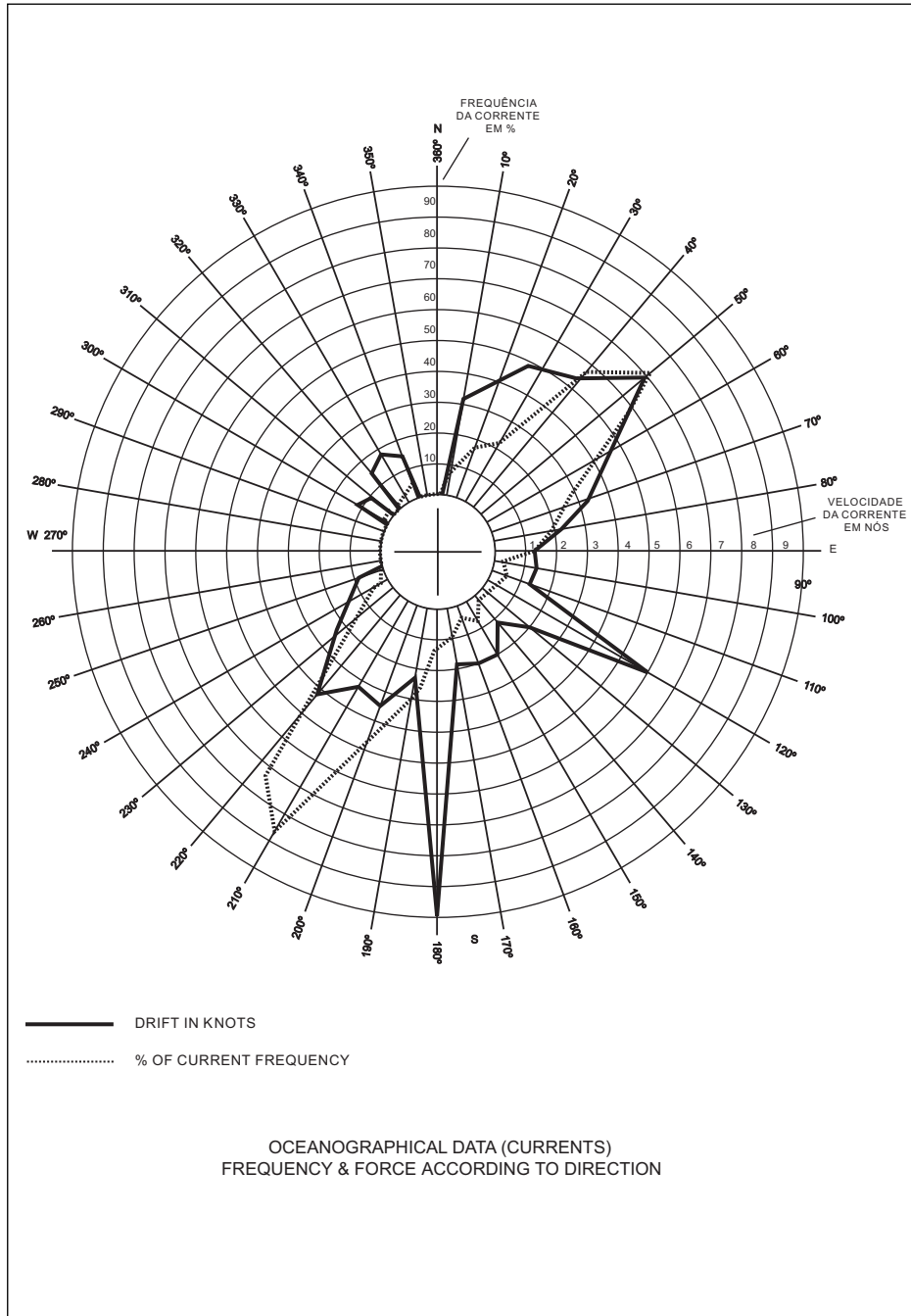


### I – Frequency of waves according to their height.



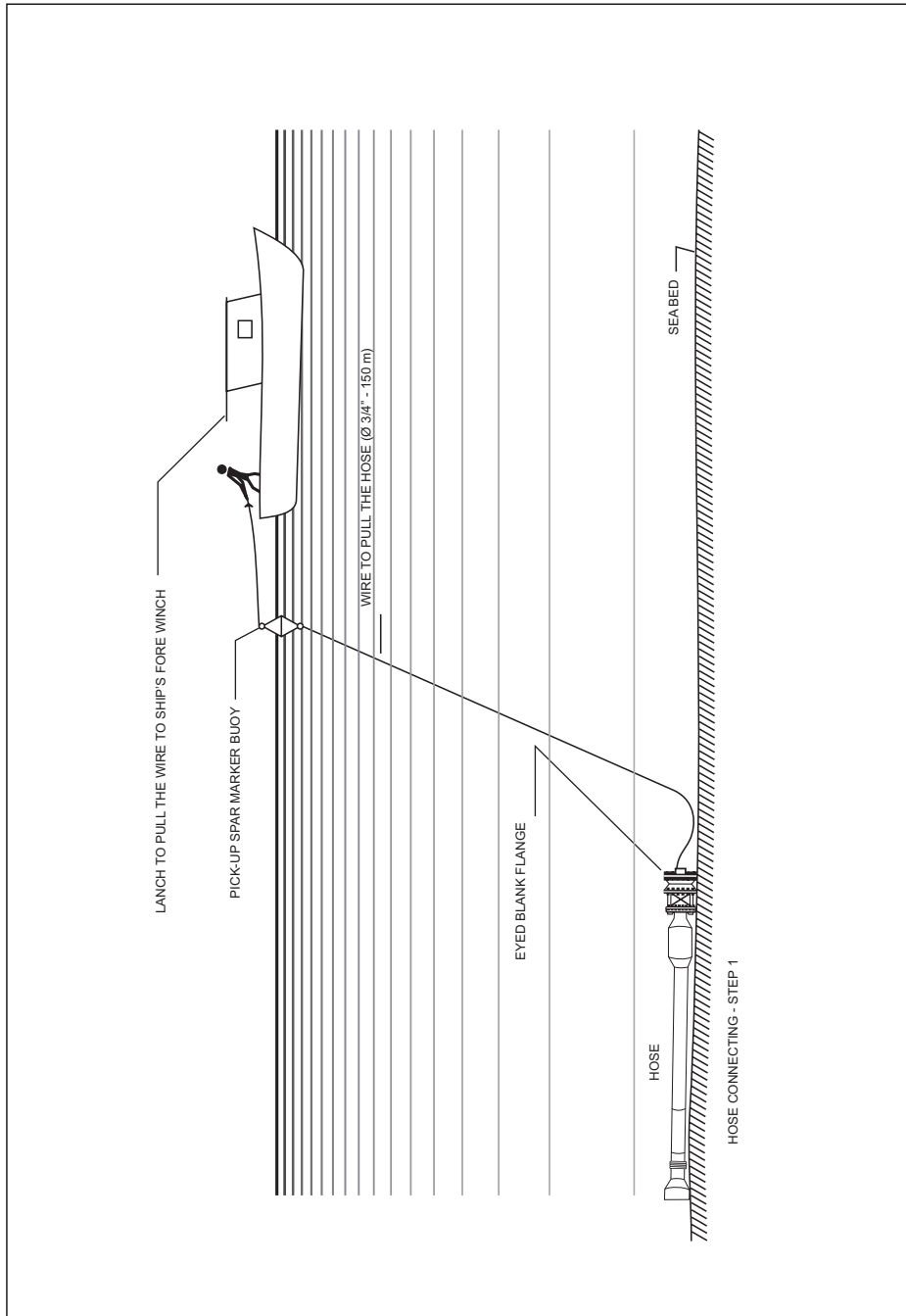


### J – Force and frequency of currents.

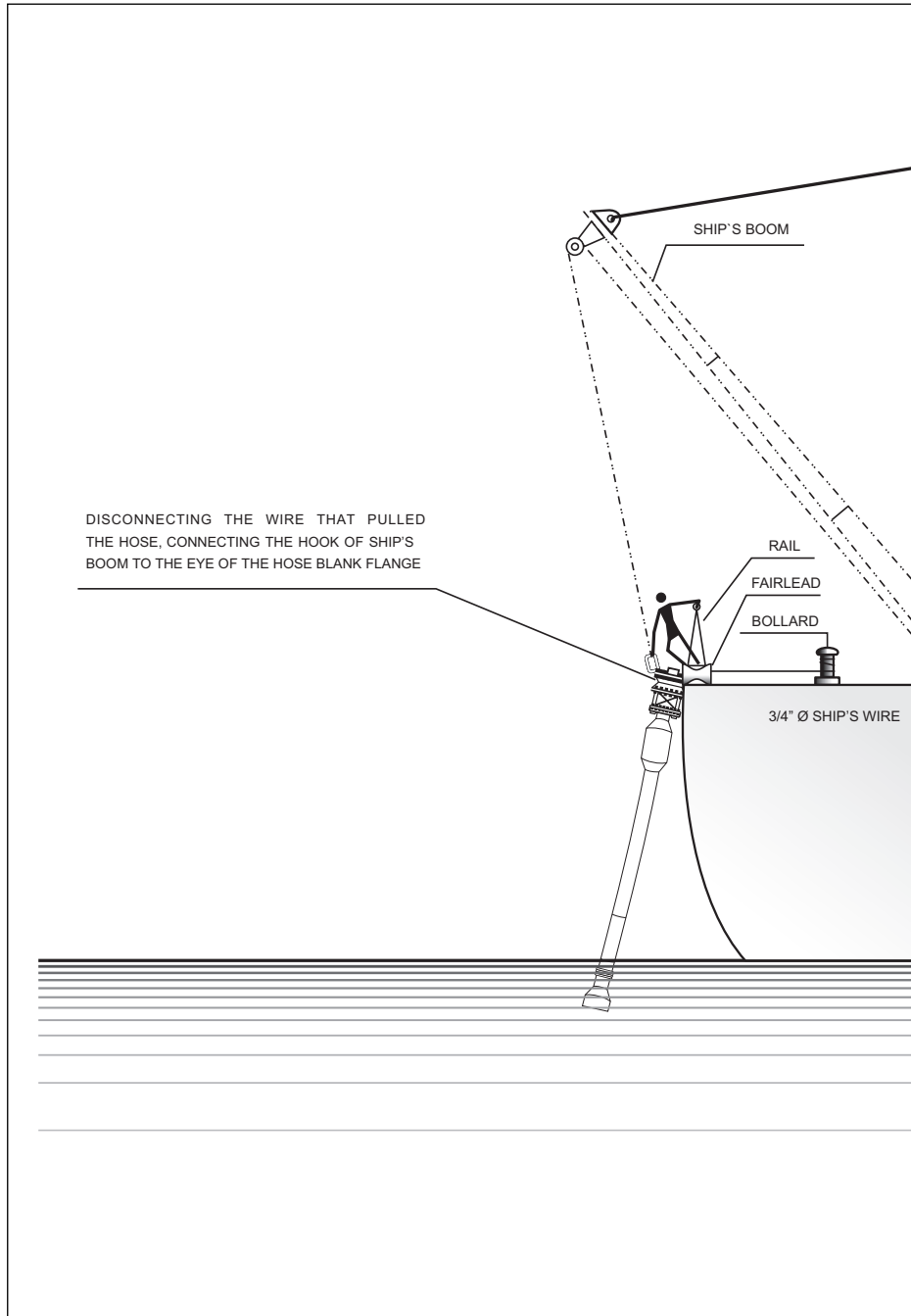


PORT INFORMATION

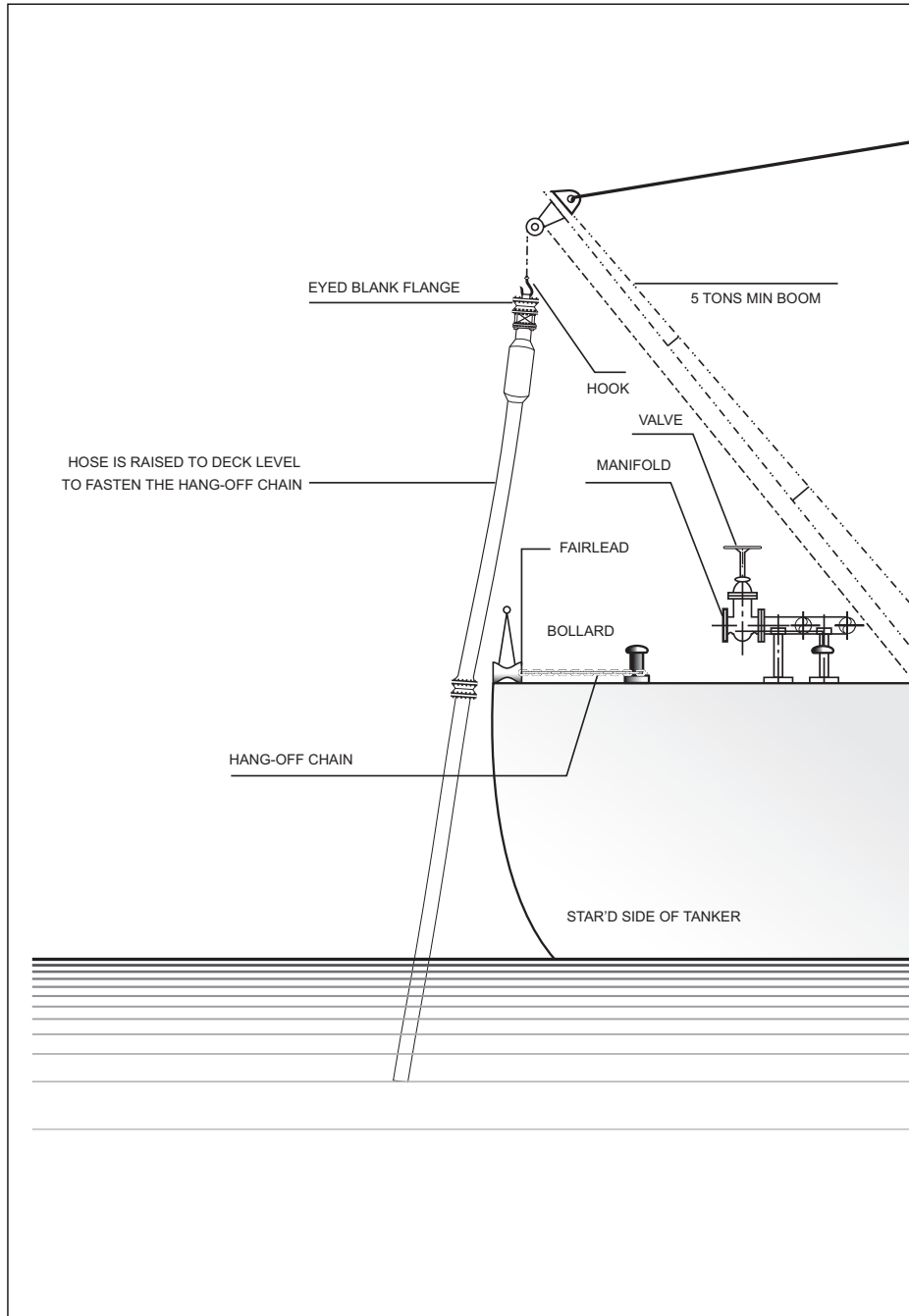
### K – Hose connection – Phase 1.



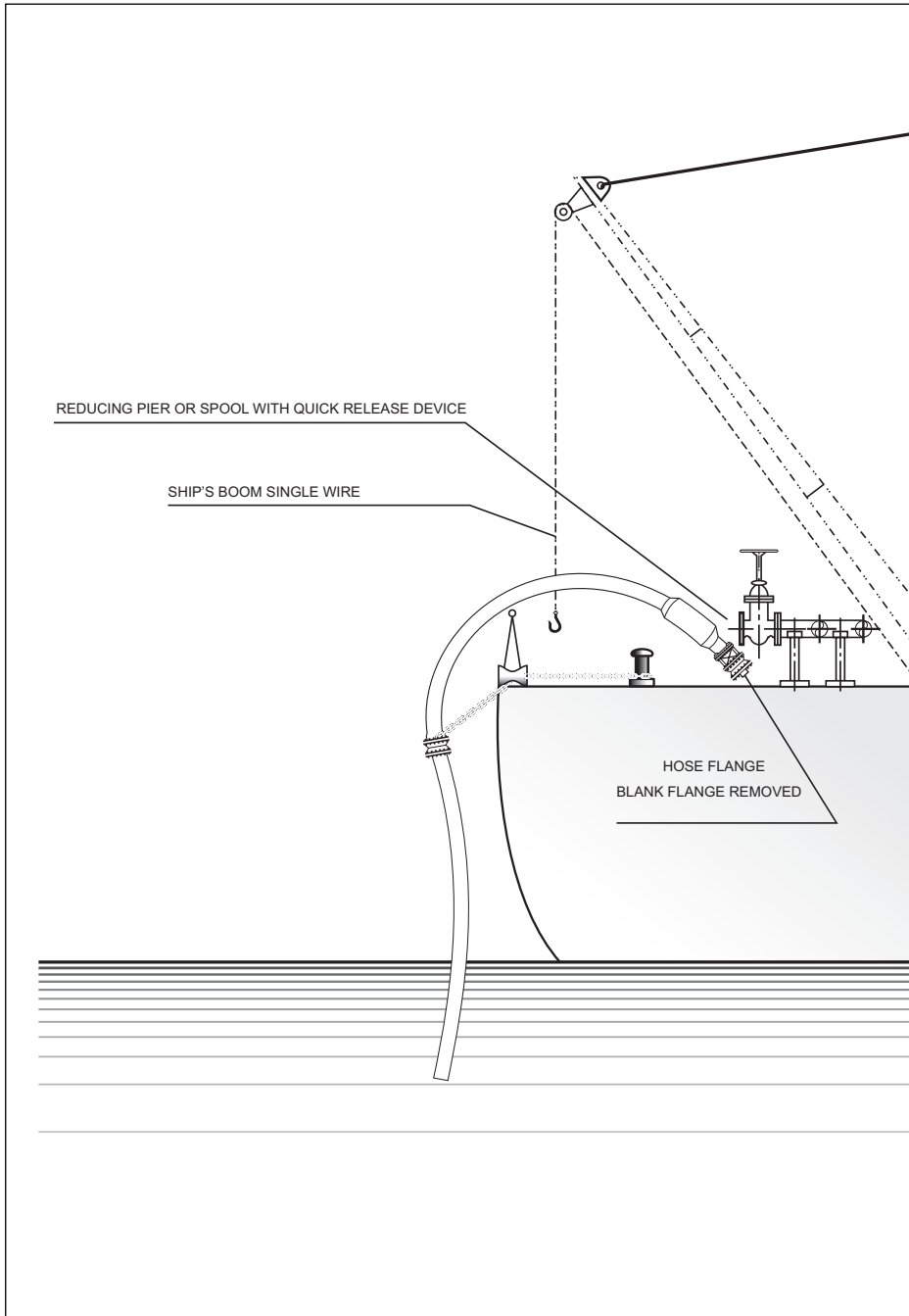
### L – Hose Connection – Phase 2.



### M – Hose Connection – Phase 3.

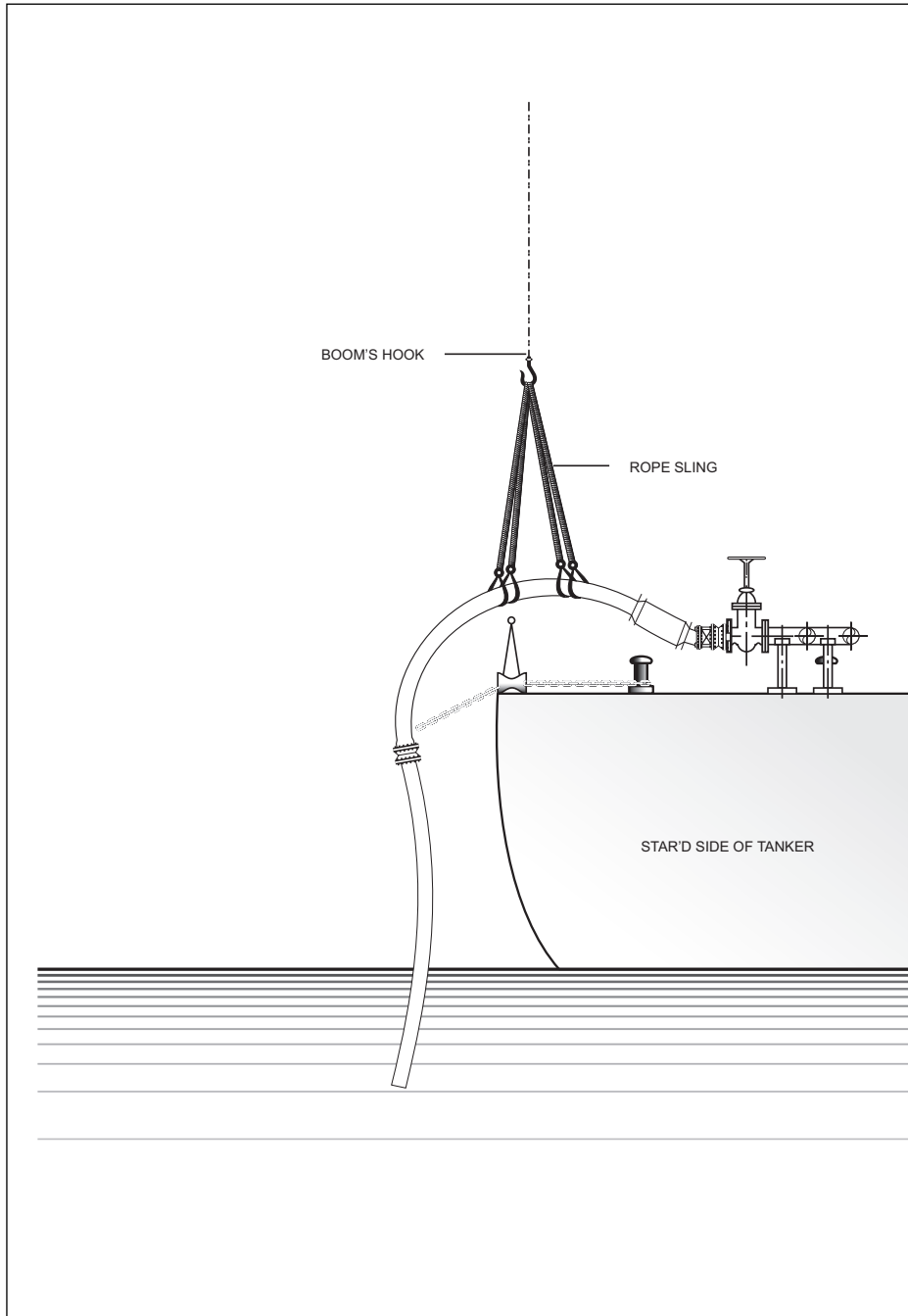


### N – Hose Connection – Phase 4.





### 0 – Hose Connection – Phase 5.



**P – Essential vessel information for the Terminal.**

<b>Port and Terminal:</b>		
<b>Vessel Information Request:</b>		
Ship name:	Estimated Time of Arrival (ETA):	
Flag:	Last port:	
Captain's name:	Next port:	
Ship owners:	Agents:	
Does the ship have an inert gas system?		
Oxygen content:		
Length overall (LOA):	Draft at arrival:	
Length between perpendiculars:	Maximum draft during transfer:	
Beam:	Draft when leaving:	
Number of engines:	Transversal propulsion:	
Number of propellers:	Bow (number and power):	
	Stern (number and power):	
Tugs, minimum required:		
No. and static traction (bollard-pull):		
Number and size of manifold flanges:	Distances:	
Cargo:	Bow to manifold:	
Ballast:	Hull to manifold:	
Bunkers:	Manifold height to main deck:	
<b>Loading schedule (fill when applicable):</b>		
Naming:		
Type and quantity: m <sup>3</sup>	Type and quantity: m <sup>3</sup>	Type and quantity: m <sup>3</sup>
Ballast discharge at sea:		
Quantity: m <sup>3</sup>	Estimated time:	
Slop/ballast discharge ashore:		
Quantity: m <sup>3</sup>	Estimated time:	
<b>Discharging schedule (fill when applicable):</b>		
Type and quantity: m <sup>3</sup>	Type and quantity: m <sup>3</sup>	Type and quantity: m <sup>3</sup>
Ballast:	Volume: m <sup>3</sup>	Time:
<b>Bunkers requested:</b>		
Type and quantity:	Type and quantity:	
Additional information (if any):		

Please, send via fax or e-mail to the Terminal Supervisor.

**F – Information to be exchanged before cargo transfer.**

<b>Information between ship and terminal</b>			
Ship name:		Mooring berth:	
Voyage number:		Berthing date:	
<b>Contractual data</b>			
Number of on-board pumps:			
Volumetric capacity 98%:		m <sup>3</sup>	
Guaranteed discharge pressure (for discharge operation):		kgf/cm <sup>2</sup>	
Simultaneous ballast/deballast capacity with loading/discharging:			
<b>Voyage information</b>			
Freighting type (VCP,TCP,COA, etc.):			
Voyage type (cabotage/long run):			
Origin and destination ports or locations:			
Did the ship request bunker?			
Communication mean between ship and Terminal:			
<b>Cargo information</b>			
Product:	Quantity:	Temperature:	API:
<b>SLOP</b>			
Quantity:	Temperature:		API:
Fluidity:	Origin:		
	Contaminants:		
<b>Ballast</b>			
<b>Dirty Ballast:</b>			<b>Segregated Ballast:</b>
Quantity:	Temperature:		Quantity:
<b>Operation information</b>			
<b>For discharging:</b>	Will the ship perform special operation (COW, Inertization, etc.)?		
	Estimated time for the special operation:		
	Required pump downtime:		
<b>For loading:</b>	Advance notice time for TOP :		
	Flow during TOP period:		
	Quantity of ballast to be discharged:		
	Maximum flow allowed for deballast:		
Are there restrictions concerning electrostatic properties?			
Are there restrictions on using valves with automatic closure?			
<b>Ship/Terminal conditions for the operation loading/discharging per product</b>			
<b>Ship</b>	Pressure:	<b>Terminal</b>	Pressure:
	Flow:		Flow:
	Temperature: Max.:		Temperature: Max.:
	Min.:		Min.:

continue

<b>Operation sequence per product</b>
Quantity to be loaded/discharged:
Origin/destination tanks:
Onboard/onshore lines:
Loading arms/hoses used:
Operation forecasted to start/end:
<b>Complementary operating and safety information</b>