

**ARACAJU WATERWAY TERMINAL
TA ARACAJU**

CONTENTS

1.	INTRODUCTION	9
2.	DEFINITIONS	10
3.	CHARTS AND REFERENCE DOCUMENTS	11
3.1.	Nautical Charts:.....	11
3.2.	Other Publications - Brazil (DHN)	11
4.	DOCUMENTS AND EXCHANGE OF INFORMATION.....	12
5.	DESCRIPTION OF THE PORT AND ANCHORAGE	13
5.1.	Terminal Overview	13
5.2.	Location	13
5.2.1.	Spread mooring Coordinates.....	13
5.2.2.	General Geographical Location	13
5.3.	Terminal Approaches.....	13
5.3.1.	Overview	13
5.3.1.1.	Approach to Spread mooring	14
5.3.2.	Anchorage	14
5.3.2.1.	Prohibited anchorages	15
5.3.3.	Aids to Navigation.....	17
5.3.4.	Port Limits.....	17
5.3.5.	Port Control or VTS (Vessel Traffic Service).....	17
5.3.6.	Pilotage.....	17
5.3.6.1.	Maneuver Captain's embarkation location	18
5.3.7.	Boats and Port Services.....	18
5.3.7.1.	Supply of nautical charts and other publications	18
5.3.7.2.	Classification Societies	18
5.3.7.3.	Consulates	19
5.3.7.4.	Lubricating Oil	19
5.3.7.5.	Postal Service	19
5.3.7.6.	Medical and Dental Care.....	19
5.3.7.7.	Oil Product Inspection.....	19
5.3.7.8.	Supply of Provisions and Costing Materials.....	19
5.3.7.9.	Radar and Radio Repairs.....	19
5.3.7.10.	Communication between Support Vessels and Ships	19
5.3.8.	Risks to navigation	19
5.3.9.	General Restrictions	20
5.3.10.	Depth Control.....	21
5.3.11.	Maximum Dimensions.....	21
5.4.	Maneuvering Areas	21
5.5.	Environmental factors	21
5.5.1.	Winds.....	21
5.5.2.	Waves.....	21
5.5.3.	Rainfall.....	21
5.5.4.	Lightning Storms	22
5.5.5.	Visibility	22
5.5.6.	Tides and Currents	22
5.5.7.	Variations in Tidal Levels.....	22

TERMINAL INFORMATION

PORT INFORMATION

5.5.8.	Measurements	22
5.5.8.2.	Density	22
5.5.8.3.	Atmospheric pressure	23
5.5.8.4.	Air humidity.....	23
5.5.8.5.	Temperatures	23
6.	TERMINAL DESCRIPTION.....	23
6.1.	Overview	23
6.2.	Spread mooring Physical Details.....	23
6.2.1	Characteristics of Mooring Buoys	24
6.2.2	Characteristics of the Anchoring System.....	24
6.2.3	Buoy Supporting Power	24
6.3.	Mooring Arrangements	24
6.3.1.	Conditions for Shipment of the Maneuvers' Captain.....	24
6.4.	Characteristics of the berth for loading and unloading.....	24
6.4.1.	Recommended Mooring.....	25
6.5.	Mooring and Demurrage Management and Control	25
6.6.	Main Risks to Mooring and Demurrage	26
7.	PROCEDURES	26
7.1.	Before Arrival	26
7.1.1.	1. Conditions of refusal for operation of ships at berth	26
7.1.2.	Onboard Cleaning and Repairs	26
7.1.3	ETA Information.....	26
7.2.	Arrival	27
7.2.1	Communication with the Port Authority	27
7.2.2	Bunker and water supply	27
7.2.3	Communications with the Terminal prior to berthing	27
7.2.4	List of important telephones in the port.....	27
7.3.	Mooring	28
7.3.1.	Vessel mooring.....	28
7.3.2.	Ship / speedboat access	28
7.4.	Prior to Cargo Transfer.....	28
7.4.1.	Electrical insulation between ship and terminal.....	28
7.4.2.	Connections and Reductions	28
7.4.3	Determination of quantities	29
7.4.3.1	Tank Inspection	29
7.4.4.	Minimum safety conditions for operation	29
7.4.4.1.	Means of Communication.....	29
7.4.4.2.	Operational Control	29
7.4.5.	Safety Inspection	30
7.4.6	Soot blowing.....	30
7.4.7	Vessels on the side during the vessel's demurrage	30
7.4.8.	Propeller Movement	30
7.4.9.	Ballast Soot blowing.....	30
7.4.10.	Protection against product return and overflow.....	31
7.5.	Cargo Transfer	31
7.5.1.	Monitoring of pressures and flows	31
7.5.2.	Special requirements for LPG.....	31
7.5.3.	Ballast/Deballast Requirements.....	31

TERMINAL INFORMATION

PORT INFORMATION

7.5.4 Conditions for receiving SLOP.....	31
7.5.5. Tank Cleaning.....	31
7.5.6. Repairs on board.....	32
7.5.7. Safety Inspection.....	32
7.5.8. Emergency Stop.....	32
7.5.9. Actions in case of Emergency.....	32
7.6. Load Measurement and Documentation.....	32
7.6.1 Draining the cargo hose.....	32
7.6.2. Final on-board measurements.....	32
7.7. Undocking and Departure from Port.....	33
7.7.1 Special precautions regarding the exit of the Spread mooring.....	33
7.8 Compliance with ISPs CODE.....	33
8. ORGANIZATION OF PORT AND ANCHORAGE.....	33
8.1 Port Control or VTS.....	33
8.2. Maritime Authority.....	33
8.3 Pilotage.....	34
8.4 Tugs and other Maritime Services.....	34
8.4.1 List of Boats available at the Terminal.....	34
8.4.2 Other relevant maritime services.....	34
8.4.2.1 Maritime Agencies.....	34
8.5 Other Oil / Gas Terminals.....	35
8.6 Other Key Users.....	35
9 EMERGENCY AND COMBAT PLANNING.....	35
9.1 Emergency Contacts.....	35
9.2 Environmentally Sensitive Areas.....	36
9.3 General Description of the Emergency Response Organization.....	36
9.4 Emergency Plans.....	36
9.5 Public Emergency Response Resources.....	37
9.5.1 Local Emergency Services.....	37
9.6 Combating Oil Spill.....	37
9.6.1 Terminal Combat Capacity.....	37
9.6.2 Environmental Agency's Combat Capacity.....	37
9.6.3 Second Response Resources Available.....	37
9.6.4 Combating medium-sized spillage.....	37
9.6.5 Combating large-scale spillage.....	37
9.7 Combating other major emergencies.....	37
9.8 Pollution at Sea and Garbage Packaging.....	37
10 CONTACTS.....	39
10.1 Terminal.....	39
10.2 Port Services.....	39
10.3 Navigation Agents and Selected Suppliers.....	39
10.4 Local Authorities, State and National Agencies.....	39
10.5 Organizations, Emergency Response.....	39
11 BIBLIOGRAPHY AND SOURCES OF CONSULTATION.....	39
APPENDICES.....	41
A – Spread Mooring Location Map.....	41
B – Mooring Report with Wind and Sea of ENE.....	42

TERMINAL INFORMATION PORT INFORMATION

C – Mooring Report with Wind and Sea of E.....	44
D – Mooring Report with Wind and Sea of SE	45
E – Mooring Plan with Wind and Sea of ENE	46
F – Mooring Plan with Wind and Sea of E.....	47
G – Mooring Plan with Wind and Sea of SE.....	48
H – Wind Intensity and Frequency	49
I - Frequency of waves according to their height	50
J – Intensity and Frequency of Currents	51
K – Hose Connection – PHASE 1	52
L – Hose Connection – PHASE 2.....	53
M – Hose Connection – PHASE 3.....	54
O – Hose Connection – PHASE 5	56
P – Essential information from the vessel to the Terminal.....	57
Q - Information to be exchanged before cargo transfer.....	58

TERMINAL INFORMATION PORT INFORMATION

1. INTRODUCTION

This *Port Information* is prepared by Petrobras Transportes S.A. (TRANSPETRO), which operates the Aracaju Aquaviario Terminal (TA ARACAJU) in the Buoy Board in Sergipe.

It presents the essential information for the ships operating in the terminal, is distributed to the interested parties of the Port, National and Local Authorities and in the various branches of the company.

Port Information has Portuguese and English versions.

The information contained in this publication is intended to supplement, never replace or alter any type of national or international legislation, instructions, guidelines or official publications. Information that contradicts any item contained in the above-mentioned documents must therefore not be taken into consideration.

The Terminal reserves the right to 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 information. If misleading information is found that needs to be updated, please contact:

Aracaju Waterway Terminal Management

Av. Melício Machado, s/n – Atalaia Velha

Zip Code 49.037-440 - Aracaju – SE

Tel.: (79) 2104-8525

Petrobras Transportes S/A - TRANSPETRO

Av. Presidente Vargas, nº 328/9º andar – Centro

ZIP Code: 20.091-060, Rio de Janeiro – RJ

Tel.: (21) 3211-9086

The latest version of this *Port Information* can be obtained by requesting it to the following address: **www.transpetro.com.br**

(Access the menu Businesses → Terminal and Pipelines → Port Information)

2. DEFINITIONS

BP – “*Bollard Pull*” - Longitudinal static traction of vessel

CPSE – Port Authority of the State of Sergipe

GIAONT – Generic designation of operational safety inspectors. The name is derived from the Group of Inspection and Operational Monitoring of Ships and Terminals.

IMO – *International Marine Organization*

ISGOTT – “*International Safety Guide for Oil Tankers and Terminals*”

ISPs CODE - *International Ship and Port Facility Security* - Parts A & B

LOADING MASTER – Terminal Professional in charge of the onboard operation.

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

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

MOORING MASTER – Maneuver Captain (Nautical Officer duly trained in maneuvers in the TA ARACAJU QB). Assists and guides the ship's Master in the mooring/unmooring maneuvers on the Buoy Board.

UTC – “*Universal time control*”

VTS - “*Vessel Traffic Service*”

TERMINAL INFORMATION PORT INFORMATION

3. CHARTS AND REFERENCE DOCUMENTS

Information about the Terminal can be found in the following publications.

3.1. Nautical Charts:

Area	Brazilian Chart
	Number (DHN)
From Recife to Belmonte	60
From Maceió to the Rio Itarari	1000
Barra do Rio Sergipe	1003
Port of Barra dos Coqueiros	1001
Area	Chart Number
	British Admiralty
Ponta Açú da Torre to Ilhéus	BA3975
Aracaju to Ponta Açú da Torre	BA 3976
Maceió to Aracaju	BA 3977

3.2. Other Publications - Brazil (DHN)

Type/Subject	Editor or Font
	Number (DHN)
<i>Rules and Procedures of the Port Authority of Sergipe</i>	NPCP-CPSE
<i>East Coast Navigation Support</i>	DH1-II
<i>Lighthouse List</i>	DH-2
<i>Radio Aid List</i>	DH-8

TERMINAL INFORMATION PORT INFORMATION

4. DOCUMENTS AND EXCHANGE OF INFORMATION

The following items must be provided by the Terminal or vessel as indicated in the table.

Information	Prepared by:			Delivered to:			Feedback
	Terminal	Ship	Both	Terminal	Ship	Both	
BEFORE ARRIVAL							
Estimated Time of Arrival (ETA) and vessel information		X		X			According to appendix P
Essential information about the Terminal	X				X		As appendices A to O
Prior to Cargo Transfer							
Cargo, slop or ballast details on board		X		X			According to appendix Q
Information essential to the operation. (complete on site)	X				X		According to appendix Q
Ship/Terminal Security Checklist			X			X	According to Annex A of ISGOTT.
DURING CARGO TRANSFER							
Repeat the Safety Checklist			X			X	According to Annex A of ISGOTT
AFTER CARGO TRANSFER, BEFORE DEPARTURE							
Information required for undocking the Vessel			X			X	Quantity of fuels and water on board
AFTER UNDOCKING, AT PORT EXIT							
Information relating to data leaving the port		X			X		Pilot disembarkation time and departure from port

5. DESCRIPTION OF THE PORT AND ANCHORAGE

5.1. Terminal Overview

The Terrestrial facilities of the Terminal are located in the city of Aracaju, Av. Melício Machado s/n km 2, Bairro Atalaia Velha. The Terminal's Maritime facilities are located on the Brazilian East Coast (Praia de Atalaia Velha) and in a homeless maritime area, about 3.8 nautical miles from the beach, with the berth of the painting over a depth of 18 meters.

It is an ocean terminal of the type multiple buoy system or Spread mooring, with 6 buoys installed near the port of Aracaju. The berth can accommodate ships up to 115,000 TPB. According to the weather conditions of the period.

The pipeline that connects the Terminal to the Spread mooring consists of a 26-inch pipeline, lined with 4" thick concrete. At the end of the subsea pipeline there is a "PLEM" from where 2 lines of subsea hoses, called North and South with 130 m of extension and class 300 PSI.

5.2. Tel.: +34

5.2.1. Spread mooring Coordinates

→ Latitude: 11° 02'39.823" S

→ Longitude: 037° 00'53,154" W

5.2.2. General Geographical Location

It is located on the Brazilian east coast, in Aracaju, Sergipe, Brazil. Local time is three hours behind the Greenwich Meridian.

5.3. Terminal Approaches

5.3.1. Overview

Being the berth in the open sea, the terminal can be safely demanded from both the NNE and SSW. The coast runs in an alignment of 035/215 degrees.

Between the Sergipe and Vaza-Barris rivers, the coast consists almost exclusively of dunes and coconut trees, following a straight line and offering few conspicuous points that serve as markings.

Ships should pay attention to the existence of 23 fixed production platforms, which, in themselves, constitute great points for markings and whose positions are listed in item 5.3.3.2.

TERMINAL INFORMATION PORT INFORMATION

5.3.1.1. Approach to Spread mooring

As it is an oceanic Terminal, the spread mooring can be demanded from any direction of the sea. However, according to the direction from which the wind blows, to enter the berth, different approaches can be made. Due to the possible variations, the Terminal offers the services of a Maneuver Captain, who will be responsible for guiding the movement of the ship on the board and its mooring.

Below are listed the geographical design coordinates of the mooring buoys and PLEM.

LOCATION	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' 53,154' W

5.3.2. Anchorages

Anchorage “2” (DHN-1001) for oil tankers awaiting berth or dawn 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

Often the manoeuvring captain will embark while the ship is still under machinery in the vicinity of the berth. This anchoring site provides immediate access to the berth. The bottom, in this area, is of good tension, but as its nature is diverse (mud and fine sand), it is recommended that the NTs do not remain with the iron in one position for more than 24 hours. Otherwise, there will be difficulties in suspending it.

There are two anchoring areas for support 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°01'15W
 Latitude: 11°09'22"S
 Longitude: 037°00'14"W

5.3.2.1. Prohibited anchorages

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

In addition to the subsea pipeline that interconnects the land tanks with the berth of the Spread mooring, there are more gas pipelines and subsea pipelines for the flow of production from the maritime fields.

Anchoring is prohibited in the areas delimited in the charts by reserved limit lines;

In the Campo de Caioba 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 Campo de Guaricema, the positions of the platforms 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

**TERMINAL INFORMATION
PORT INFORMATION**

Longitude: 037°02' 09,211"W

→ PGA-6

Latitude: 11°09'22,432" S

Longitude: 037°02'09,211" W

→ PGA-7

Latitude: 11°12'2.55" S

Longitude: 037°04'54.92" W

In the Campo de Dourado:

→ PDO- 1

Latitude: 11°05'53,645" S

Longitude: 037°02'09,694"W

→ PDO-2

Latitude: 11°06'48.80" S

Longitude: 036°58'4.40 W

→ PDO-3

Latitude: 11°07'06,19" S

Longitude: 036°58'49.12" W

→ ANM DO- 1

Latitude: 11°06'47.880" S

Longitude: 036°58'25,357" W.

Delimitation of the prohibited anchorage area:

- A) Latitude: 10°59'17" S and Longitude: 037°02'54" W
- B) Latitude: 10°59'17" S and Longitude: 036°59'30" W
- C) Latitude: 10°57'35" S and Longitude: 036°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: 036°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

TERMINAL INFORMATION

PORT INFORMATION

5.3.3. Aids to Navigation

The Aracaju Headlights are a good landing and navigation resource:

DESCRIPTION	GEOGRAPHIC COORDINATES	CHARTS (DHN)	LUMINOUS RANGE	GEOGRAP H. RANGE
<i>Radio Farol de Sergipe – NRORD 1428</i>	<i>LAT: 10°59'16"S LONG: 037°02'18"W</i>	<i>1000 and 1003</i>	<i>39 MN</i>	<i>18 MN</i>
<i>PRB-1 Lighthouse – NRORD 1401 (Petrobras PRB-1 Platform)</i>	<i>LAT: 10°39'20"S LONG: 036°38'06"W</i>	<i>1000</i>	<i>26 MN</i>	<i>14 MN</i>
<i>Farol de São Cristóvão – NRORD 1438</i>	<i>LAT: 11°07'79"S LONG: 037°08'71"W</i>	<i>1000 and 1003</i>	<i>23 MN</i>	<i>16 MN</i>
<i>Farol Santa Isabel – NRORD 1402</i>	<i>LAT: 10°49'38"S LONG: 036°56'12"W</i>	<i>1000 and 1001</i>	<i>WHITE: 26 MN INCARNATE: 21 MN</i>	<i>17 MN</i>

In the Terminal's tanking, the tank 4305 stands out due to its dimensions (diameter of 79 m and height of 14.5 m) and because of its white color, which makes it possible to see it from a considerable distance.

5.3.4. Port Limits

The Spread mooring is in the open sea and is delimited by the coordinates:

→ Latitude: 11° 02' 43.096" S

→ Longitude: 37° 01' 00,211' W

5.3.5. Port Control or VTS (*Vessel Traffic Service*)

The Port of Aracaju and the Buoy Board do not have special traffic control and navigation services. Sea traffic in the area is managed by the Port Authority of Aracaju.

Additional information, rules and notices in force, consult directly the CPSE website: <http://www.cpse.mar.mil.br>

5.3.6. Pilotage

There are no practices for the terminal. All maneuvers will be directed by the ship's commander, who, if desired, may be assisted by a terminal's own maneuver captain, who will embark in the anchoring area.

This Maneuvers' Captain will guide the mooring tasks, the connection/disconnection of the hoses and the removal of the ship from the berth.

The services provided by the master of maneuvers are free of charge and under express consent and conditions that Transpetro will not be held responsible for any damages and losses resulting from such guidance, assistance or acts suggested or performed by the master of maneuvers.

The NT captain must communicate to the maneuver captain any special conditions of his NT, such as deficiency in navigation equipment, spies, reel, winch or lack of other necessary equipment that may endanger the mooring, connection, etc. The NTs must be tied to the full satisfaction of the maneuvers' Captain.

The Maneuvers' Captain will notify any unsatisfactory operating conditions to the terminal manager. Which may reject the NT for future cargo, unless the deficiencies pointed out are remedied.

5.3.6.1. Maneuver Captain's embarkation location

In daylight, one of the Maneuver Captains will board about 1 mile to SE of the Spread mooring. It will guide the tasks of mooring, connecting, disconnecting, etc. If they arrive at night or for vacancy in the berth, ships must anchor at the location specified in item 5.3.3 of this manual.

Note: Together with the Maneuvers' Captain, a team of moorers will be boarded.

The Vessel shall provide accommodation for the crew embarked together with the Maneuvers' Captain since they will remain on board until the end of the operation. The team on board is estimated at 07 people.

5.3.7. Boats and Port Services

For mooring and unmooring maneuvers, the Terminal has 2 support vessels to assist with mooring, unmooring and emergency tasks, under the responsibility of the Maneuver Captain.

It is not feasible to supply drinking water, fuels, lubricants or foodstuffs during the ship's demurrage in the berth, as it is an ocean terminal.

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

- Tugboats
- Shears or barges
- Laundry
- Naval repairs
- Tank cleaning
- Needle compensation or radiogoniometer calibration

Genres and costing materials are, in limited quantities, purchased from local suppliers, through the agency in Aracaju.

5.3.7.1. Supply of nautical charts and other publications

There is no supply of charts, scripts or other publications in Aracaju, but, if requested to the maritime agent, such resources may be provided.

5.3.7.2. Classification Societies

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

5.3.7.3. Consulates

France and Portugal have a consular office in Aracaju.

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

5.3.7.4. Lubricating Oil

Only in an emergency. The supply of lubricating oil is expensive and supplied only in small quantities. Purchase and delivery are difficult.

5.3.7.5. Postal Service

There is regular courier service in Aracaju. Charts should be addressed to the care of the agent. In turn, the charts are delivered on board dust upon arrival.

5.3.7.6. Medical and Dental Care

Medical treatment or hospitalization may be provided by private hospitals in Aracaju. Dental surgeons are available in the area. In general, the agent is the one who makes arrangements for the provision of this service.

5.3.7.7. Oil Product Inspection

There are no oil inspectors based in Aracaju. If requested in advance by the agency, outside inspectors may come to provide this service.

5.3.7.8. Supply of Provisions and Costing Materials

Genres and costing materials are, in limited quantities, purchased from local suppliers through the agency in Aracaju.

5.3.7.9. Radar and Radio Repairs

Minor radar and radio repairs may be effected if advised in advance to agents.

5.3.7.10. Communication between Support Vessels and Ships

The support vessels are equipped with maritime VHF system for continuous ship/vessel communication during mooring and unmooring maneuvers. The listening is maintained during the 24 hours of the day on channel 12 (156.60 MHz), throughout the operation with the ship, in order to meet the operational demands and needs in case of emergencies. However, the ship must have a second station to maintain permanent listening on channel 16 (maritime VHF).

5.3.8. Risks to navigation

5.3.8.1 References and signs

- Sergipe Lighthouse Radio - NRORD 1.428 [Latitude: 11°07'79" S / Longitude: 037°08'71" W], DHN charts 1.000 and 1.003.
- Lighthouse from PRB-1 NRORD 1.401 [Latitude: 10°39'20" S / Longitude: 036°38'06" W], Chart 1,000 from DHN.
- São Cristóvão Lighthouse - NRORD 1.438 [Latitude: 11°07'79" S / Longitude: 037°08'71" W], DHN charts 1.000 and 1.003. → Santa Izabel Lighthouse - NRORD 1.402 [Latitude: 10°49'38" S / Longitude: 036°56'12" W], DHN charts 1.000 and 1.001.

5.3.8.2 Hazards and obstacles to navigation

Ships destined for the TA ARACAJU buoy table must take special precautions when sailing in the vicinity of the oil extraction platforms on the subsea pipes (chart 1003).

Navigation less than 500 meters from the platforms is prohibited.

Tankers shall restrict as far as possible any incursion into the 10-meter isobath and keep clear of the banks of the São Cristóvão bar and the SW of the Spread mooring, which constantly vary in position.

5.3.9. General Restrictions

- The Maneuvering Master and the Vessel Master must be aware of weather forecast warnings to prevent emergency maneuvering situations.
- Winds: It is limiting for mooring, unmooring or maintenance of the operation (when moored): **Winds > 35 knots.**
- Waves: Waves exceeding 2 meters are limiting for mooring.
- Maximum Recommended Draft (CMR): Because the average depth at the spread mooring location is 18 meters (60 feet), a depth of 4 meters (10 feet) between the keel and the bottom is recommended in order to provide safety, even if the sea conditions in which the operation is being developed are severe, since the port is in open sea and subject to wave variations: **14 meters (49 feet).**
- During the winter months it is recommended to operate in the frame with ships of a maximum of 65,000 TPB, due to adverse sea conditions in the region at this time of year.

- Ship mooring and unmooring operations will only be carried out in daylight.
- For safety reasons, it is not recommended to use steel wiresteel wires in the mooring of ships to the frame. Therefore, ships must provide 6 pairs of 440 meter floating cables, with the following specifications: *Braided naval cable 08 legs of prolipopylene or similar, DN 80.0 mm (circular approximately 11”), blade 220 m long, breaking load 58,200 Kgf. There is a possibility of combining steel wiresteel wires with synthetic fiber cables, provided that the first half (220 meters) to be launched is synthetic fiber. Note that, for the safety of the maneuver, there is a need for a total of 24 mooring cables of 220 meters (6 pairs of 440 meters).*

5.3.10. Depth Control

In TA ARACAJU the draft limit for mooring and unmooring in the table does not vary at any time of the year. The points that limit the maximum draft in the berthing at the Terminal are described in the previous item.

5.3.11. Maximum Dimensions

The berth can accommodate ships up to 115,000 TPB.

Observe 5.3.9., of the **General Restrictions**.

5.4. Maneuvering Areas

Because it is in the open sea, the Spread mooring does not have a delimited maneuvering area. However, it should be noted the existence of Platforms in the area near the Spread mooring (see item 5.3.2.1).

5.5. Environmental factors

5.5.1. Winds

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

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

There are hardly any very strong winds (8 beaufort); 19% of calm and the remaining 2 to 3% of weak winds (force between 1 and 3).

5.5.2. Waves

Normally, all waves in the Aracaju area are caused by the prevailing wind. However, due to the transition periods in which they occur, it is often the impression that the waves are from the dead sea (banzeiros). Sixty percent of the waves register a height between 0.5 and 0.9 meters high.

TERMINAL INFORMATION PORT INFORMATION

During a full year of observation, the studies showed that only 1.4% of the time available for operation the terminal would be closed for loading, a period in which the waves reached a height greater than 2 meters.

5.5.3. Rainfall

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

5.5.4. Lightning Storms

The occurrence of lightning storms is not common in the Terminal area.

5.5.5. Visibility

Visibility, as a rule, is good, except in the event of showers.

5.5.6. Tides and Currents

The tides have a semi-diurnal character. In the bar, the flood tides generate currents that pull to the S and during the leaks pull to the N.

The amplitude of the tides varies from 0.6 meters in the neap tides to 2.3 meters in the spring tides.

The establishment of the port for the premares is 04h46m.

The speed of the tidal current rarely exceeds 2 knots.

The currents recorded in the terminal area are determined because of the various and simultaneous, which act according to different and combined gradations.

Although these causes were identified as being winds, tides, salinity and temperature, none of them was sufficiently higher that it could be considered as the main one.

Most currents run parallel to shore without varying much in speed and direction. The lack of constancy leads us to conclude that they cannot be attributed to the current of Brazil. The maximum speed recorded was 1 knot.

The occurrence of currents for SSW with speed higher than usual was reported during the leaks and NE winds.

5.5.7. Variations in Tidal Levels

Variations in tide levels in the buoy table area can be found in the tide table provided by the Brazilian Navy at: <http://www.mar.mil.br/>

5.5.8. Measurements

5.5.8.1 Salinity

The average salinity of seawater is 35.5 ppm, with small seasonal variations. The highest mean value found on the northeast coast, at latitudes from 26°S to 32°S is 37.2 ppm.

5.5.8.2. Density

The average density of seawater ranges from 1.022 kg/m³ to 1.025 kh/m³.

5.5.8.3. Atmospheric pressure

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

5.5.8.4. Air humidity

The relative humidity of the air during the year is about 82%. Notification weather reports to navigators are transmitted by the PWZ and PPR stations. For more details, see publication DH 8 Radio aid list.

For better updates and more information, you can consult the website:

<https://www.marinha.mil.br/chm/dados-do-smm-meteoromarinha/previsao-48-horas>

5.5.8.5. Temperatures

Temperatures observed during a year range from 18.2°C in June to 30.8°C in February.

6. TERMINAL DESCRIPTION

6.1. Overview

The Aracaju Waterway Terminal had its official opening on 11/21/1967 and since then is responsible for the storage and shipment of oil produced in Sergipe

Through the discharge of tankers, it stores, eventually, the oil from other UO's of Petrobras for later shipment in larger tankers.

The terminal has an installed operational capacity of 148,000 m³, to store oil.

TA Aracaju seeks to reduce the length of demurrage of ships moored in its buoy board by carrying out planned and optimized oil handling, by loading and unloading ships, facilitating the flow and distribution of oil quickly, quality and safety of people, facilities and the environment.

6.2. Spread mooring Physical Details

The Spread mooring is of the conventional type of multiple buoys. The ships are tied to 2 irons ahead and 6 buoys. On each buoy are passed 2 mooring lines of the ship. Observe **5.3.9.** of the **General Restrictions** (quantity and quality of mooring cables recommended).

The ships are loaded through a 26"Ø subsea pipeline, which forks into 2 lines of hoses. Either of the 2 can be hoisted, but the connection will always be by BE. Each of the hose lines is 130 m long, and the design pressure is 300 PSI.

The ends of the lines are marked by yaw buoys. There is a Ø3/4" steel wire with 150 m, for lifting the pouches.

The Ø 10" flanges are connected to the ship outlets through a quick release device, with the Ø10" ANSI standard connection flanges, CLASS 150 PSI.

The berth of the frame is over a depth of 18 m.

The longitudinal axis of the ship will have its orientation modified with respect to the azimuth of the frame axis according to the prevailing wind/resultant direction.

6.2.1 Characteristics of Mooring Buoys

- **Type:** Cylindrical
- **Weight:** 6,600 Kg
- **Soot blowing:** 153,000 N (15,600 Kg)
- **Diameter:** 3,200 mm
- **Height:** 1,980 mm
- **Manufacture:** Marine Arsenal/Rio/CEG
- **Year:** 1966/1987

6.2.2 Characteristics of the Anchoring System

It consists of the following elements:

- **63.5 mm (2.1/2") MOORINGS:** 65 Barracks
- **8 TON MAIN ANCHORS:** 6
- **2 TON AUXILIARY ANCHORS:** 10

6.2.3 Buoy Supporting 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

TERMINAL INFORMATION PORT INFORMATION

The mooring is carried out by a contracted company, under the guidance of the commander and the Maneuver Captain, according to the alternatives mentioned in appendices B, C, D, E, F and G.

6.3.1. Conditions for Shipment of the Maneuvers' Captain

Ships must have a certified chest breaker ladder in perfect condition. When the freeboard is greater than 9.0 meters, have means to make the combination with the gangway, according to SOLAS rule - V/23, IMO Resolution A.1045(27) and its updates, according to NORMAM 1, chapter 4, section IX.

6.4. Characteristics of the berth for loading and unloading

The loading is carried out through a subsea pipeline of 26", 7,15 Km long from the coast. At its end, two lines of hoses are forked 130 m long each and class 300 PSI, connected to a PLEM.

The charging socket should preferably already be equipped with a 10 flange, ANSI 150 PSI standard. Normally the N line will be used, unless special conditions apply. The flow rate is about 2,990 m³/h (18,522 bbl/h).

The midship, a crane or derrick with a capacity of 10 t must be able to lift and connect the hose determined, always by BE.

The ship's reel (drums, brakes, jaws, etc.) must be in perfect working order so that the moorings and irons can be dropped, turned or adjusted.

A forward winch must also be prepared to enter with the steel wire to collect the hose.

Miscellaneous connection and fastening equipment (slings, gaskets, quick coupling sockets, etc.) will be provided by the Terminal and shipped upon arrival of the NT.

6.4.1. Recommended Mooring

Every ship destined for TA ARACAJU must be able to perform the mooring below.

The safety of the mooring is the responsibility of the ship's master and will be assisted by a captain of maneuver.

TA ARACAJU may veto or interrupt an operation in which the mooring of the ship is deemed unsatisfactory.

The irons should be ready to go. In essence, two demands can be made: one by NE and one by SW, depending on the direction from which the wind blows.

Appendices E, F and G present three diagrams relating to approach alternatives at the berth. The first example is when the prevailing wind is from ENE, the second from E, and the third from SE. The ship will always be tied to two irons separated at a certain distance and with equal filaments that allow the bow to be in the middle of the moorings. The angle between them should be approximately 90°. The irons must be arranged in such a way that a line joining the two is perpendicular to the wind line. The first to be dropped is the one by which the ship will bear (barlacorrente); then, the undercurrent iron

TERMINAL INFORMATION PORT INFORMATION

will be dropped, entering with the first tie (barlacorrente), making sure that the second tie is with the adequate filament so that both allow the ship to bear equally.

Soon after the second iron has been dropped, the first mooring cables may be delivered to the boat that will tilt them to the windward mooring buoys, in the order dictated by the Maneuver Captain.

The mooring will only take place in daylight.

6.5. Mooring and Demurrage Management and Control

The maneuvers of mooring and unmooring of ships in the Aracaju Terminal should always be carried out with the participation of a Maneuver Captain, trained and using the support boats.

A team of tie-downs is available to place the mooring lines on the buoys and exhaust cats.

The Maneuver Captain is also responsible for the operational monitoring on board, for the exchange of information between the Vessel and the Terminal, preparation of documentation and monitoring of the mooring/berthing and position of the vessel.

The exchange of information in order to comply with the control of the operation, established by Petrobras Standard N-2689, is made by the representative of the Ship that is in charge of the operation and the Terminal Control Room. This communication is made via VHF radio on channel 12 and is bugged 24 hours a day.

6.6. Main Risks to Mooring and Demurrage

The climatic conditions of the area are considered good for tanker operation for most of the year. The main risks associated with the maneuvers and demurrage of the ships in the berths of TA Aracaju are:

- When docked, winds with intensity > 35 Knots.
- The risk previously described requires greater attention from the crew and the Maneuver Captain and the ship in relation to the tasks and mooring lines.
- The beginning of the demurrage is characterized by the end of the mooring, when the ship arrives and docks directly or starts 6 hours after the official time of arrival, in case the ship comes to anchor.

7. PROCEDURES

During the ship's demurrage in port, several actions are carried out to enable safe operation and manage risks in order to minimize them. In all phases, as described in the sub-items below, the measures are taken in order to facilitate the operations and plan them properly.

7.1. Before Arrival

7.1.1. Conditions of refusal for operation of ships at berth

When docking, after the safety inspection carried out by the Terminal Operator, based on the ISGOTT Safety Checklist, if there are pending issues that are not resolved by the crew, the ship will not have authorization from the terminal to start the operation.

7.1.2. Onboard Cleaning and Repairs

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

7.1.3 ETA Information

Ships destined for TA ARACAJU facilities must indicate the estimated arrival (ETA) 72 and 48 hours in advance, directly to the respective Agent (see item 7.2.4). Alterations or confirmation of the vessel's arrival must be provided a minimum of 24 hours in advance. The ETA information shall specify whether the mentioned time is local or UTC.

When ships are 50 miles from the Terminal, contacts can be made by VHF, on channel 16/12 (156.80/156.60 MHz). Terminal bugs for 24 hours on this frequency.

7.2. Arrival

7.2.1 Communication with the Port Authority

The port authorities are activated, when necessary, by the agents of the ships depending on the arrival and forecast for mooring/berthing. As a general rule, the Visit is carried out after mooring. There is no regular visit to all ships destined to TA ARACAJU.

7.2.2 Bunker and water supply

The Terminal has no structure to provide bunker or water.

7.2.3 Communications with the Terminal prior to berthing

The terminal information for the ship and vice versa are described in appendices "P" and "Q", respectively.

The official time of arrival is considered to be that at which the ship reaches the berth or at which the Maneuver Captain embarks, considering the event that occurs first. However, the time of issuance of the ready to operate notification will not be the time of arrival, unless the NT is, in fact, in all respects, ready to operate.

The NT's will be loaded at a time, obeying the order of arrival, except when the manager, in special circumstances, gives priority to a ship out of the queue or when there is a change of cargo schedule by the Transpetro Programming area.

7.2.4 List of important telephones in the port

Cone Sul Maritime Agency: (71)32415236 – (71)32415342 - (71)974002379/974001455

Port Authority of Sergipe: (79) 3711-1600 - (79)37111666 - (79) 988777868

Aracaju Fire Department: (79) 3179-3604 / 3179-4954/ 193

Aracaju Pilots Association: (79) 3211-5699

Federal Police Superintendence: (79) 3234-8500

Port Health Service – Health Surveillance: (79) 3246-4191

Federal Revenue Office: (79) 2105-3100

TA ARACAJU: (79) 2104-8513 / 2104-8525

Santa Maria International Airport: (79) 3212-8501 - (79)32128500

Military Police: (79) 3226-7100 - 190 (Emergencies)

Sergipe Emergency Hospital (HUSE): (79) 3216-2600

Cesportes: (079) 3179-1827

7.3. Mooring

7.3.1. Vessel mooring

The mooring lines must deserve permanent care in order to keep the ship always moored/moored. All cables must be kept under adequate tension during operation, with the winches under brake, and the use of automatic tension winches is not allowed.

All mooring lines must be of the same type, diameter and material (naval cable braided 08 polypropylene legs), and the use of mixed moorings is not allowed.

Mixed moorings are those in which the cables that perform the same function are of different type, diameter and materials. Observe **5.3.9., of the General Restrictions.**

Emergency towing ropes can be left pending up to the water height, by the cheek and the wing of one of the edges, and passed on the on-board bollards, leaving the hands of the water height ropes throughout the operation as recommended by IMO.

In addition, all oil tankers must comply with IMO Assembly Resolution A535, which describes emergency towing and its forward and aft equipment, consisting of a strong elaborate handle and towing cable. This equipment must be extended and accessible for immediate connection when the ship is in the berth of the Buoy Board.

7.3.2. Ship / speedboat access

All ships must provide safe means of access for loading and unloading crew, and always keep their ladders ready to be lowered. Lifebuoys with tag lines shall be available in the vicinity of the means of access. The door ladder combined with the chest breaker must be used when it is necessary to access the ship (see item 6.3.1 above).

The crew, Maneuver Captain and mooring team that disembark will have to be dressed in closed leather shoes, long pants, sleeve shirts. Upon arrival at the Terminal's port facilities, people and luggage are subject to review, according to ISPs CODE certification procedures.

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

7.4. Prior to Cargo Transfer

7.4.1. Electrical insulation between ship and terminal

The lines of loading hoses consist of electrically continuous subsea hoses with the exception of the one located in the second position between the ship and the PLEM, from the ship.

7.4.2. Connections and Reductions

The resources required for connection are agreed upon on the first contact of the ship with the terminal.

The ship must arrange the outlets and install reductions and cargo connections in order to enable the coupling of the loading hoses.

The shore personnel do the connections and disconnections of the hoses, assisted by the crewmembers, who handle the winches and cranes, when necessary.

After the connection of the loading hose, it will be tested for its tightness, using the static pressure of the terminal column for this purpose. A ship's representative must accompany the entire operation and must be close to the ship's cargo outlet.

7.4.3 Determination of quantities

Before the start of the Loading or Unloading operation, a measurement of all tanks will be made, as well as sampling of tanks containing product. At the end of the operation, a new measurement and sampling will be made in the tanks.

These measurements will be carried out by the ship's crew, accompanied by the terminal representatives and other inspectors.

To avoid the risk of ignition from sparking static electricity during measurement, the equipment used must be properly grounded and the measurement accessories must be explosion-proof.

7.4.3.1 Tank Inspection

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

7.4.4 Minimum safety conditions for operation

The operational safety conditions are agreed during the initial release by filling in the initial chart, by the representatives of land and on board and other documents used by the Terminal to guarantee operational safety and compliance with standards.

7.4.4.1. Means of Communication

The communications are carried out with the ships through VHF radios in maritime frequency previously combined and registered. A secondary medium, through private TRUNKING radio (ship/terminal), operates all the time in parallel, replacing the main one in case of failure.

There is also the availability of voice/data communication, via cell phone.

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

7.4.4.2. Operational Control

The control room of TA ARACAJU is located in the tankage area of the Terminal, in its onshore facilities. In these rooms are the operators responsible for the control of all terminal operations, through the supervisory system.

The control room can be contacted via VHF maritime frequency radio, channel 16 (156.80 MHz)/12(156.60 MHz) or by telephone at (79) 2104-8513 / 3212-8506 (both with automatic recording system) and (79)99979-4869.

7.4.5. Safety Inspection

The Ship/Shore Operational Safety Checklist (LVSO). (ANNEX A of the "ISGOTT") is checked and completed by the Maneuver Captain on board during the initial release of the vessel.

7.4.6 Soot blowing

It is forbidden to carry out branching or cleaning of boiler piping with the ship moored. Care must be taken that sparks do not escape through the chimney.

Failure to comply with this regulation will result in one or more of the following sanctions: immediate interruption of operations; fine from the competent authorities; compulsory unberthing of the ship from the board; 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.

7.4.7 Vessels on the side during the vessel's demurrage

The prohibition on the permanence of unauthorized small vessels on the side or in the vicinity of moored ships must be strictly observed.

Only terminal service vessels or those authorized may be in the vicinity or alongside, provided that they meet all safety conditions. Infringement of this standard will have to be reported to the competent authority.

7.4.8. Propeller Movement

The moored ships must remain with their propulsion system in readiness throughout the operation, in order to be able to untie, clearing the berth, after disconnecting the hose, in the event of any emergency.

7.4.9. Ballast Soot blowing

The ships must arrive at the Terminal with the minimum of clean ballast that allows the maneuver according to the conditions of reigning time.

In order to avoid the occurrence of any water pollution, all ships calling at the terminal to load must bucket the tanks prior to arrival.

Prior to approaching the berth, masters shall ensure that all tanks, lines and pumps are free of oil. The work of transfer must be done, obligatorily, 50 miles from the Brazilian coast.

The Terminal does not have the facility to receive any portion of dirty ballast. If after mooring, it is found that there is dirty ballast remaining on board, the ship must return to the sea in order to carry out the necessary cleaning. In this case a new ready to operate notification shall be issued.

7.4.10. Protection against product return and overflow

The terminal does not have check valves to prevent the output of product to the ship when aligned with the earth manifold. In discharges, it is up to the ship to monitor possible undesirable receipts and the level of the tanks in order to avoid overflows.

7.5. Cargo Transfer

7.5.1. Monitoring of pressures and flows

During cargo transfer, pressures are recorded hourly by the onboard and shore representatives on the ship's manifold.

The operational pressure and flow limits will be agreed and defined in the Initial Chart.

The terminal controls the internal pressure variables and the flows are verified in real time through the supervisory system available in the control rooms.

The flows of the operation, measured on the ship and at the terminal and the total volume handled are compared hourly and compared between the parties having, according to the system used, a limit parameter for operational control. Notice of any changes in operating conditions must be provided and documented by the parties involved in operations.

The maximum pressure and receiving flow stipulated by the ship will be maintained, if lower than the terminal capacity whose maximum flow is 2,990 m³/h

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

7.5 Special requirements for LPG

Not applicable. Terminal does not operate LPG

7.5.3. Ballast/Deballast Requirements

Ships' slop, ballast and de-ballast nets and tanks must be destined only for this purpose, being isolated from other on-board nets.

The water ballast to be discharged to the sea must be completely free of oil, any oily residue or other substance capable of causing pollution of seawater. Ships must meet the requirements of NORMAM-20 (<https://www.marinha.mil.br/dpc/sites/www.marinha.mil.br.dpc/files/NORMAM-20-3aREV-MOD.1-10AGO22-REVISADO---LIMPA.pdf>), Ballast Management.

The Terminal does not have facilities for receiving ballast.

7.5.4 Conditions for receiving SLOP

The Terminal does not have facilities for receiving Slop.

7.5.5. Tank Cleaning

The COW operation is accepted, depending on prior authorization of the schedule for the purpose of the ship's demurrage in the port and the Initial Safety Inspection for operational safety purposes.

7.5.6. Repairs on board

Repairs or maintenance work of any nature, involving or coming to involve the risk of sparks or other means of ignition, may not be carried out while the ship is moored to the terminal buoy table.

In extreme cases, all safety standards must be observed and met.

7.5.7. Safety Inspection

The intermediate inspections, according to Appendix A of the "ISGOTT", will be carried out by the Maneuver Captain on board, during the operation of the ship.

7.5.8. Emergency Stop

The interruption of loading or unloading of the ship must be requested, by radio or other means of communication, whenever it occurs in any situation that may pose a danger, either to the ship or to the terminal.

Operations must also be temporarily suspended during storms, thunderstorms and/or strong winds.

Terminal operation crew are authorized to stop/suspend the operation in the event of non-compliance with any of the universally accepted and adopted safety rules and standards in the transportation of oil by sea.

The ship's master has the right to interrupt the operation, if he has reason to believe that the onshore operations do not offer security, provided that he notifies the Terminal operators in advance.

7.5.9. Actions in case of Emergency

For any emergency situation, the Aracaju terminal interrupts the ongoing operations so that all resources are aimed at mitigating the accident. The actions and contacts for each type of emergency are described in the Management Emergency Plan and the main telephones are described in section 9.

7.6. Load Measurement and Documentation

7.6.1 Draining the load hose

After the end of the operation, the drainage of part of the loading hose used must be started in order to enable its disconnection. The ship's representative must arrange for the drainage of the on-board section.

7.6.2. Final on-board measurements

They will be carried out by the ship's crew and accompanied by the terminal representatives and other inspectors. The material used must be properly grounded and the measuring accessories must be explosion-proof.

The final release of the ship will take place after comparing the quantities handled and the complement of the demurrage documentation.

7.7. Undocking and Departure from Port

7.7.1 Special precautions regarding the exit of the Spread mooring

The unberthing maneuver will be guided by the Maneuver Captain. During the unberthing maneuver and leaving the port, the limits and hazards reported in section 5.3.8 must be observed.

In order to avoid accidents; after undocking the Vessel and prior to disembarkation of Terminal crew and mooring crew, the Vessel SHALL:

- Shade to allow the support vessel to approach its edges, with forward segments of 1.5 to 2 knots.
- Stop machinery and await transshipment of crew from Terminal to support vessel.
- Wait for the support vessel to move away from its side and return to use the machine.

7.8 Compliance with ISPs CODE

The Aracaju Waterway Terminal has implemented corporate security protection measures applicable to ships and port facilities, in accordance with the requirements of the *International Maritime Organization* – IMO, through the adoption of the ISPs code – *International Ship and Port Facility*.

In case of need, these security measures can be triggered by the Ship through the *Port Facility Security Officer* (PFSO) through the phones: 55 (79) 999784855 - Mobile: 55 (79) 999004969

The Aracaju Waterway Terminal operates normally at security level 01.

The Port Facility Security Officer (PFSO) is trained in accordance with the requirements of the IMO.

8. ORGANIZATION OF PORT AND ANCHORAGE

8.1 Port Control or VTS

This section is not applicable to TA ARACAJU.

8.2. Maritime Authority

8.2.1 The Maritime Authority to which the Terminal is subordinate is the Port Authority of Aracaju.

8.2.2 Ships destined for TA ARACAJU may be physically visited by the Port Health, Customs and Federal Police, according to the need. The ship's agent shall make arrangements in this regard.

8.2.1. The limits of the port are defined in sub-item 7.3.4.

8.2.2. The maritime authority within the limits of the port of Aracaju has the responsibility to determine the actions and to notify those responsible for any incident within the limits of the port.

The Port Authority determines that the visit of the tax and sanitary authorities is carried out before the ship docks in the TA ARACAJU buoy table. Eventually and upon early formalization, the inspection may be carried out with the ship moored.

Any and all documents related to the dispatch of the ship at the last port must be submitted to the port authorities.

8.3 Pilotage

See sub-item 5.3.6.

8.4 Tugs and other Maritime Services

8.4.1 List of Boats available at the Terminal

The Terminal has 2 contracted vessels, powered by diesel and with a steel hull to assist with mooring, unberthing and emergency tasks.

TERMINAL INFORMATION PORT INFORMATION

8.4.2 Other relevant maritime services

The list of companies below is merely a courtesy of TA ARACAJU, and there is no responsibility for the quality of the service provided, deadlines or training of crew.

The release of access to the vessel by service providers will be subject to approval by TA ARACAJU's Asset Surveillance service.

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

8.4.2.1 Maritime Agencies

CONE SUL AGÊNCIA DE NAVEGAÇÃO

CONE SUL AGENCIA DE NAVEGACAO LTDA - SALVADOR

SALVADOR/MADRE DE DEUS/ARATU/ARACAJU
 AVENIDA DA FRANÇA, 164 – 9º ANDAR - CJ 904/905
 - COMERCIO

SALVADOR/BA - CEP: 40010-000 - BRASIL
 TELEFONE: +55 71 3241-5236 / +55 71 3241-5342
 FAX: +5571 3014-1500

BILL OF LADING RELATED/ASSUNTOS RELACIONADOS

A B/L:

TELEFONE: +55 13 3224-7444
 DEPARTAMENTO OPERACIONAL:
 NAILSON SANTOS : +55 71 97400-2379 OPERATIONS
 MANAGER

DAVI CAIRO +55 71 97400-1455 – (BR)

E-MAIL: salvador@conesulagencia.com.br

Website: www.conesulagencia.com.br

8.5 Other Oil / Gas Terminals

There are no other Oil or Derivative Terminals in the berth area or in the vicinity of the berth.

8.6 Other Key Users

Not applicable to TA Aracaju

9 EMERGENCY AND COMBAT PLANNING

TERMINAL INFORMATION

PORT INFORMATION

9.1 Emergency Contacts

The following table indicates the essential contacts with Phone Number, Fax Number and Radio Channels/Frequencies.

Organization	Service Hours	Telephone	Fax	Mobile	VHF/UHF Call
Port Authority	24 hours	55 (79) 3711-1625	55 (79) 3711-1647	-	CN 16 (156,800)
Support Vessels	24 hours	-	-	-	CN 16 (156,800)
TA ARACAJU Control Room	06:30 22:30	55 (79) 2104-8513 2104-8506		55 (79) 9979-4874	CN 16 (156,800)
TA ARACAJU MANAGEMENT	07:30 am to 05: 00 pm	55 (79) 2104-8537		55 (79) 99812-4152	-
Fire Aracaju	24 hours	55 (79) 3179-3608 (193)	55 (79) 3179-3606	-	-
Civil Defense Aracaju	24 hours	55 (79) 3179-3768 (199)	-	-	-
Aracaju City Hall	08 to 17 h	55 (79) 3218-7800	-	-	-
CRE	24 hours	55 (79) 2104-8522	-	55 (85) 98129-2521	-
IBAMA	24 hours	55 (79) 3712-7401	-	-	-

9.2 Environmentally Sensitive Areas

The ARACAJU TA Emergency Plan describes the areas most sensitive to environmental impact, related by sensitivity maps and showing, according to the selected area, the points that are subject to the greatest impact when this type of event occurs in the Terminal area.

9.3 General Description of the Emergency Response Organization

Responsibilities to deal with possible emergencies involving vessels arriving at the Terminal.

INCIDENTS WITHIN THE PORT/TERMINAL AREA					
Incident Type	Responsible Organization	Other Organizations Involved			
Collision in Porto	Port Authority	Civil Defense	TRANSPETRO		
Vessel Stranding	3	Civil Defense	TRANSPETRO		
Spread mooring collision	Port Authority	TRANSPETRO	Civil Defense		
Vessel Sinking	Port Authority	Civil Defense	Fire Department	TRANSPETRO	

TERMINAL INFORMATION

PORT INFORMATION

Vessel Fire	Vessel	TRANSPETRO	Fire Department	Civil Defense	Port Authority
Pollution	TRANSPETRO or Ship	Port Authority	CRE	IBAMA	

9.4 Emergency Plans

The PRE (Emergency Response Plan) is TA ARACAJU's plan to combat emergencies in all its facilities. The plan is registered in Transpetro's standards management system (SINPEP) and is updated periodically.

TA ARACAJU has an Emergency Response Center (CRE) that is equipped with modern equipment and various facilities for use in accidental pollution.

For eventual emergencies (leakage) in the buoy table, the procedures defined in the Terminal's Individual Emergency Plan (PEI) must be followed.

The Emergency Response Center (CRE) is located at a strategic point, which allows rapid action in the fight against emergencies. In its shed are stored containment barriers, oil collectors and other equipment and materials necessary for the tasks.

Throughout the operation, the Terminal maintains on standby vessels equipped with emergency response resources in the vicinity of the Buoy Board, in order to combat any accidental pollution.

9.5 Public Emergency Response Resources

If necessary, contact the agencies according to the table in item 9.3.

9.5.1 Local Emergency Services

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

9.6 Combating Oil Spill

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

9.6.1 Terminal Combat Capacity

The resources available at the terminal to combat oil spill situations are listed in the PEI.

9.6.2 Environmental Agency's Combat Capacity

If necessary, contact the agency according to table 9.1.

9.6.3 Second Response Resources Available

If necessary, the terminal may trigger resources available in the CDAs (Environmental Defense Center) to respond to pollution emergencies occurring in the vicinity of the terminal. The CDAs that serve the terminal are listed in the PEI.

9.6.4 Combating medium-sized spillage

If necessary, the terminal may trigger resources available in the CDAs (Environmental Defense Center) to respond to pollution emergencies occurring in the vicinity of the terminal. The CDAs that serve the terminal are listed in the PEI.

9.6.5 Combating large-scale spillage

If necessary, the terminal may trigger resources available in the CDAs (Environmental Defense Center) to respond to pollution emergencies occurring in the vicinity of the terminal. The CDAs that serve the terminal are listed in the PEI.

9.7 Combating other major emergencies

TA ARACAJU PRE lists the actions and those responsible for each type of event planned, which may occur within its unit or vessels and involve third parties.

9.8 Pollution at Sea and Garbage Packaging

Preventing pollution is of paramount importance.

Brazilian laws are quite strict with regard to water pollution along the coast.

It is forbidden to throw in the waters of the port of Aracaju or in the maritime area of TA ARACAJU any type of material, debris, garbage, oil or polluting substances. Heavy fines will be imposed on offenders by port authorities, in addition to imprisonment provided by law.

It is the responsibility of the ship's masters to ensure that no contaminated oil or water will be pumped or spilled on board their ship.

All sea valves, from both cargo tanks and holds, shall be conveniently closed prior to any operation. The transfer of cargo must be carried out with great care, in order to prevent mistakes or delays from causing spills.

All scuppers must be plugged to prevent contamination of the water in case of leakage.

The objective is the complete elimination of operational pollution of the sea by oil and other harmful substances and the minimization of accidental spills.

It is forbidden to throw any type of sewage or discharge directly into the sea during the demurrage in the Spread mooring or even throughout the oceanic area where the various platforms are located.

TERMINAL INFORMATION PORT INFORMATION

Ship Commander (must inform the Port Authority and the port authority of the occurrence of any spillage of polluting substances in the TA ARACAJU area or the port. As mentioned in item 2.17 of this manual, the Contingency Plan for combating pollution will be activated.

The terminal does not have the resources to collect and dispose of garbage from on board, and contact must be made with the agent when such measure is necessary.

During the permanence of the ships in the Spread mooring, the garbage must be contained in suitable and closed containers and places, thus being kept. As already mentioned, there is no collection.

It is expressly forbidden to keep wagons or other garbage containers hanging from the edge, or near the edge, at risk of falling overboard.

TERMINAL INFORMATION PORT INFORMATION

10 CONTACTS

The tables below indicate the Organization, Position Telephone, Fax, Channel/Radio Frequencies.

10.1 Terminal

Location	Contact	Telephone	Fax	VHF/UHF Channels	
				Call	Talk
Terminal Control Room	Tec. Operation	(79)2104-8513 – 2104-8506 99979-4874		16	12
Terminal Sector Manager	Manager	55 (79)2104-8537 99812-4152		-	-
Security (SMS)	SMS Manager	(85)982251922		-	-

10.2 Port Services

Organization	Contact	Telephone	Fax	Email	VHF/UHF Channels	
					Call	Talk
Port Authority	Duty officer - 24 hours	55 (79) 3711-1625		-	16	-
ATMAR		(79) 21048556/ 21048557		-	16	12

10.3 Navigation Agents and Selected Suppliers

Company	Business	Telephone	Fax	Email
Cone Sul	Shipping Agency	(71)32415236 (71)32415342 (71)974002379		salvador@conesulagencia.com.br

10.4 Local Authorities, State and National Agencies

The table in section 9.1 lists these authorities and their respective contacts.

10.5 Organizations, Emergency Response

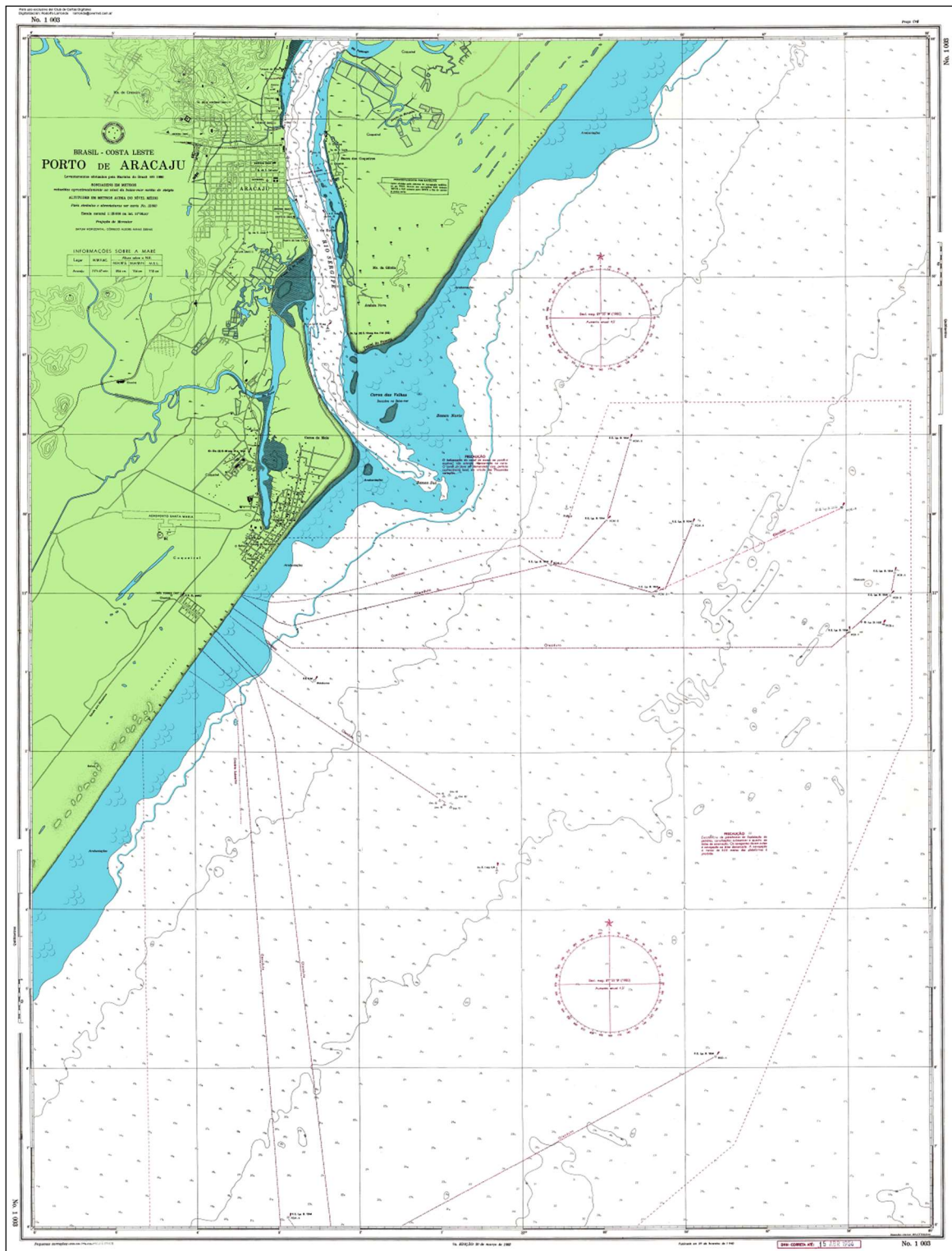
Emergency response organizations available in port are listed in section 9.1.

11 BIBLIOGRAPHY AND SOURCES OF CONSULTATION

- Dicionário de Comércio Marítimo. Autor: Wesley O. Collyer
- Glossário de Termos Técnicos para a Construção Naval. Ministério da Marinha - Diretoria de Portos e Costas.
- Navegar é Fácil. Autor: Capitão de Mar e Guerra Geraldo Luiz Miranda de Barros
- Símbolos e Abreviaturas Usadas nas Cartas Náuticas Brasileiras, 5ª (2022) edição, nº12.000. Diretoria de Hidrografia e Navegação. Marinha do Brasil.
- Normas e Procedimentos da Capitania dos Portos de Sergipe – NPCPSE
- Lista de Faróis, 25ª edição. Diretoria de Hidrografia e Navegação. Marinha do Brasil.
- Roteiro Costa Leste, 14ª edição. Diretoria de Hidrografia e Navegação. Marinha do Brasil.
- Cartas Náuticas 1.000 e 1.003. Marinha do Brasil.
- International Safety Guide For Oil Tankers And Terminals – ISGOTT. 6ª edição, 2020.
- Distribuição da direção do vento. Ministério da Agricultura e do Abastecimento – MA. Instituto Nacional de Meteorologia – INMET. 4ª Distrito – SEOMA.

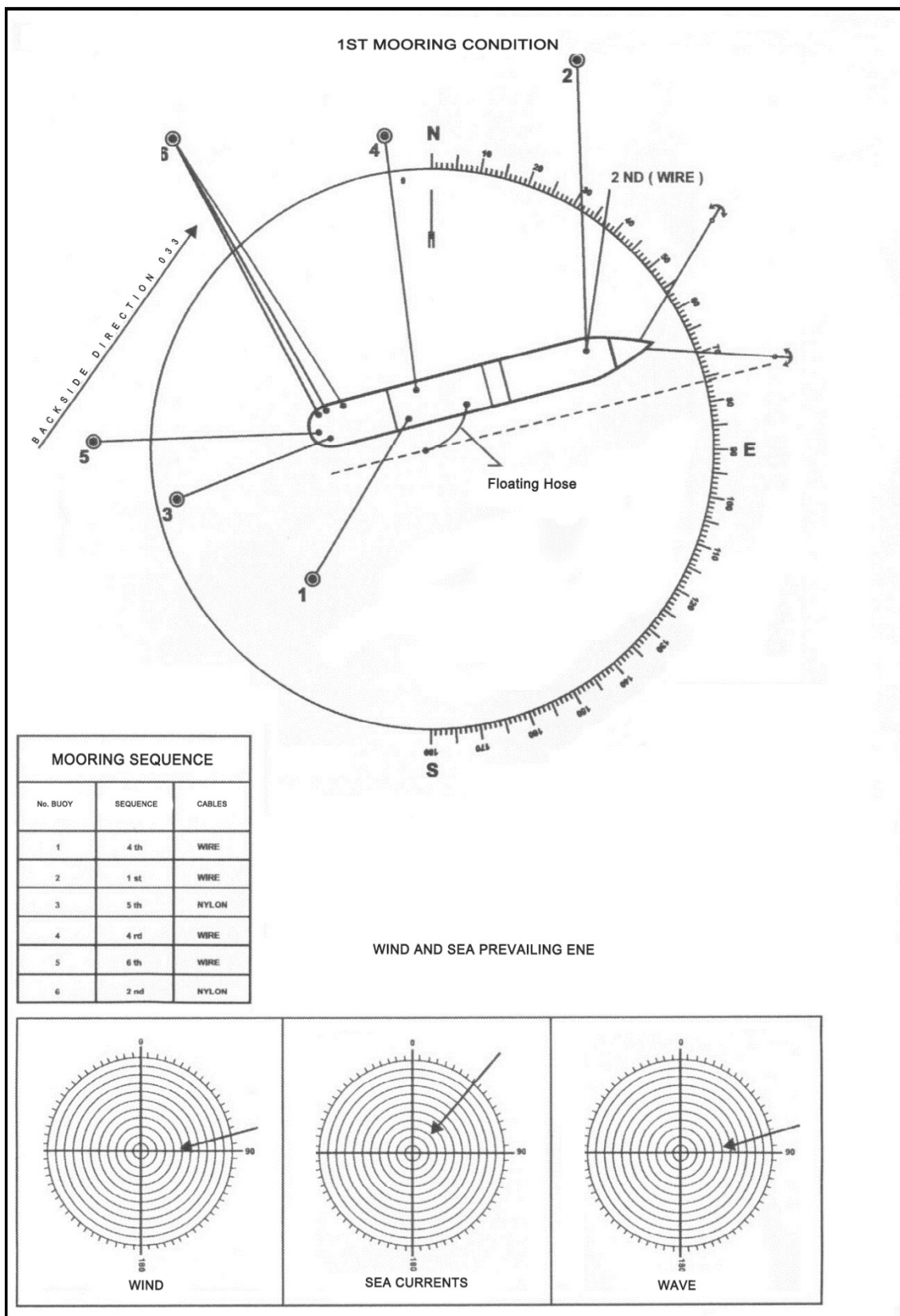
APPENDICES

A – Spread mooring Location Map



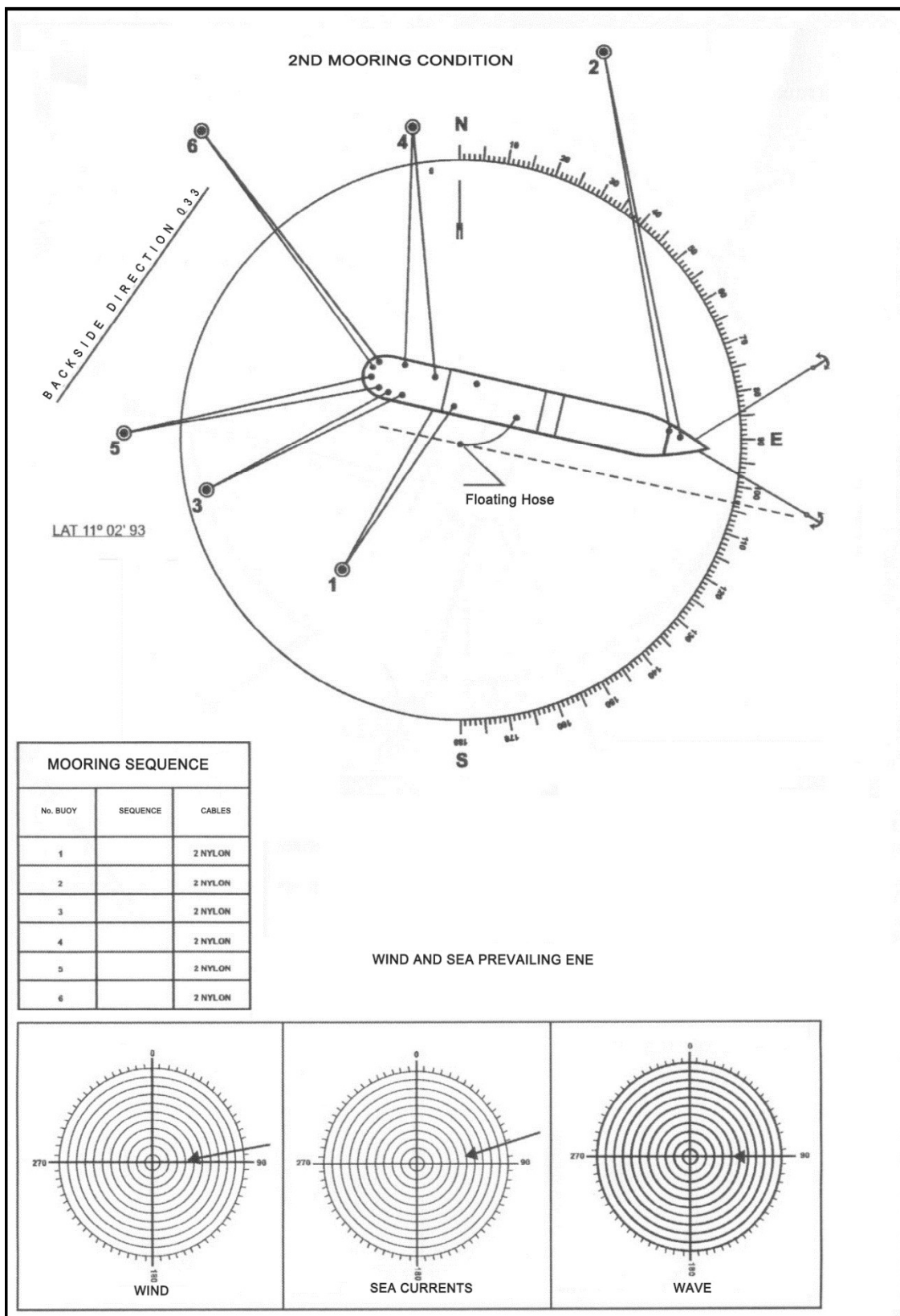
**TERMINAL INFORMATION
PORT INFORMATION**

B – Mooring Report with Wind and Sea of ENE



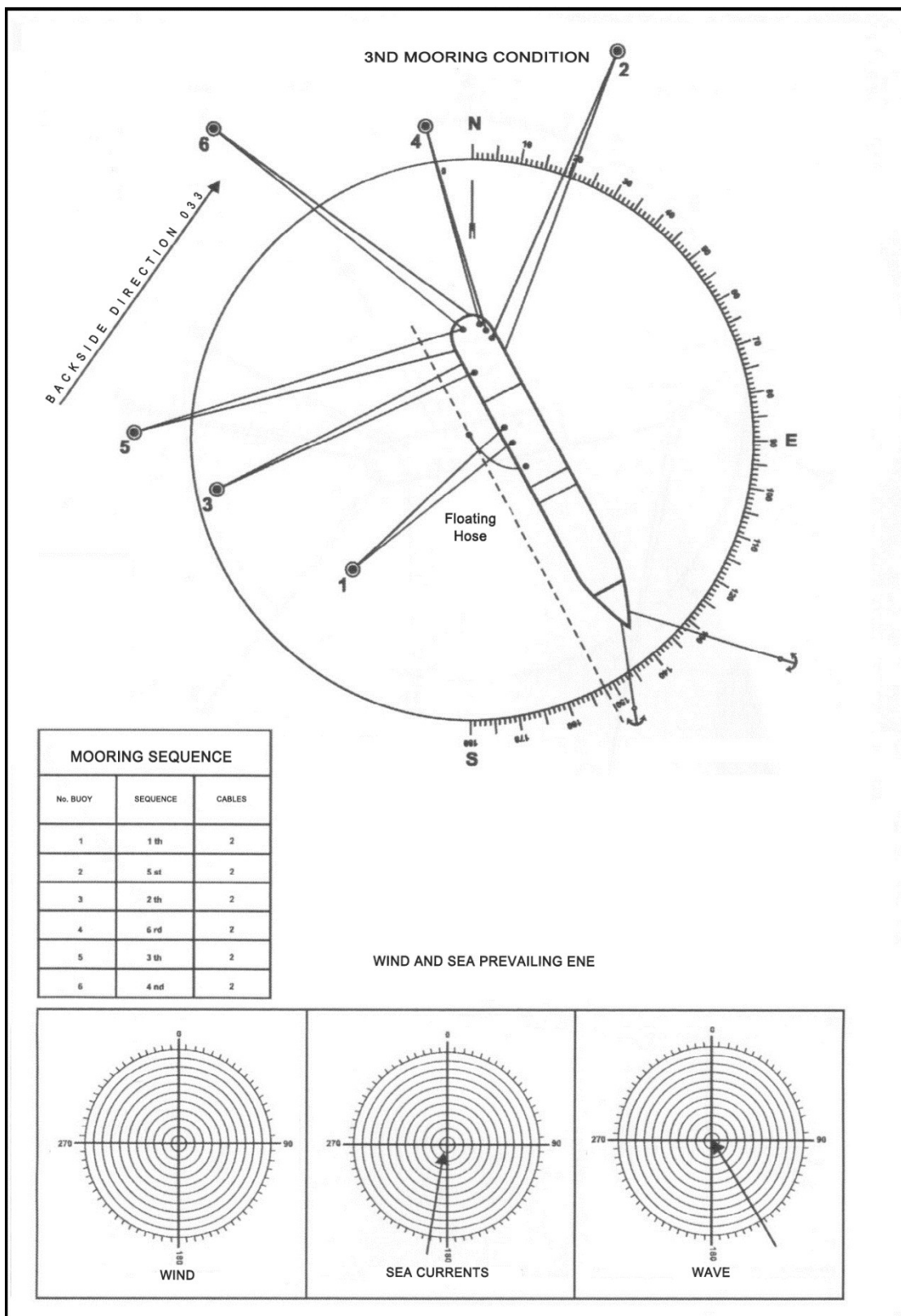
TERMINAL INFORMATION PORT INFORMATION

C – Mooring Report with Wind and Sea of E



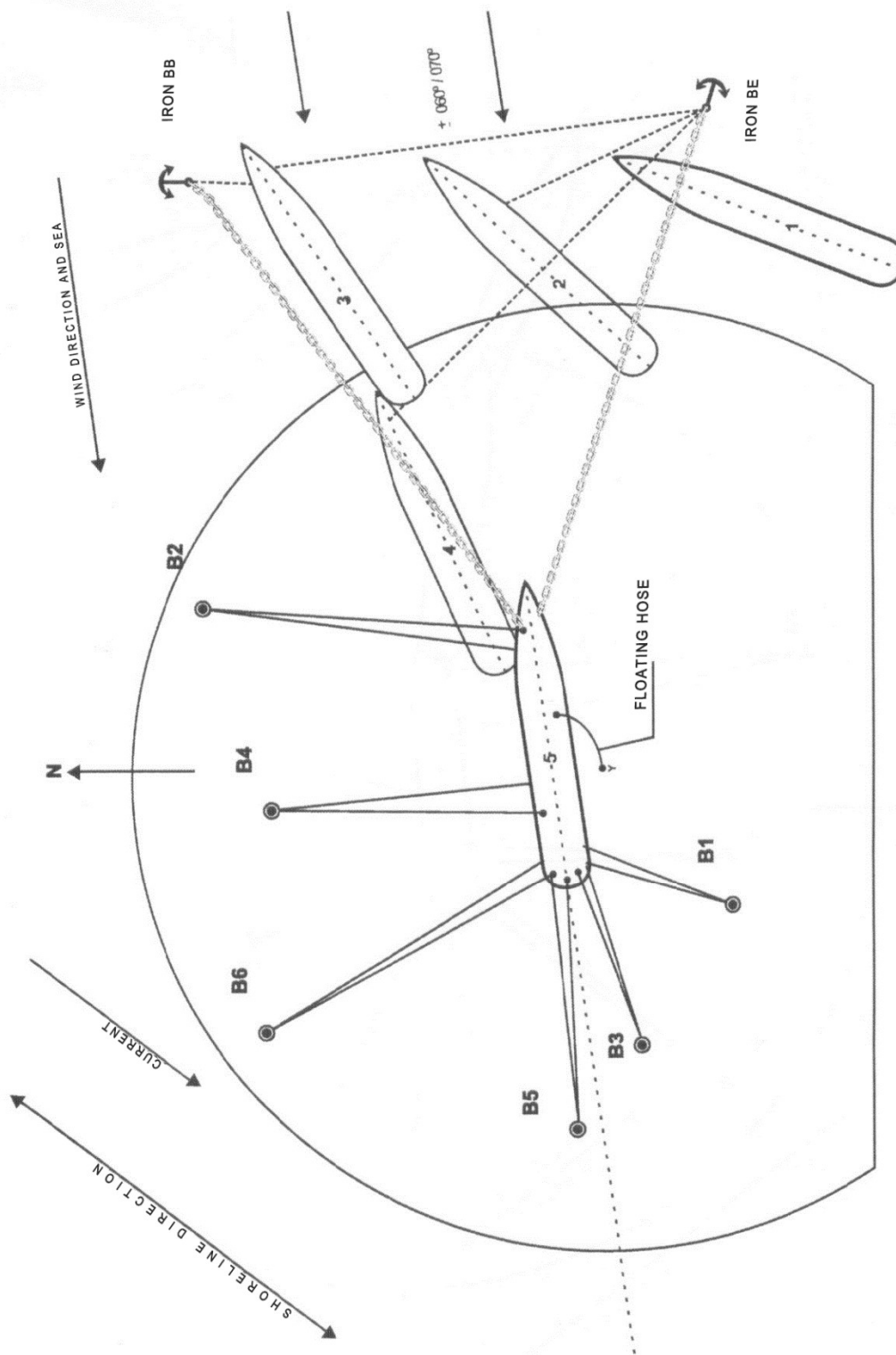
**TERMINAL INFORMATION
PORT INFORMATION**

D – Mooring Report with Wind and Sea of SE



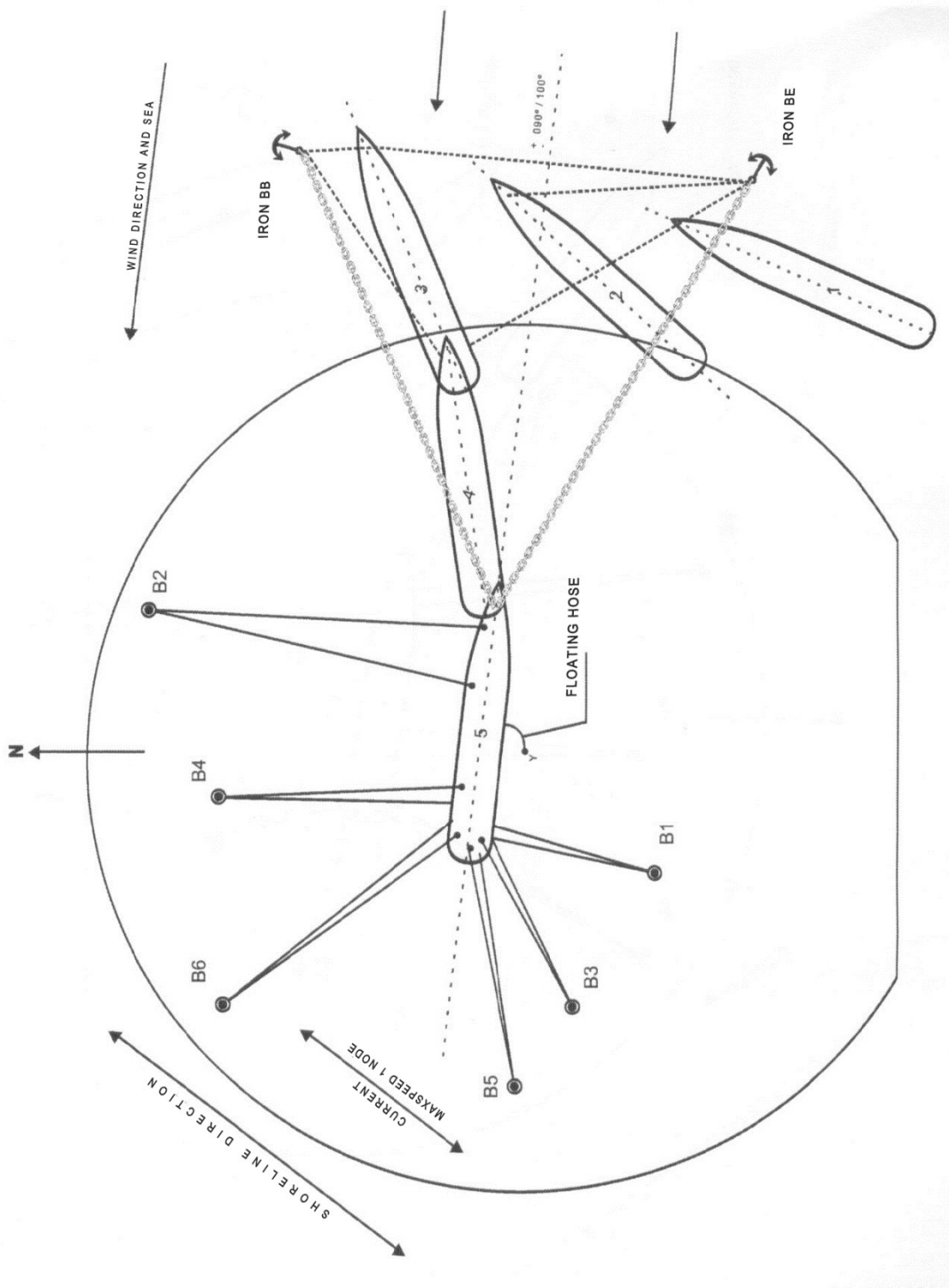
TERMINAL INFORMATION PORT INFORMATION

E – Mooring Plan with Wind and Sea of ENE



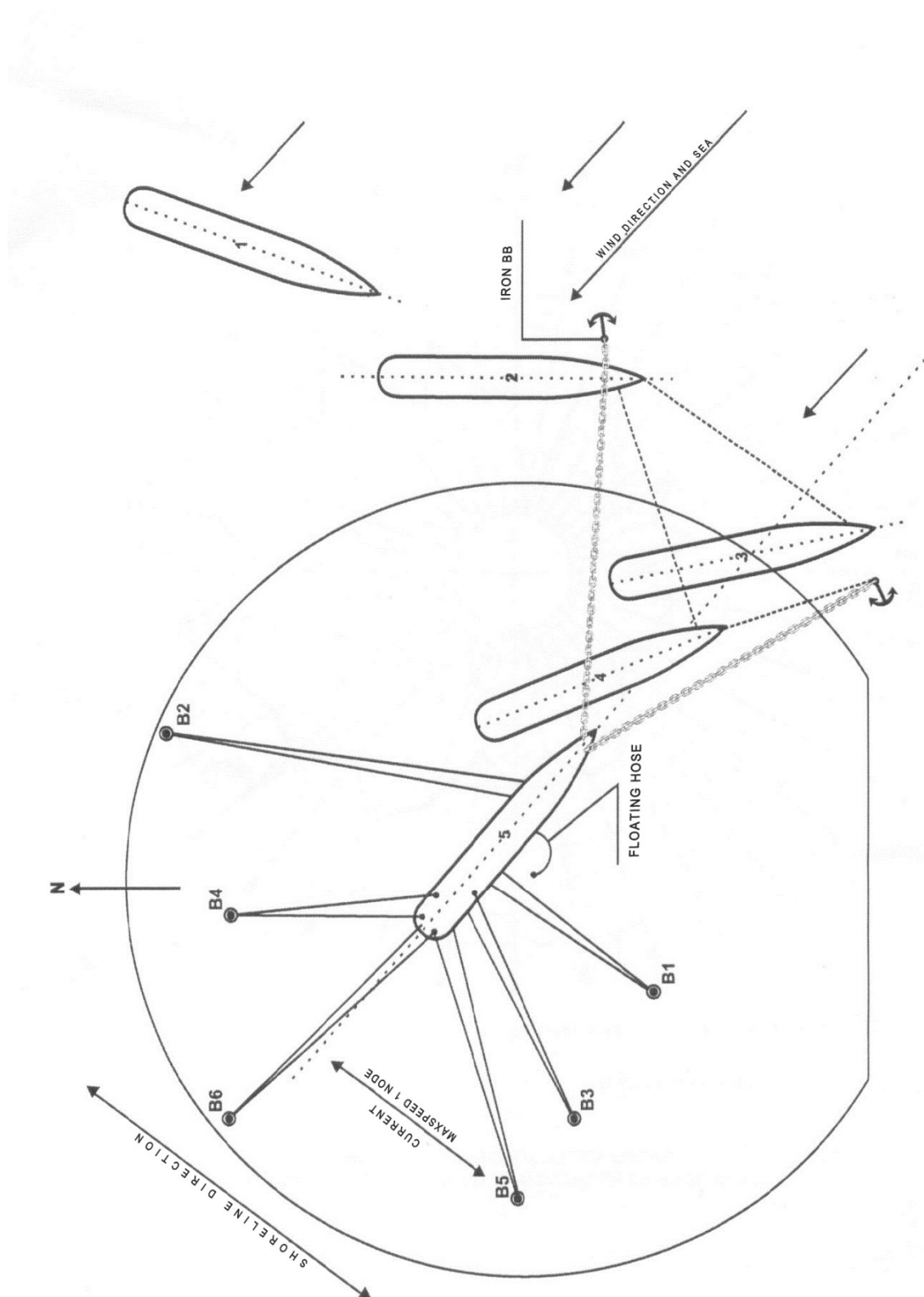
TERMINAL INFORMATION PORT INFORMATION

F – Mooring Plan with Wind and Sea of E



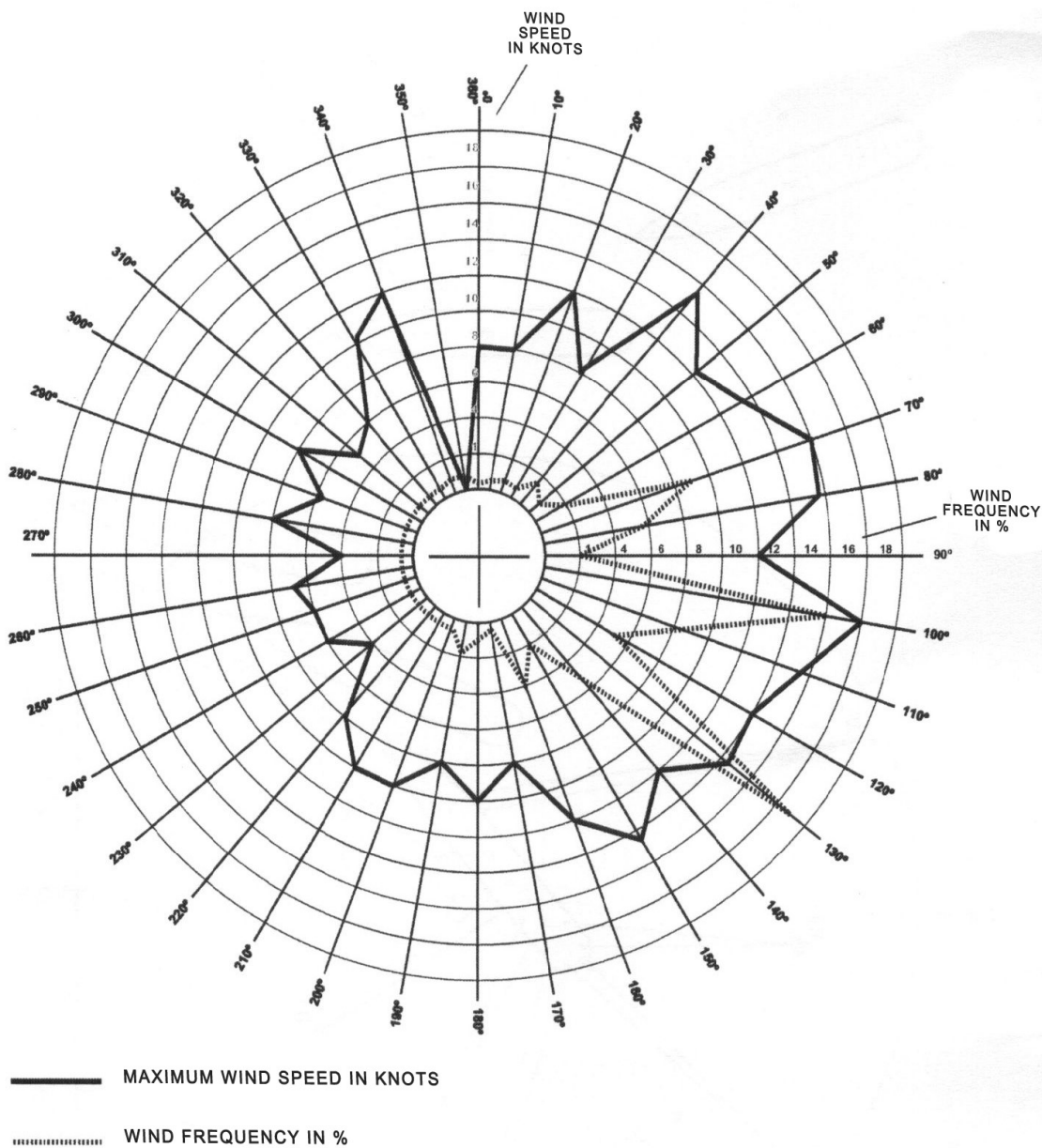
TERMINAL INFORMATION PORT INFORMATION

G – Mooring Plan with Wind and Sea of SE



TERMINAL INFORMATION PORT INFORMATION

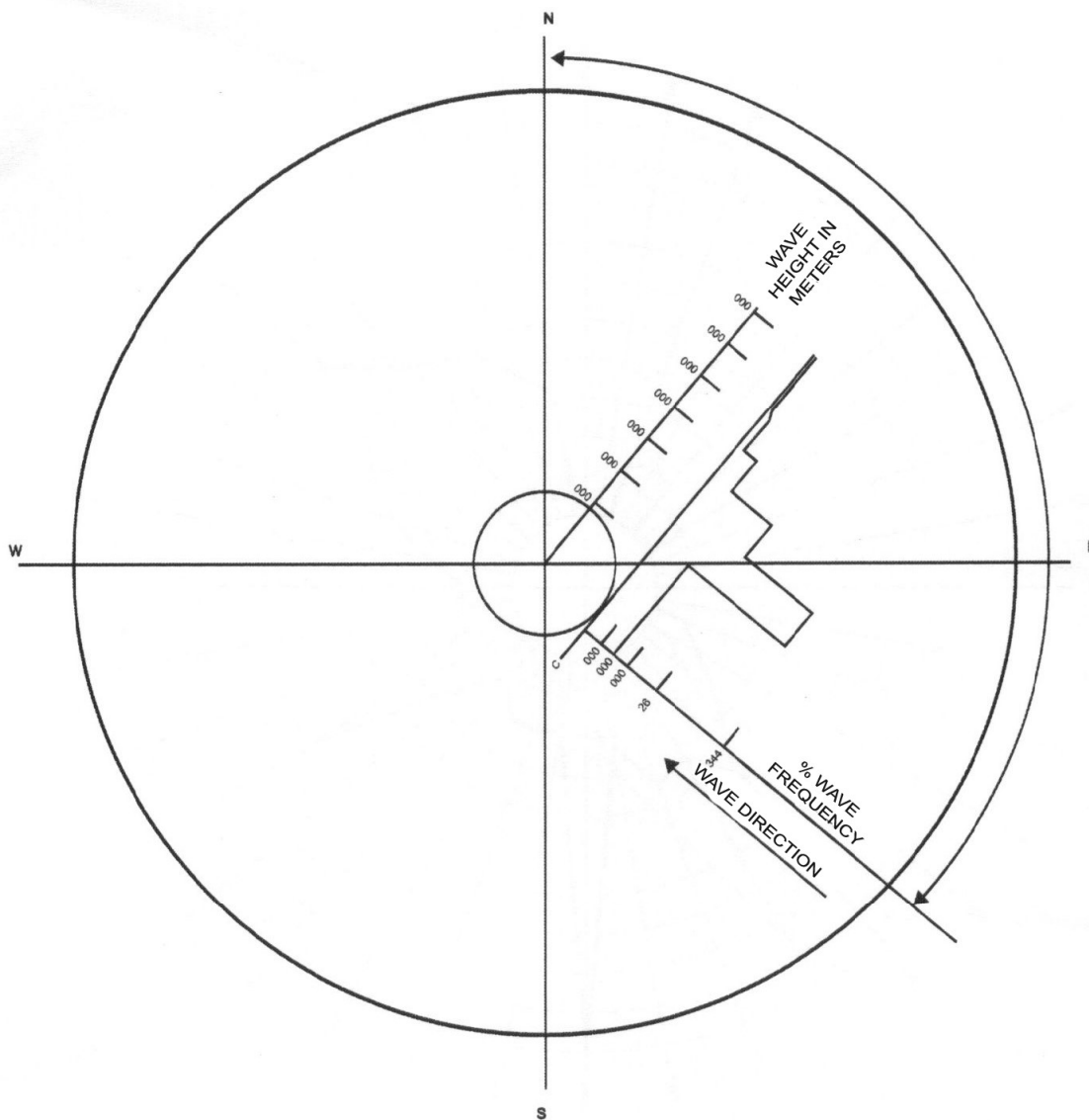
H – Wind Intensity and Frequency



METEOROLOGICAL DATA (WIND)
WIND INTENSITY AND FREQUENCY IN DIFFERENT DIRECTIONS

**TERMINAL INFORMATION
PORT INFORMATION**

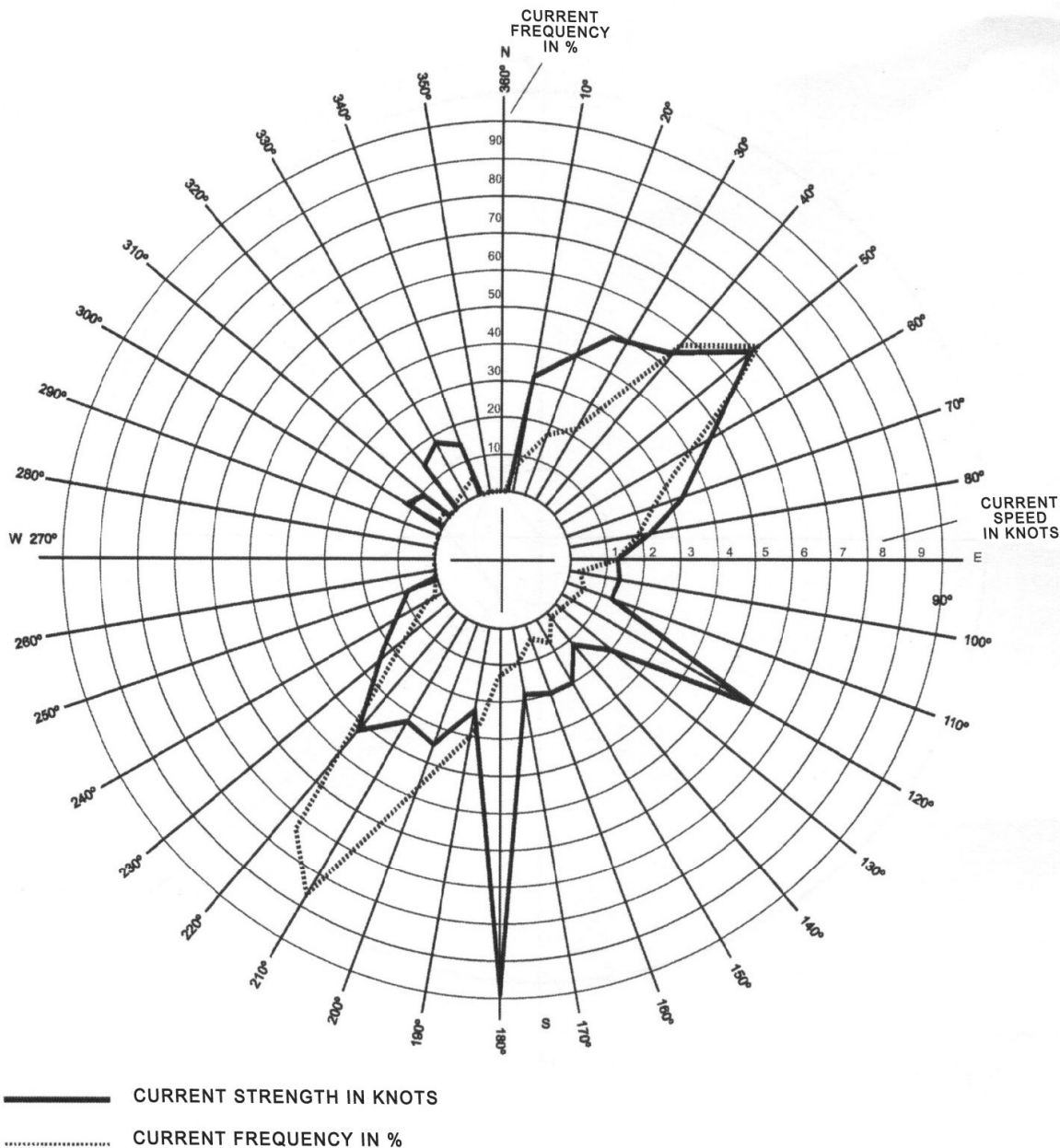
I - Frequency of waves according to their height



**OCEANOGRAPHIC DATA (WAVES)
WAVE FREQUENCY BY WAVE HEIGHT**

**TERMINAL INFORMATION
PORT INFORMATION**

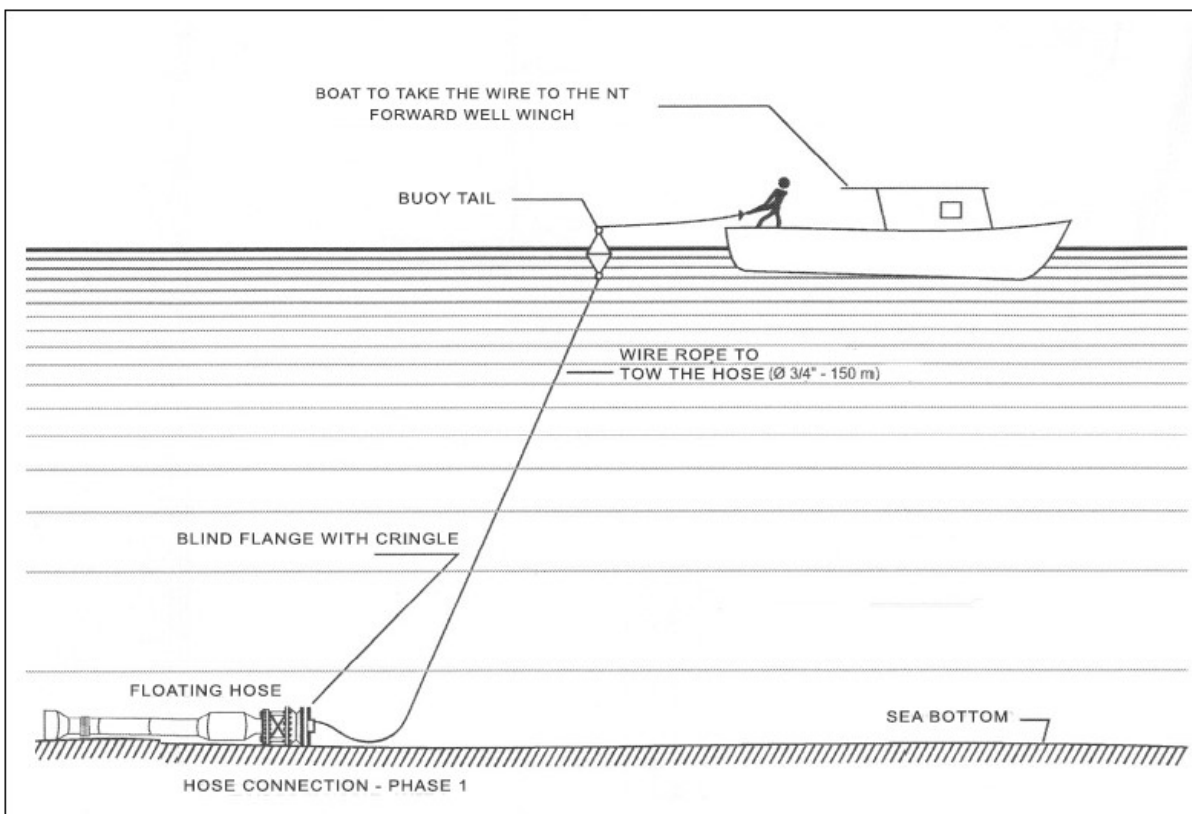
J – Intensity and Frequency of Currents



**METEOROLOGICAL DATA (CURRENTS)
INTENSITY AND FREQUENCY IN DIFFERENT DIRECTIONS**

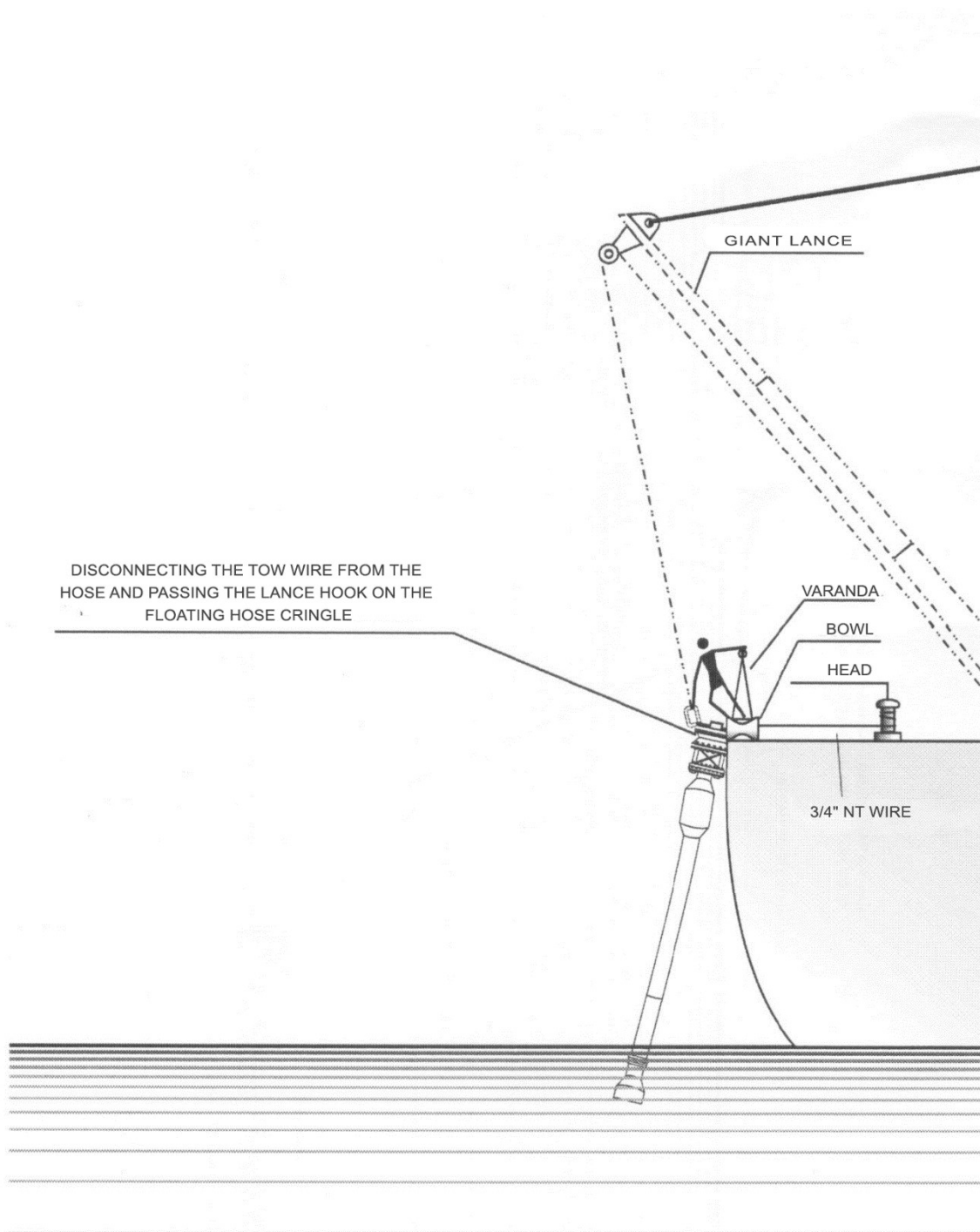
**TERMINAL INFORMATION
PORT INFORMATION**

K – Hose Connection – PHASE 1



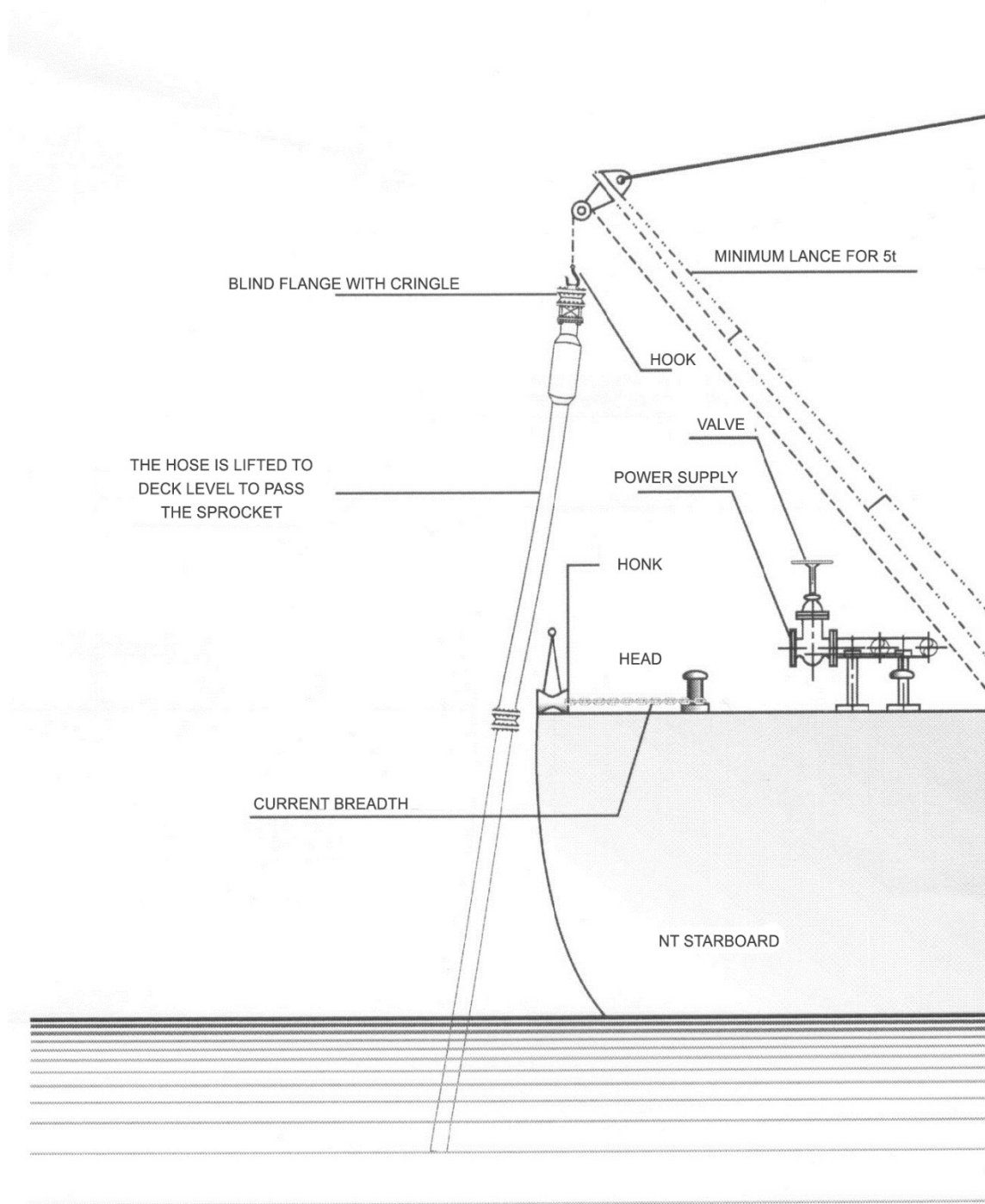
TERMINAL INFORMATION PORT INFORMATION

L – Hose Connection – PHASE 2



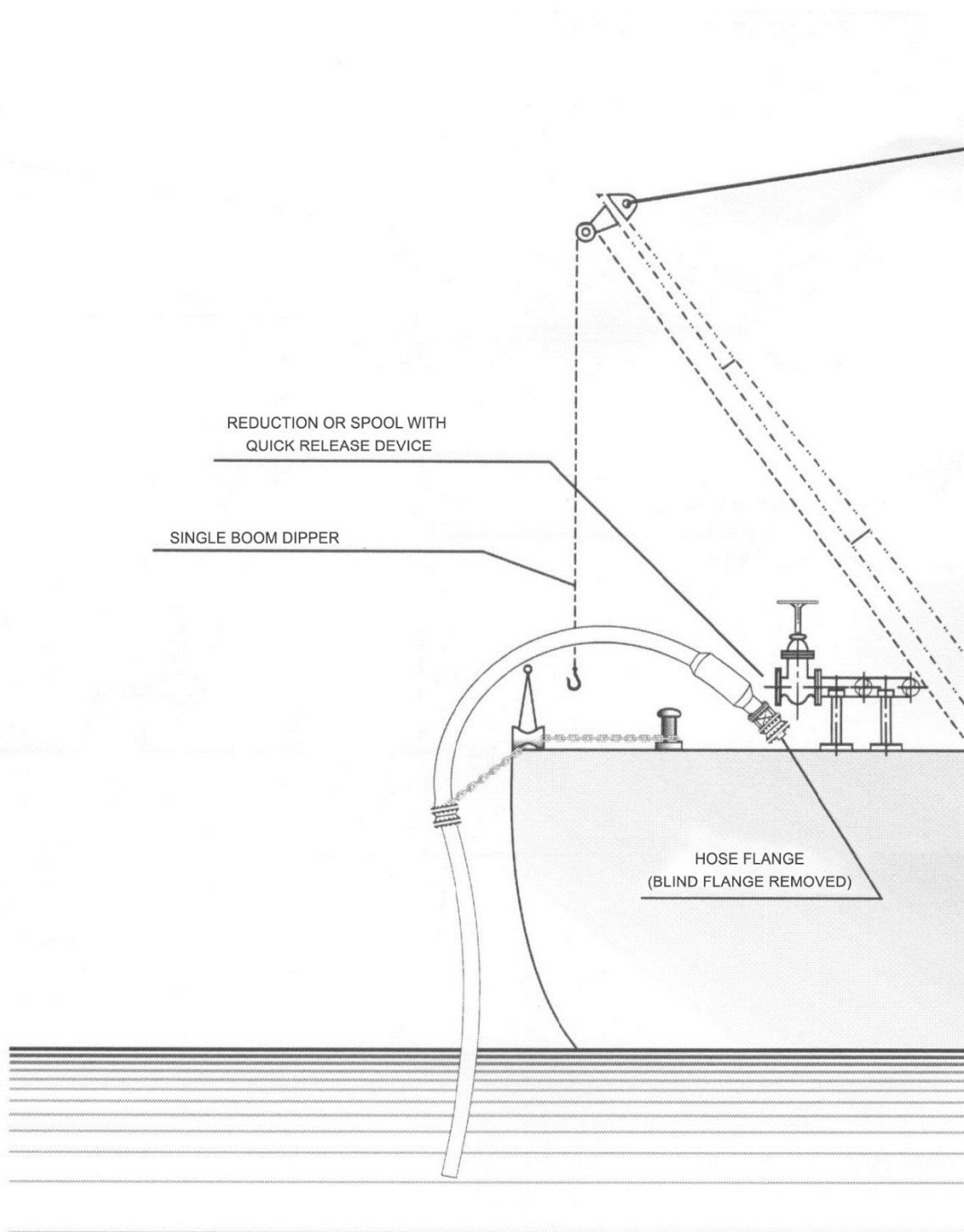
**TERMINAL INFORMATION
PORT INFORMATION**

M – Hose Connection – PHASE 3



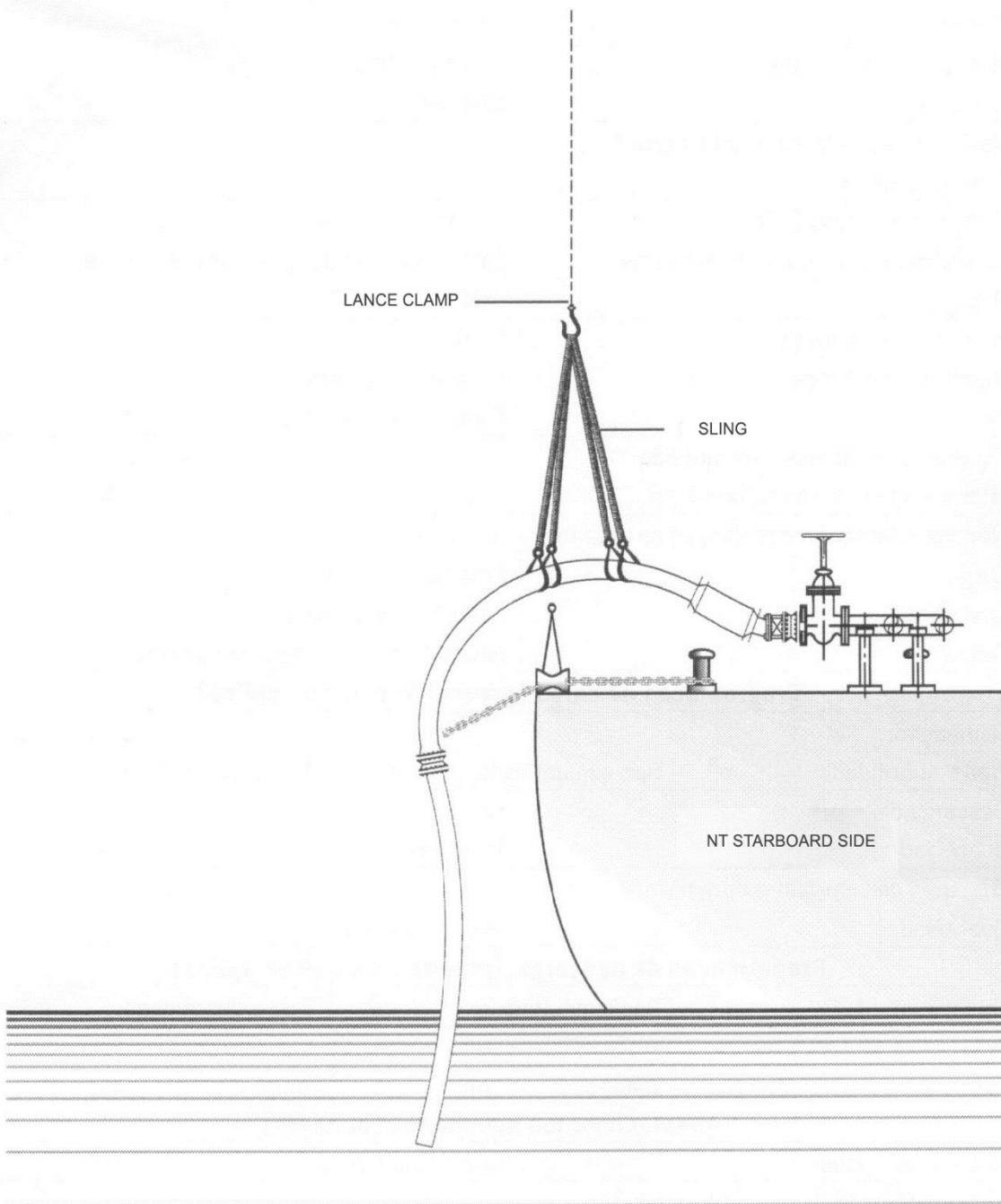
TERMINAL INFORMATION PORT INFORMATION

N – Hose Connection – PHASE 4



TERMINAL INFORMATION PORT INFORMATION

O – Hose Connection – PHASE 5



TERMINAL INFORMATION PORT INFORMATION

P – Essential information from the vessel to the Terminal

PORT AND TERMINAL OF:		
Request for Vessel Information		
Name of Vessel:	Estimated Arrival (ETA):	
Flag:	Last Port:	
Commander's Name:	Next Port:	
Owners:	Agents:	
Does the ship have an inert gas system?		
Oxygen Content:		
Overall Length (LOA):	Arrival Draft:	
Length Between Perpendiculars:	Maximum Draft during Transfer:	
Mouth:	Outbound Draft:	
Number of engines:	Transverse Propulsion:	
Number of propellers:	Bow (No. & power)	
	Stern (No. & power)	
Tugs – minimum number required:		
(No. of static & traction (bollard pull):		
Number Manifold Flanges & Size:	Distances:	
Load:	Bow to Manifold	
Ballast:	Side to Manifold	
Bunker:	Manifold Height at Sea Level	
LOAD SCHEDULE (fill in what applies)		
Name:		
Type and Quantity: m ³	Type and Quantity: m ³	Type and Quantity: m ³
Discharge of the ballast to the sea:		
Quantity: m ³	Estimated time:	
Slop / ballast discharge to shore:		
Quantity: m ³	Estimated time:	
DISCHARGE SCHEDULE (fill in what applies)		
Type and Quantity: m ³	Type and Quantity: m ³	Type and Quantity: m ³
Ballast:	Volume: m ³	Time:
Supplies requested (bunkers)		
Quantity type:	Quantity type:	
Additional information (if any):		
Please fax or e-mail to the Terminal supervisor.		

TERMINAL INFORMATION PORT INFORMATION

Q - Information to be exchanged before cargo transfer

Information between ship and terminal			
Name of ship:		Mooring berth:	
Voyage Number:		Mooring date:	
Contractual data			
No. of onboard pumps:			
Volumetric capacity 98%:		M³	
Guaranteed discharge pressure: (When unloading operation)		Kgf/cm²	
Simultaneous ballast/de-ballast capacity with loading/unloading			
Voyage information			
Type of charter (VCP, TCP, COA, etc.)			
Type of voyage (Cabotage/Long Haul)			
Ports or location of origin and destination			
Ship Requested Refueling?			
Means of communication between ship and terminal			
Cargo information			
Product:	Quantity:	Temperature:	API
Slop			
Quantity:	Temperature:	API:	
Fluidity:	Origin:		
	Contaminants:		
Ballast			
Dirty Ballast		Segregated Ballast	
Quantity:	Temperature:	Quantity:	
Operational information			
For discharges:	Will the ship do a special operation? (COW, Inertization, etc.)		
	Expected time required for special operation		
	Time required to stop pumps		
For loading:	Amount of advance notice provided for TOP		
	Flow rate during TOP period		
	Amount of ballast to be discharged		
	Maximum allowable flow rate during de-ballasting		
Are restrictions in place with regards to electrostatic properties?			
Are restrictions in place with regards to the use of self-closing valves?			
Vessel / Terminal Conditions for Loading/Unloading Operation by Product			
Vessel	Pressure:	Terminal:	Pressure:
	Flow rate:		Flow rate:
	Max Temperature:		Max Temperature:
	Min. Temperature:		Min. Temperature:

**TERMINAL INFORMATION
PORT INFORMATION**

Sequence of operations by product
Quantity to be loaded/unloaded
Source / Destination Tanks
On-board / onshore lines
Loading arms/ hoses used
Expected start and end of operations
Additional information on operation and safety