

		CLASSIFICATION	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		EXTERNAL USE	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION		Nr. VALE	PÁGINA
		PCTUB021 Nr. (CONTRACTOR)	1/15 REV.05 20/08/21

TABLE OF CONTENTS

INTRODUCTION

1 SAFETY

- 1.1 SAFE ACCESS**
- 1.2 USE OF PERSONAL PROTECTIVE EQUIPMENT**
- 1.3 ACCESS TO THE PIER**
- 1.4 ACCESS TO CARGO HOLDS**
- 1.5 OPENING AND CLOSING OF CARGO HATCHES**
- 1.6 OPERATION OF SHIP'S CRANES**
- 1.7 MAXIMUM LOAD PER HOLD**

2 ENVIRONMENT

- 2.1 AIR POLLUTION**
- 2.2 CLEANING OF CARGO DECKS**
- 2.3 BALLAST WATER MANAGEMENT**
- 2.4 OTHER POTENTIAL POLLUTION SOURCES**
- 2.5 JUBARTE WHALE FRIENDS PROJECT**

3 SECURITY

- 3.1 ISPS CODE**
- 3.2 CREW SHORE LEAVES**
- 3.3 TRANSPORTATION- INFLUENCE OS ALCOHOL/DRUGS**

4 OPERATIONAL

- 4.1 PREVENTION OF DAMAGES TO THE VESSEL, PIER OR SHORE EQUIPMENTS**
- 4.2 ADVERSE WEATHER OR SEA CONDITION**
- 4.3 TOWLINES / MOORING LINES**
- 4.4 BALLAST / DEBALLAST OPERATION**
- 4.5 PORT INFORMATION**
- 4.6 LOADING OPERATION – TUBARAO IRON ORE**
- 4.7 DISCHARGE OPERATION – PRAIA MOLE**
- 4.8 CARGO PLAN**

5 SERVICES TO THE VESSEL

- 5.1 BUNKERING OPERATIONS**
- 5.2 WASTE MANAGEMENT**
- 5.3 HOT WORK**
- 5.4 ENGINE MAINTENANCE**
- 5.5 DIVING SERVICES**
- 5.6 DELIVER OF GOODS AND SERVICES**
- 5.7 CLEARANCE OF ALL ACTIVITIES BEFORE THE END OF CARGO OPERATION**
- 5.8 SURVIVAL CRAFT TEST**

6 ADDITIONAL INFORMATIONS

- 6.1 PORT CAPTAIN**
- 6.2 FOREMAN**
- 6.3 AIS – AUTOMATIC IDENTIFICATION SYSTEM**
- 6.4 PORT STATE CONTROL**
- 6.5 VETTING SYSTEM**
- 6.6 FIRST AID**
- 6.7 EMERGENCIES**
- 6.8 PILOTAGE AND TOWAGE**
- 6.9 ANCHORAGE INSTRUCTIONS**
- 6.10 CRITICAL NAVIGATIONAL EQUIPMENT ISSUES**

7 FINAL CONSIDERATIONS

8 MASTER'S ACKNOWLEDGEMENT RECEIPT

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION			Nr. VALE PCTUB021	PÁGINA 2/15
			Nr. (CONTRACTOR)	REV.05 20/08/21

INTRODUCTION

Dear Captain,

It is our very great pleasure to warmly welcome you and your crew to Tubarao and Praia Mole Port Complex. With this communication would like to gently request for your cooperation aiming at a safer and most productive port call.

This document defines the standard procedures to be followed at VALE’s Tubarao and Praia Mole Port Complex. Its contents propose to assist ship's Masters, Owners, and Agents on the regulations and procedures to be observed and complied in our port area.

Aimed at complying with the Company policy, any observation about the safety or operational requirements must be recorded for proper addressing; emphasizing through this announcement the need for cooperation with the Port's Representative on the acknowledgement of any notice that may be issued, furthermore, an immediate action along with a Root Cause Analysis report is required before ship's departure.

If observed any issue that may compromise the Safety and Environmental aspects of the ship’s operation, you are fully entitled to demand immediate cessation of operations and the notice Foreman.

In case of breaching of this agreement, Terminal Administration reserves the right to stop all operations and further request that vessel departs, thereafter bear the consequences and actions to be taken against the charterers and owners.

With Best Regards!

Tubarão and Praia Mole Port Administration
Port Captain’s Office

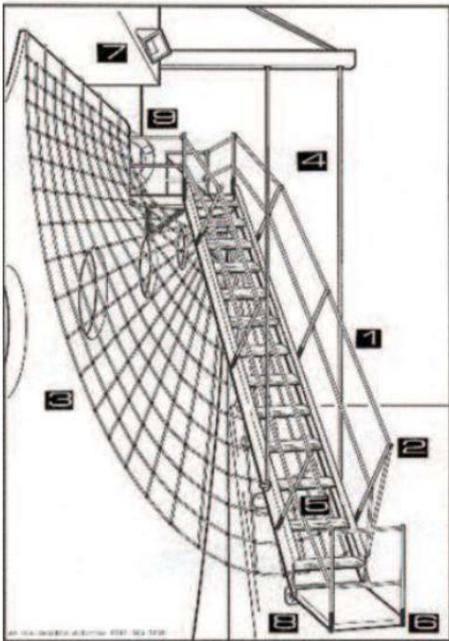
	CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

1 – SAFETY

1.1 SAFE ACCESS

Ship must supply enough, safe and suitable means of access between ship and pier. The means of access should be securely installed / maintained and constructed in accordance with international standards. Special attention is requested on the correct installation and positioning of handrails and steps. Shore staff will not authorize access to / from the vessel in case a safe mean of access is not provided.

Due to normal changes of draft and tide during port stay and the regular ship's movements due to external force (wind, swell, currents...) the means of access should be regularly checked to ensure that it is correctly adjusted. Accommodation ladders must be installed according to the instruction figure below that is according to the IMO Circular MSC.1/Circ.1331 and Brazilian NR29 - safety of labour activities in ports.



Important points to be considered during the rigging process:

1. Rope guardrails tight and free of damage and/or degradation
2. Stanchions free of distortion and all in place
3. Safety net positioned between ladder and ship, free of damage and/or degradation
4. Hoisting arrangements clear of head height
5. Steps free of oil, grease and ice
6. Bottom platform level (where fitted)
7. Lighting arrangements positioned effectively
8. Base clear of obstructions
9. Lifebuoy fitted with a light and a lifeline with a quoit available at the point of access

All vessels are required to provide a safety wire line secured to ladder bottom and main deck, minimizing risk of ladder falling down in case of failure on ladder's brake/winch, what could turn into risk for personnel.

The Master of the ship should appoint a person (watchman-on duty) for the purpose of monitoring the status of means of access during the whole port stay, in order to prevent risk to personnel involved and damage to equipment (ladder/gangway or any other appendix from being close to bollards and other port equipment).

During the night, make sure access areas are well lit and the places with the greatest traffic of people are painted with non-slip paint.

1.2 USE OF PERSONAL PROTECTIVE EQUIPMENT

Crewmembers (or any person under ship's responsibility), while on the pier or on deck must wear "personal protective equipment", applicable as follows: hard hats with chinstraps, earmuffs, safety goggles, safety gloves and safety shoes. While on the pier, it is also compulsory the use of approved lifejackets. Use of PPE is compulsory also for crew on shore leave, while in transit between ship and gate.

		CLASSIFICATION	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		EXTERNAL USE	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION		Nr. VALE	PÁGINA
		PCTUB021 Nr. (CONTRACTOR)	4/15 REV.05 20/08/21

Crewmembers working at height and/or over water must use suitable fall protection system. Anti-pendulum anchor points such as sala blocks should be in place bearing in mind that the anchorage point must be above the worker head to eliminate swing fall hazards.

1.3 ACCESS TO THE PIER

Tubarão and Praia Mole Port Complex is an industrial area, subject to associated risks, so safety must be considered of utmost importance. Any crewmember or any person under Master's responsibility that is found under influence of alcohol or drugs is subject to have authorization for access to the terminal revoked.

It is mandatory that anyone that intends to access the pier from / to the vessel must previously notify the Foreman on duty whom will arrange for necessary escort and to check if everyone is wearing the necessary personal protective equipment. No one is authorized to transit on pier without the escort of a designated Foreman (for draft check, ship Chandler services or shore leave).

It is not allowed walking under the ship loader / unloader or under suspended cargo, while on deck or on the pier. If any infraction is observed, the cargo operation may be stopped, and the time / delay will be for ship's account. A safe walkway must be provided by the vessel, indicated (painted, handrails, yellow tapes) on the main deck from / to the accommodation ladder in order to lead everyone to walk through the seaside, where is considered a safer area.

1.4 ACCESS TO CARGO HOLDS

Ship should supply safe ladders for hold access (clean without of any obstructions, free for man, cargo light, etc.) When hatches are opened, a safe handrail must be placed on the edge of the hatch in order to prevent anyone from falling into the hold.

Access to cargo holds must be cleared by Master or designated person, after the necessary observation of all procedures for entering confined spaces, following issuance of related check list, including analysis of gas levels and any contaminants.

While cargo operation is in course, crew is not authorized to access holds without previous authorization from Foreman on duty due to risk of falling cargo or accident with moving equipment.

1.5 OPENING AND CLOSING OF CARGO HATCHES

To avoid risk to persons involved in port operations and to avoid any damage to shore or ship's gears, crew is requested to inform Stevedore or Foreman on duty before moving cargo hatches. Sudden and unannounced movements of hatches may cause serious injuries to people on the vicinities and risk of collision with cargo gears.

1.6 OPERATION OF SHIP'S CRANES

Cargo operations in our terminals are done by shore gears (cranes or loader) therefore ship's cranes will not be used during cargo operation. If by any reason ship's cranes or gears are to be moved by ship's crew, this is to be informed and agreed by Stevedore or Foreman on duty, avoiding any risk of collision with shore cranes or gears.

1.7 MAXIMUM ALLOWABLE LOAD PER HOLD

Ship's loading plan should never propose the loading of a tonnage which exceeds the maximum permitted tonnage per hold. The maximum allowable load per hold should be clearly identified in the loading and stability manual.

Where the Master feels that he has insufficient information regarding the structural limitations or requires advice on the interpretation of the classification society's structural limitations imposed on his ship, advice should be sought from the ship's classification society.

		CLASSIFICATION	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		EXTERNAL USE	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION		Nr. VALE	PÁGINA
		PCTUB021 Nr. (CONTRACTOR)	5/15 REV.05 20/08/21

2 – ENVIRONMENT

2.1 AIR POLLUTION

We are committed on a clear environment and understand that emission of GHG (Greenhouse Gas) from ships must be monitored. We also must consider the impact of visual pollution of dark smoke emission on the life of our community. Terminal demands full compliance of MARPOL 73/78 Annex VI (Air Pollution) and local Environmental Regulation. In addition to SOx and NOx emissions, must be also observed the emission of PM (Particulate Matter), mostly dark smoke emissions.

Soot blowing from ship's boiler is not allowed during the port stay. Exhausting gases produced by ship's engine on maneuvering and during period alongside must be reduced as much as possible avoiding excess of smoke emission in the air. Special attention is demanded when firing boiler or changing fuel grades.

Vessels responsible for dark smoke emissions will receive an Environmental Infraction Notice and Master will be requested to provide root cause analysis on the incident and mitigating action (ISM Code), including owner's fleet, that would be undertaken ship's management to prevent similar incidents in the future. That incident will be considered on vetting process for future calls at our terminals.

Terminal reserves the right to demand immediate unberthing of any vessel emitting dark smoke. Maneuver expenses and all related losses and fines to be charged against vessel that will also be immediately included on Vale's blacklist. All vessels are subject to Brazilian Environmental Authorities inspections, in case of any air / water pollution be observed, vessels will be also subject to heavy fines according to Brazilian Law in force.

2.2 CLEANING OF CARGO DECKS

It is crew's responsibility on granting cargo residues are removed from main deck and hatch covers, avoiding any chance of spillage of cargo residues onto the sea and to reduce blowing of dust. Use of compressed air for cleaning of residues of cargo must be avoided as they highly contribute to produce dust.

2.3 BALLAST WATER MANAGEMENT

Discharge of clean ballast water is allowed in the Port area provided the Master complies with the following procedures: GUIDELINES FOR CONTROLLING AND MANAGEMENT OF SHIP'S BALLAST WATER as per IMO Resolution A.868(20), International Convention for the Control and Management of Ships' Ballast Water and Sediments and Brazilian Maritime Authority Regulation NORMAM 20.

Master must inform any fail of the treatment system, if occurs, to the local authorities, Terminal Administration, its Flag, Class and others for further instructions and authorization for berthing or not.

2.4 OTHER POTENTIAL POLLUTION SOURCES

Ship must identify and manage potential sources of oil located on main deck specially drums/cans with oily garbage, hydraulic/lubricant oil or grease from deck equipment/devices/fittings such as: wires, oil pipelines, windlass / winch drums, gears, hydraulic jacks, others. All oily garbage in cans/tins/drums must be properly covered to avoid overflowing of oily water caused by rain.

Special attention is necessary during rain periods to avoid any cargo residues on deck to be mixed with rain and thrown overboard. The dirty water produced from this mixture should be managed by ship's crew. Pneumatic pumps and drains should not be obstructed so dirty water can be drained for the ship designated tank.

Sawdust bags must be always available (SOPEP) for use in the event of oil spillage or oily water produced by rain. Sewage gray water can't be thrown overboard.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

2.5 JUBARTE WHALE FRIENDS PROJECT

Every year, mainly from June to November, the Humpback Whales migrate to the Brazilian coast to fulfill their reproductive cycle: mating, giving birth and nursing their babies. Therefore, the continental platform of Vitória is a place where there is a high concentration of these animals and we count on your support to help us preserve them. It is forbidden to chase, hunt, fish or capture all cetaceans (dolphins, porpoises, whales), pinnipeds (seals and sea lions) and sirenians (manatees) in waters under Brazilian jurisdiction.

Brazilian marine jurisdictional waters are "Sanctuary of Whales and Dolphins".
Be a friend of the humpback whales too!

If you see any incident involving whales in the anchorage area, please contact Vale Security Station - VHF 16 or Tel: +55 27 3333 5190).

Most common incidents involving humpback whales:

- whales caught in fishing nets;
- whale ran over by a vessel;
- whale carcass floating near the harbor area.

3 – SECURITY

3.1 ISPS CODE

Tubarão and Praia Mole Port Complex operate in accordance to the international regulation and standards of port security and ISPS (International Ship and Port Facilities Security Code) – Level 1.

If a ship is required by the Administration to set, or is already at, a higher security level than that set for the port it intends to enter or in which it is already located, then the ship shall advise, without delay, the competent authority of the Contracting Government within whose territory the port facility is located and the port facility security officer of the situation.

It is forbidden access to the vessel thru any means other than gatehouses and ship's gangway shore access.

Additional security requirements such as random and compulsory baggage checks may also be carried out. All cameras (CCTV) are stationed around the port to assist security officers monitoring the operations and can be accessed by the Authorities (Customs, Federal Police, H. Master).

Security measures must be in comply by shipmaster and his crewmembers while at port:

- 1 - Keep the pilot ladder and other means of access heave it up;
- 2 - Keep the ship's hull with cargo light at seaside at all night;
- 3 - In any emergency call Vale Security Station on VHF 16 or tel.+55 27 3333 5190 / E-mail: ccstu@vale.com

3.2 CREW SHORE LEAVE

Prior disembarking, all crew members must be fully cleared by Immigration Officers (or other Government Bodies). Clearance arrangements are to be provided by ship's agents. Once clearance paperwork is completed by agents, terminal will issue individual ID cards that will be necessary for gate access. Crew transiting through the port (outside gate) on foot is prohibited. Crewmembers are not authorized to visit other areas of port complex. Crew members must carry their original passport or Seaman's Book to be presented at the terminal's main gate or whenever proof of identification is necessary. For changing crew members, there will be necessity escorted to customs for formalities and baggage check. The agent should request Port Security and inform foreman in advance.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)	PÁGINA 7/15 REV.05 20/08/21

3.3 SEAFARES TRANSPORTATION and INFLUENCE OF ALCOHOL/DRUGS

Transportation for Seafarers must be arranged by agents thru authorized service providers. All cars and drivers must be previously cleared by Port Administration. Internal security and safety rules must be observed by crew and transportation companies.

Any crewmember that is found under the influence of alcohol or drugs is subject to have the access authorization in the main gate/terminal denied. Crewmember under the influence of alcohol or drugs will not be allowed to access the ship as it is a risk for the ship and for the port. The captain/vessel must go to the anchorage or start the voyage without the crewmember to avoid any delays in the operation where it will have severe penalties. Crew Change will be arranged by port agents following specific regulation issued by competent government authorities (Customs and Immigration). Details of transportation company contracted by owners and the timetable for attendance of crew on shore leave must be informed in advance to Port Security and Foreman.

4 – OPERATIONAL

4.1 PREVENTION OF DAMAGES TO THE VESSEL, PIER OR SHORE EQUIPMENTS

Monitoring of vessel's air draft is in charge of the crew. It's extremely important that crew pay attention on ballast and cargo operation in order to avoid any risk of accident due to vessel's air draft/list in excess or any list. Terminal will not be held responsible for such damages in case they occur. In case any of shore equipment is damaged due to crew's negligence on monitoring air draft, will be issued letter of protest and vessel will be requested to provide repair.

Master will receive a "LETTER OF WARNING" in case Terminal find/collect any object from the ship or laden cargo that may cause damage to the conveyor belt and others equipment.

Terminal calls Master attention to fill up the Vale Standard Form file, with the drawing position/identification of the ladders (inside holds), bilge covers, and other appendages to minimize the risk of damage. Bilge covers must be always bolted and leveled to the surface of tank top. Terminal will do effort to avoid any damage to the ship but will refrain from accepting any responsibility. Terminal does not accept damage in the bilge cover with bolted not leveled to the hold bottom and other appendages inside the holds. Shipmaster must call terminal representative to show such damage with a new evidence, if occurs. Terminal will check such alleged damage with special team to confirm or not terminal responsibility.

Pier 2 fenders were designed to support a maximum vessel approach velocity for berthing of 0.2 knots

4.2 ADVERSE WEATHER OR SEA CONDITION

If adverse weather or sea condition whatsoever, including, without limitation, rain, wind, waves or swell and winds arises during the berthing, mooring, loading or discharging operations and the vessel is unable to remain securely moored by its own means, the master of the vessel must request tug and pilotage services confirmed by ship's agent, in order to immediately remove the vessel from berth. In the event master fails to proceed accordingly, the terminal shall request the tug and pilotage services in order to avoid any risk to the terminal, ship and/or crew of the vessel, in which case all costs related to such tug and pilotage services shall be for the account of and paid directly by the vessel/ship- owner.

In case of any local bad weather alert from the Brazilian Navy Hydrographic Center (Centro de Hidrografia da Marinha-CHM) master will received a terminal alert in written term. In order to avoid any misunderstanding, terminal request master to have a good watch keeping in all vessel's safety equipment such as Inmarsat, HF radio in order to get the Local Brazilian Notice to Marine and/or in the website <https://www.marinha.mil.br/chm/dados-do-smm/warnings-and-forecasts> (severe weather warnings and bulletin – Delta Area).

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021	PÁGINA 8/15

4.3 TOWLINES / MOORING LINES

Aiming to avoid incidents which may lead to serious injuries and/or death, please abide to the following safety precautions during berthing/unberthing maneuvers:

Keep the crew safely positioned away to the tow / mooring lines so that they remain clear if the line snaps/breaks and away of bights. When lowering lines from ship to the tug or mooring boat, please make a single turn on the bit and slack it gradually and carefully until the tow / mooring line and messenger line reach the tug or mooring boat's deck. Never lower any line while tug / boat are positioned at ship's bow. Always slack lines in a controlled manner using a messenger line if necessary.

Heaving lines should be constructed with a "monkey's fist" at one end. To prevent personal injury, the "fist" should be made only with rope and should not contain added weighting material.

Non-compliance with the aforementioned safety precautions will be reported to Harbour Master and may result in an inquiry conducted by the Naval Authorities and related penalties will be applied against master/owners. Master must call immediately the Terminal's Representative (Foreman) by VHF in case of need of slacking away the mooring lines in any emergency.

Crew must observe orders given by shore mooring gang when handling wires or ropes. Mooring gang will instruct crew on how many ropes / lines are to be handled at time and when to start heaving up or slacking lines. When available, a flashing sign on the pier will instruct deck crew when to start heaving up lines (green light – YES / red light – NO). If the flashing sign is not available, hand signs will be used.

A strict cooperation by ship's crew and shore mooring gang is necessary to grant safety of both teams. Accidents with mooring lines usually led to death or serious injuries.

Due to the great risk of accident, it is **EXTREMELY PROHIBITED** to carry out any propeller/rudder movement while mooring boat is in the vicinity and /or while passing the stern lines. Shipmaster and vessel will be under Terminal's penalties.

According to determination from Harbormaster, all vessels while maneuvering must have rudder fully submerge and trim limited to 35%.

4.4 BALLAST / DEBALLAST OPERATION

Ballasting / de-ballasting operation must occur simultaneously to the cargo operation, so no interruption on cargo operation is acceptable on account of ballasting / de-ballasting.

In order to avoid any stoppage ordered by vessel or any damage to the ship's appendage owing to air draft restrictions, the loading sequence and de-ballasting management plan must be fully controlled in a good watch by shipmaster/crew in all respects at all times, prior and during the loading/unloading operations (BLU Code). Terminal will not accept any responsibility of damage either if it may occur due to the fault of vessel's ballast management control.

Ballast water cannot be discharged on the quay. Master must assure that the vessel is provided with necessary protection in the top side tank outlets in order to avoid any kind of damage to people and shore gears or any stoppage on loading operation. Overflow of ballast water tanks is prohibited.

4.5 TERMINAL INFORMATION

4.5.1 TUBARAO IRON ORE

Terminal is designed to load iron ore and pellets in bulk and comprises Pier 1 North, Pier 1 South and Pier 2

		CLASSIFICATION	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		EXTERNAL USE	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION		Nr. VALE	PÁGINA
		PCTUB021 Nr. (CONTRACTOR)	9/15 REV.05 20/08/21

	Pier 1 South	Pier 1 North	Pier 2
DWT Maximum	170.000 MT	210.000 MT	405.000 MT
LOA Maximum	285,00 m	301,00 m (LOP1) 320,00 m (LOP2)	365 ,00 m
Beam Maximum	43,50 m LOP 1 45,00 m LOP 2	51,00 m	66,00 m
Depth alongside	17,00 m	18,00 m	25,30 m
Draft alongside	16,00 m (LOP1) 13,00 m (LOP2)	17,00 m + 80% high tide (LOP1) 15,20 m + 80% high tide (LOP2) for use of tide, see note	23,00 m final sailing draft subject to significant wave height, see note
Draft at turning basin	15,50 m + tide	15,50 m + tide	15,50 m + tide
Draft at access channel	23,00 m		
Pier length	340,30 m	353,70 m	210,00 m
Operational length	323,40 m (LOP1) 340,30 m (LOP2)	323,40 m (LOP1) 353,70 m (LOP2)	456,25 m
Operational air draft	21,00 m	21,00 m	26,00 m
Nominal load rate	16.000 MT/h for capesize 13.350 MT/h for panamax 6.000 MT/h for handysize		16.000 MT/h for all vessels

Restrictions for Pier 1 (North and South) vary along the length of the pier, due to its building characteristics, based on pier's operational length (LOP1 and LOP2) and measured from the edge of the pier (inward) to the shore.

Due to design of terminal, the sum of extreme breadth of vessel on Pier 1 South combined to adjacent Piers TPD3 and TPD4 cannot exceed 76,00m to berth and 78,00m to unberth.

Vessels instructed to shift from Pier 1 North to Pier 2 will observe maximum draft of 17,00m for the shifting.

All vessels inbound to any terminal must observe maximum draft of 15,50m + tide on turning basin, including those that had to shift to roads after partial loading and are returning for a second turn.

Draft limitations: PIER 1 NORTH – maximum sailing draft 17,00m plus the limit of 80% of high tide to allow enough time for vessel's preparations after cargo completion, in way to permit vessel's draft be maximized using high tide of the time of sailing event, it has been determined the use of an operation factor of 80% of high tide when calculating the final sailing draft. Using "80% of high tide" provides necessary time allowance between the moment cargo operation is completed / vessel sailed and the maximum available tide, so sailing maneuver takes place without any restriction. Loading plan must be prepared attending this guidance in order to match the maximum cargo intake required by Master and may be adjusted considering the available tide window, avoiding vessel to remain idle alongside waiting for next tide window.

All vessels included on this scenario (sailing draft of 17,00m and above) will be requested to provide two cargo plans / loading sequence: one plan/sequence considering sailing draft of 17,00m and another plan/sequence considering maximum vessel's sailing draft. Final cargo plan may be adjusted based on actual tide window.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

PIER 2 – maximum sailing draft is 23,00m.

All vessels with sailing draft of 21,80m and above must observe actual scenario of significant height of waves:

- 22,30 m + tide for significant wave height up to 1,00 m
- 22,20 m + tide for significant wave height up to 1,10 m
- 22,10 m + tide for significant wave height up to 1,20 m
- 22,00 m + tide for significant wave height up to 1,30 m
- 21,90 m + tide for significant wave height up to 1,40 m
- 21,80 m + tide for significant wave height up to 1,50 m

Terminal management is responsible for monitoring significant height of waves and will determine maximum sailing draft.

All vessels with sailing draft of 21,80m and above should provide a cargo plan considering on loading sequence an intermediate sailing draft of 21,79m. Final sailing draft will be decided based on actual significant wave height, as per above chart, and may be adjusted considering the available tide window, avoiding vessel to remain idle alongside, waiting for next tide window. Vessels must be able to sail with any cargo plan on the draft range of 21,79m up to vessel maximum draft.

Trim: it is required that all vessels consider preparing cargo plan focusing on the least possible sailing trim, preferably vessels to sail even keel, avoiding the need to use additional tide range for sailing, what would cause unnecessary delays to both vessel and terminal.

4.5.2 PRAIA MOLE COAL

Terminal is designed to discharge coal, coke and other similar cargoes comprising Berth 1 and Berth 2, without physical separation between them. Shore equipment can travel the whole pier.

- Maximum DWT: 250.000mt
- Maximum LOA: 300,00m
- Maximum BEAM: 50,00m
- Depth alongside: Berth 1 – 17,00m / Berth 2 – 18,00m (LOP 1) and 17,00m (LOP 2)
- Operational draft in berth: Berth 1 – 16,00m / Berth 2 – 17,00m (LOP 1) and 16,00m (LOP 2)
- Maximum safe draft at turning basin: 15,50m + tide
- Maximum vessel's air draft: 19,00 m (to the appendage platform on discharge crane)
- Minimum freeboard: 4,00 m
- Minimum distance between cranes, masts, hoppers or any other structures: 15,00 m
- Minimum Hatches Dimensions: 9.5 meters (length x width)

Note on draft restriction: due to design of terminal, if there is a vessel at Berth 2, vessels scheduled to Berth 1 will have to maneuver on a draft of 13,50m + tide

4.6 LOADING OPERATION – TUBARAO IRON ORE

Cargo figures: determined by draft survey.

Master is responsible to provide accurate bunker / ballast / consumable figures for calculation of draft survey. Foreman is entitled to request sounding of tanks to confirm provided figures, in case necessary.

All vessels must be able to load in all piers (Tubarao Pier 1 South / Tubarao Pier 1 North / Tubarao Pier 2), observing limitations of each pier and must be able to present cargo plan/loading sequence following restriction of air draft and deballasting rate.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

Pier 2 counts with two ship loaders but only one is operational on each step of loading. Vessels scheduled for Pier 2 present loading sequence observing one ship loader working on midship/forward section and another ship loader working midship/aft section. One ship loader will be operated each time but loading sequence must aim the less possible time lost on changes of holds. While ship loader is operating in one hold, the other ship loader will be positioned in the hold that will be operated in the next step.

Pier 1 counts with two ship loaders. Terminal may decide to operate both or only one on each step of loading. All vessels must be able to work with two ship loaders and two grades at the same time if requested. Master must provide, prior arrival, two loading sequences, one considering working with one ship loader and another considering working with two ship loaders. Terminal may also ask Master to adjust loading sequence at any time of operation, changing from one to two ship loaders or vice-versa.

Bending Moment and Shear Force: Bending Moments (BM) and Shear Forces (SF) are to be expressed as the percentage of allowable values in “harbor conditions” for intermediate stages and “sea going” for the final stage. Every step in the loading / unloading plan must remain within the allowable limits.

BM/SF calculated on cargo plan must follow below limits, based on vessel age:

Age: 0 ≤ years < 20	95% (BM/SF limit)
Age: 20 ≤ years < 25	90% (BM/SF limit)
Age: 25 ≤ years < 27,5	85% (BM/SF limit)
Age: 27,5 ≤ years < 30	80% (BM/SF limit)

Tonnage on conveyor belt (minimum pour): 500 MT, no cargo can be left on conveyor belt.

4.7 DISCHARGE OPERATION - PRAIA MOLE

Cargo Operations: when preparing discharge sequence, Master is requested to avoid leaving most extreme holds (forwardmost and aftermost) to be operated on final steps. In order to improve terminal’s performance, we request Master to complete discharge of such hold during the standard steps of discharge.

Cargo figures: draft survey

Details of cargo equipment: four gantry cranes fitted with grabs, able to travel the entire pier, thus, vessel can be discharged by 1, 2, 3 or 4 cranes at once.

Discharge rate average: 30.000mt/day

Holds Cleaning procedures: Terminal’s standard for condition of holds after discharge is SHOVEL CLEANING ONLY, NO SWEPT CLEANING. Vibro rig is also used for cleaning.

4.8 CARGO PLAN

When preparing cargo plan and loading/unloading sequence, Master must have in mind that vessel may be ordered to maneuver to roads or to other berth at any time, so vessel must always be in condition to maneuver. In case vessel is unable to maneuver at any time due to BM/ SF or cargo heeling moment, terminal must be notified in advance.

5 – SERVICES TO THE VESSEL

5.1 BUNKERING OPERATIONS

In the moment, bunkering operation is not allowed (Fuel and Heavy oil).

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		ÁNNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

5.2 WASTE MANAGEMENT

Garbage, oil sludge, sewage gray water and other waste should be discharged by authorized shore companies, in compliance with Vale's Waste Management Plan, ANVISA and ANTAQ Legislation (Agencia Nacional de Transporte Aquaviário- Nº 2190) including MARPOL 73/78 Annex V, which is known by ship's agent that can provide vessel a list of companies.

Master must be concerned about the final destination of the waste ashore bearing in mind that the ship will be always the origin/source of the waste.

5.3 HOT WORK

Hot Work includes operations such as electric arc and gas welding, brazing, torch cutting, grinding (large portable grinders on metal), and torch soldering with an open flame and/or spark. Any service on board that demands hot work must request permission to Port Administration.

5.4 ENGINE MAINTENANCE

No maintenance on board that requires engine immobilization will be authorized. This instruction is also valid for any other navigation equipment.

Terminal may change berthing sequence without pre-advice, following operational / commercial matters. All vessels must be ready to maneuver, despite line-up.

5.5 DIVING SERVICES

It is not allowed any diving service while alongside in any of our piers.

5.6 DELIVER OF GOODS AND SERVICES

Ship chandlers and other service suppliers to the vessel must observe Terminal Operational rules, including Safety, Security and Environment when providing services to the vessel. Lack of observation of such rules will result in interruption of contracted services, without prejudice to the terminal operations. Service supplier must inform terminal administration prior any service in order to get the necessary clearance.

5.7 CLEARANCE OF ALL ACTIVITIES BEFORE THE END OF CARGO OPERATION

Master must assure that all activities such as bunkering, general supplying (water, provisions, spare parts, general material etc.), third party services (repairs, inspections/surveys, waste removal etc.), and families/visitors will be finished no less than three hours before pilot on board for sailing.

5.8 SURVIVAL CRAFT TEST

Sailing with survival crafts is prohibited.

Lowering for test purpose should respect the following rules:

- Master is responsible for the safety of the overall operation including protect the crew and the environment;
- Lower the seaside only, no disconnection;
- Contact Foreman on duty (Terminal) before the start and at the end;
- The vicinity must be clean (seaside);
- Cargo operations interruption are not allowed;
- Terminal keeps the right to stop the test at any time if necessary;
- Test must be done at daylight, at good visibility and max. 6 Beaufort scale.
- "Free fall" not allowed.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)	PÁGINA 13/15 REV.05 20/08/21

6 – ADDITIONAL INFORMATIONS

6.1 PORT CAPTAIN

Terminal counts with experienced Master Mariners, Certificated by HMLA, acting as Port Captain who will oversee the nautical and operational aspects of your port stay and hold the power of applying fines to the vessel while in port. Port Captain may board any vessel at any time for routine inspections.

6.2 FOREMAN

Foreman is the Terminal representative for the ordinary operational aspects of your port stay. It's also Foreman's duty to disseminate our operational / safety / security / environmental standards, so it's important that Master and Senior Officers take the necessary time to clarify any possible doubts with Foreman during the arrival meeting on board and during all operation. Foreman will also act as surveyor for the purpose of draft surveys.

6.3 AIS – AUTOMATIC IDENTIFICATION SYSTEM

It is mandatory that all vessels due to call any terminal at the Port Complex have AIS fully operational during entire port stay, including period at anchorage and berthed. Vessels will be monitored thru AIS shore station and the information may be used for operational, security and safety purposes. Special attention is called on the setup of AIS to make sure that provided information reflects the real condition of the vessel.

6.4 PORT STATE CONTROL

Brazil is signatory of Latin American Agreement on Port State Control (Acuerdo de Viña del Mar), thus all rules stated on this agreement apply. Vessel may be inspected at any time by PSC Officers.

Master is instructed to immediately notify agents the last ship's PSC inspection prior arrival and, as soon as ship is boarded by PSC Officials so agents can take the necessary actions to assist Master in due time in case any problem. Preferably agents must be on board during PSC inspection for the necessary follow-up.

Special attention is required in case vessel is not allowed to sail due to any problem arisen from inspection (code 17 and 30), terminal must be immediately informed, and Master / agents will be urged to take all necessary steps for the immediate clearance. Vessel will be considered responsible for all costs / delays that may arise from this detention and the incident will be recorded on evaluation records for this ship.

6.5 VETTING SYSTEM

VALE counts with its own vetting system and is also associated to international vetting companies such as RIGHTSHIP. Performance of all vessels such as: loading/unloading, ballast/deballasting, master and crew cooperation and so on will be monitored while in port and will be considered on vetting process for future calls and will be disseminated to vetting and chartering companies. Analysis will take in consideration not only operational aspects but also the compliance to safety / security / environment standards.

6.6 FIRST AID – MEDICAL ASSISTANCE

Ordinary and Emergency medical attendance must be arranged by port agents, at hospitals and clinics that are used to attend Seamen. Agents must always be contacted in case any medical attendance. Terminal may arrange (if necessary- VHF channel 16) for Rescue Service in case any accident on board that requires immediate medical assistance. Injured seafarer will be removed to hospital appointed by agent.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)
		ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION	Nr. VALE PCTUB021 Nr. (CONTRACTOR)

6.7 EMERGENCY

In any emergency occurs (Fire, Pollution or Crew Accident and Injuries) master must call Vale Security Station on VHF 16 immediately and then, call foreman and ship's agent.
Terminal counts with specialized firefighting/ambulance team that will be ready to intervene in case of any emergency.

Vale Security Station - VHF 16 or (Tel:+55 27 3333 5190)

6.8 PILOTAGE AND TOWAGE

Pilots for inbound/outbound maneuvers are requested on a two hours pre-notice, scheduled by terminal and confirmed by agents. Pilot for sailing will be on board 30 minutes after completion of loading.

Pilots and tugs are servant to the vessel thus any action of such servants that may lead to a navigational incident /accident during maneuvers to/from terminal will be considered as responsibility of the Master of the vessel involved in the incident/accident. If necessary, an official hearing at Navy Harbormaster's office will be requested as subject to the official investigation.

Tug Boats and its Safe Manning should have all licenses and certificates valid.

Tug Boats and Pilots should comply with the regulations SMCP – Standard Marine Communication Phrases, COLREG – Collision Regulations, ICS – International Code of Signals, NPCP-ES – Normas e Procedimentos da Capitania dos Portos and NORMAMs – Normas da Autoridade Marítima at all times.

Prescrição Resolução 001 and its restrictions should always be followed.

6.9 ANCHORAGE INSTRUCTIONS

All vessels bound to Tubarão and Praia Mole Port Complex must follow instruction in the Nautical Chart 1410 and 1401 (Brazilian CHM – Maritime Hydrographic Center) accordingly.

6.10 DEFECTIVE NAVIGATIONAL EQUIPMENT

If the vessel has any defective navigational equipment and/or any other which may affect ships maneuverability, it should get approval from Maritime Authority and Pilots to be considered suitable to maneuver.

7 FINAL CONSIDERATIONS

Information contained in this publication is based on, but not limited to, port regulations, Brazilian Labor Law (NR 29), BLU Code and International regulatory landmarks (e.g.: IMO, ILO, ISO, OSHA, ITF).

Nothing in this publication is intended to relieve any vessel, owner, operator, charterer, Master, or person directing the movement of a vessel, from the consequences of any failure to comply with any applicable law or regulation or of any neglect of precaution which may be required by the ordinary practice of seamanship, or by the special circumstances of the case.

As the crewmembers, their families/visitors, passengers and/or any other person directly or indirectly under vessel's liability such as, but not limited to: port agents, surveyors, ship owner or their representatives, subcontractors/service providers, ship suppliers/chandlers are considered as "ship's servant", in case of failure to comply with the present guidance, Master will be held responsible.

The compliance of above procedures/requirements is essential to avoid accidents, incidents, pollution and/or unnecessary potential risks of injuries or death.

		CLASSIFICATION EXTERNAL USE	PORT OF TUBARÃO (TU) AND PRAIA MOLE (TPM)	
ANNEX C – OPERATIONAL PORT GUIDELINES PORT REGULATION			Nr. VALE PCTUB021	PÁGINA 15/15
			Nr. (CONTRACTOR)	REV.05 20/08/21

8 MASTER'S ACKNOWLEDGEMENT RECEIPT

I, as Master, hereby state that all possible diligences/measures will be exercised in name of below mentioned vessel, in order to comply with such protective guidance. Also, I post this guidance in manner to assure the compliance by crew, visitors and others person under interest of ship's management.

I confirm that all instructions contained on this document will be disseminate to ship's crew prior arrival, preferably on safety / training meetings. Terminal reserves the right to ask for evidences that the correct dissemination of information has been observed, including presentation of a list of participation of crewmembers on such pre-arrival safety meeting.

Acknowledged by,

VESSEL: _____ DESTINATED TERMINAL: _____ DATE: _____

Master's Signature/ Ship's Stamp: _____

IMPORTANT: After signed, this page must be returned to the Terminal, thru port agents, as proof of understanding. Lack of compliance will prevent vessel of having authorization for berthing. This form must be stamped / signed / dated for each and every call regardless vessel is customary to the port/terminal.