BRAZIL'S NAVY
PORT AND COAST BOARD

MARITIME AUTHORITY STANDARDS FOR REGISTRATION OF HELIDECKS INSTALLED ON VESSELS AND ON MARITIME PLATFORMS

NORMAM-27/DPC

2nd Revision 2nd Modification

2019

CHANGE LOG SHEET

NUMBER OF MODIFICATION	EXPEDIENT THAT DETERMINED AND RESPECTIVE DATE	AFFECTED PAGES	DATE OF CHANGE	HEADING
Rev 2	Ordinance nº 294/DPC, of October 17, 2017	I II III IV V We VII VIII IX X Xi Xli 1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 2-1 2-2 2-3 3-1 3-2 3-3 3-4 4-1 4-2 4-3 5-1 5-2 5-3 5-4 5-5 6-1 6-2 6-3 6-5 6-6 7-1 7-2 7-3 7-4 8-5		

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HISTORY of NORMAM-27

Document	Subject
Portomarinst nº 20-08, May 9 1988.	Establishes standards and procedures for construction, homologation, modification, registration, inspection and certification of helipads in Maritime Platforms and Merchant Ships. Val, five years. MM-DPC e MAer-DAC.
Portomartec nº 20T8502-A of May 9, 1988.	Specify the parameters to follow during the construction, homologation, installation, modification of helipads and operation of helicopters on Maritime Platforms.
Chapter-24	Ordinance no. 005/97, of January 15, 1997. Construction, installation, homologation and modifications of helipads and helicopter operations on maritime platforms and ships.
NORMAM-1	Approved by Ordinance no. 017/DPC, of May 12 1998. Created Cap 6 - Helipad Regularization.
NORMAM-1 Cap 6 Mod 1	Ordinance nº 063/DPC , September 1998. Changes the touch area touch to 1/2 B (pg 6-A-1). Includes the limit of the app/dec area (pg 6-A-2).
NORMAM-1 Cap 6 Mod 2	Fax nº 23149, November 1999. Changes art 0603, item b, dispensing with the Temporary Registration Certificate for foreign vessel. Changes art 0630, item a, removing the blue color from the AAFD lights.
NORMAM-1 Cap 6 Mod 3	Ordinance nº 009/DPC, of February 11, 2000. Approves the following NORMAM, edition 2000: A-NORMAM-01.
NORMAM-1 Cap 6 Mod 4	Ordinance nº 039/DPC, of June 19, 2000.
NORMAM-1 Cap 6 Mod 5	Ordinance nº 099/DPC, of December 16, 2003. Msg R-031230Z/NOV/2004 by AENAUT Reduction of a member in EMCIA for sea support vessels.
NORMAM-1 Cap 6 Mod 6	Ordinance nº 045/DPC, of May 11, 2005.
NORMAM-1 Cap 6, 2005, Mod 7	Portaria nº 043/DPC of 27 Sea March of 2007. Changes Cap 6 and Annex 6-B.
NORMAM-1 Cap 6, 2005, Mod 8	Portaria nº 028/DPC of 17 Sea March 2008. Item 0613(h) subparagraph 2; point (i); item 0618- (c) observations 1 and 2; item 0620 (b) observes observation, change the number from 31/03/2008 to 30/06/2009.
NORMAM-27, 2011	Ordinance No. 172/DPC, August 8, 2011. Cancels Cap 6 from NORMAM-01 and creates the NORMAM-27.
NORMAM-27, 2011, Mod 1	Ordinance nº 045/DPC, of 23 ma s of 2012. Changes the lights limits from AAFD from yellow to Green.

NORMAM-27, 2011, Mod 2	Ordinance nº 186/DPC, July 9, 2013. Changes item 0404 and includes Annex 4-F.
NORMAM-27, 2014, Rev 1	Ordinance281/DPC, of November 18, 2014. Approve Rev 1. Changes pages 1-1 to 1-8; 2-1 to 2-3; 3-1 to 3-5; 4-1 ; 4-4; 5-1 ; 5-5; 6-1 a 6-6; 7-1 a 7-4; 8-1 a 8-5; 9-1 9-5 and includes Cap 10.
NORMAM-27, 2014, Rev 1 Mod 1	Ordinance334/DPC, of October 27, 2015. Changes pages: IV; V; 1-4; 1-5 to 1-7; 2-2; 2-3; 3-3; 3-4; 4-2; 4-3; 5-2; 6-1; 6-2; 6-5; 7-1 a 7-3; 8-4; 8-5; 10-5; 1-A-1; 1-B-1; 1-C-1; 1-D-2; 1-E-1; 1-G-1; 1-H-1; 1-I-1; 1-I-2; 1-J-1 ; 1-K-1 ; 1-K-2; 5-A-1; 5-C-1.
NORMAM-27, 2014, Rev 1 Mod 2	Ordinance414/DPC, of December 20, 2016. Changes pages :III; IV; V; 1-3 to 1-8; 2-1 to 2-3; 3-1 a 3-3; 4-2 a 4-4; 5-1 a 5-5; 6-1; 6-2; 6-3; 6-5; 7-2 a 7-4; 8-4; 8-5; 9-2 a 9-4; 10-1; 1-A-1; 1-B-1; 1-C-1; 1-D-2; 1-D-3; 1-E-1; 1-F-1; 1-H-1; 1-I-1; 1-J-1; 1-L-1; 4-A-1; 4-G-1; 5-G-3; 5-G-4; 5-G-5; 5-G-6; 5-G-7 e includes 11-1 to 11-5; 11-A-1.
NORMAM-27, 2017, Rev 2	Ordinance nº 294/DPC, of October 17, 2017. Altera as pages: I; II; III; IV; V; VI; VII; VIII; IX; X; XI; XII; 1-1; 1-2; 1-3; 1-4; 1-5, 1-6; 1-7; 1-8; 1-9; 2-1; 2-2; 2-3; 3-1; 3-2; 3-3; 3-4; 4-1; 4-2; 4-3; 5-1; 5-2; 5-3; 5-4; 5-5; 6-1; 6-2; 6-3; 6-5; 6-6; 7-1; 7-2; 7-3; 7-4; 8-5; 9-2; 9-3; 9-5; 10-1; 10-2; 10-3; 10-4; 10-5, 10-6; 10-7; 10-8; 10-9; 11-1; 11-2; 11-3; 11-5; Cap 12; Cape 13; 1-A-1; 1-B-1; 1-C-1; 1-E-1; 1-G-1; 1-H-1; 1-1-1; 1-I-2; 2-D-1; 2-E-1; 3-B-1; 3-C-1; 4-A-1; 4-B-1; 4-C-1; 5-A-1; 5-H-1; 5-H-2; 12-A-1; 12-B-1; 13-A-1; 13-B-1 ; 13-C-1 and 13-D-1.
NORMAM-27, 2018, Rev 2 Mod 1	Ordinance nº 394/DPC, of December 10, 2018. Altera as pages: IV; V; VII; IX; X; XI; XII; XIII; XIV; XV; XVIII; 1-1; 1-3; 1-4; 1-5; 1-7; 1-8; 1-9; 1-10; 2-1; 2-2; 2-3; 2-4; 3-1; 3-2; 3-3; 3-4; 4-3; 4-4; 5-1; 5-2; 5-3; 5-4; 6-2; 6-3; 6-4; 6-5; 6-6; 7-1; 7-2; 7-3; 8-3; 9-1;9-2; 9-3; 9-5; 9-6; 10-1; 10-4; 10-7; 11-3; 11-5; 11-6; 12-2; 13-1; 13-2; 13-3; 13-4; 13-5; 1-A-1; 1-C-1; 1-D-1; 1-D-2; 1-D-3; 1-D-4; 1-F-1; 1-G-1; 1-H-1; 1-I-1; 1-J-1; 2-B-1; 4-C-2; 5-F-1; 5-G-2; 5-G-3; 5-G-4; 5-G-5; 5-G-6; 5-G-7; 5-H-2 and 6-A-1. DOU nº 238, of December 12, 2018, 1, pg 14.

Features of alguns helicopters used in operation o/"/'shore

Type	length D (m)	valu e 'D'	rotor diameter (m)	weight max takeoff (kg)	Value of maximum permissibl e load (ton)
EC 135 T2+	12.20	12	10.20	2910	2.9
EC 155B1	14.30	14	12.60	4850	4.9
Sikorsky S76	16.00	16	13.40	5307	5.3
Agusta/Westland AW 139	16.63	17	13.80	6800	6.8
Agusta/Westland AW 189	17.60	18	14.60	8600	8.6
Airbus H175	18.06	18	14.80	7500	7.5
Super Puma S332L	18.70	19	15.60	8599	8.6
Super Puma AS332L2	19.50	20	16.20	9300	9.3
EC 225 (H225)	19.50	20	16.20	11000	11.0
Sikorsky S92A	20.88	21	17.17	12565	12.6
Sikorsky S61N	22.20	22	18.90	9298	9.3
AW101	22.80	23	18.90	14600	14.6

Glossary of terms and abbreviations

AAFD	/\rea Final Approach and Takeoff
ACC	Area Control Center
AFFF	Aqueous film forming foam *(Aqueous Film Foming Foam)*
AIS	Airfield Traffic Room
AJB	Aguas Brazilian Jurisdictional
ALPH (HLO)	Helicopter Launch and Landing Agent *(Helicopter Landing Officer)*
ANAC	National Civil Aviation Agency
ART	Note of Technical Responsibility
Arfagem (A1)	It is the vertical displacement of the center of the helideck
Speed of arfagem (VArf	And the average speed of the center of the helideck, when this moves between maximum and minimum of the highest vertical oscillation
Nuts	Wind direction indicator
BOMBAV	Aviation Firefighters
CAA	Civil Aviation Authority *(Civil Aviation Authority, U*K)
CAP	Project Approval Certificate
Helideck Category	H1- D less than 16m H2 - D between 16 and 24m H3 - D greater than 24m

Helideck Class	Class 1- comprises the helidecks of semi-submersible platforms; FPSO; floating storage units (FSU); of cabreas and barges, semi-submersible or not; of converted tanker production ships and other ships of equivalent size, with good visual references Class 2 - comprises vessel helidecks that offer good visual references during landing and takeoff operations, usually installed on the stern or the mid-nau Class 3 - comprises vessel helidecks that offer vessels referrals during landing and takeoff operations, normally installed on the bow or above the superstructure
CBAer	Brazilian Aeronautics Code
CENIPA	Accident Investigation and Prevention Center Aeronautical
CFD	Computational Fluid Dynamics
Chevron	Geometric figure painted in black color, on the outside of the track that defines the "V" Limit, where its vertex defines the origin of the SLO
CHT	Technical qualification certificates
CINDACTA	Integrated Air Defense and Air Traffic Control Center
CMCTAP	Certificate of Maintenance of Technical Conditions of the Pick-up Area
CMCTH	Certificate of Maintenance of Helideck Technical Conditions
Creates	Regional Council of Engineering and Agronomy
D	Maximum helicopter length
Adebayo Dalli	Department of Airspace Control
DOE	Damage by Foreign Object
DPC	Directorate of Ports and Coasts

EMCIA	Aviation Fire Maneuvering and Combating Team
EPI	Personal protective equipment
EPTA	Telecommunication and Air Traffic Service Provider Station Category A, C and M
FPSO	Stationary Unit of Production, Storage and Transfer
FRH	Helideck Registration Record
FSO	Storage and Transfer Park Unit
Great	Operational Risk Management
Hatch cover	Cargo hold cover
HCA	*Helideck Certification Agency.* HCA is the certification acting on behalf of UK offshore helicopter operators inspecting and inspecting all helidecks and helipads on board offshore facilities and vessels operating in UK waters, in accordance with the rules set out in the CAP 437
Category A Helicopter	Rotary wing aircraft category transport, multi-engine, designed with the insulation characteristics of engines and systems specified in RBAC 29, uses predefined take-off and landing operations that ensures an area and capacity to perform the appropriate to continue safe flight in the event of an engine failure
Category B Helicopter	Rotating wing aircraft category transport, single-engine or a multi-motor rotary wing aircraft that does not fully meet category A standards, with no assured ability to fly with engine failure and in which the probability of use in anon-pre-programmed and appropriate location should be considered
HLL	Helideck Limitations List *(Helideck Limitations List)* Published and distributed by HCA in UKCS or other bodies accepted by the National Authority in other European States

HMS	Helideck Monitoring System *(Helideck Monitoring System)*
Hover	Hovered flight (pounded) by helicopter
ICA	Instruction of the Air Force Command
ICEA	Airspace Control Institute
OACI (ICAO)	International Civil Aviation Organization *International Civil Aviation Organization)*
ICS	International Navigation Federation *(International Chamber of Shipping)*
IMC	Flight Weather Conditions by Instrument *(Instrument Meteorological Conditions)*
IMCO	Intergovernmental Consultative Maritime Organization (Intergovernmental Maritime Consultative Organization)
IMO	International Maritime Organization *(International Maritime Organization)*
INMETRO	National Institute of Metrology, Quality and Technology
Inclination	Slope (Inc)
L	Helideck's Diameter
LGE	Liquid foam generator
LSA	International Lifeguard Device Code *(International Life-Saving Appliance Code)*
MCIA	Aviation Fire Maneuver and Combat
MTOM	Maximum *Take* of *Mass Load*
NDB	Non-directional radio beacon *(Non-Directional Beacon)*
NS	Ship Probe
Offloading	Operation of transfer of product between the stored ship and the ship relieving
OR	Recognized Organization
Pitch	Caturro (C)

PEA	Aeronautical Emergency Plan
PRE	Emergency Response Plan with Aircraft
PPI	Pre-Investigation Plan
Pull In	Maneuver between Maritime Units for the passage of equipment or fluids
QAV-1	Aviation kerosene
RAR	Risk Analysis Report
RBAC	Brazilian Civil Aviation Regulation
RBC	Brazilian Calibration Network
RF	Fire resistant
Roll	Balance sheet (B)
RVH	Helideck Survey Report
RPA	Remotely Piloted Aircraft
RPM	Radio operator in Maritime Platform
SGSA	Aviation Security Management System
SGSO	Operational Security Management System
SLO (OFS)	Obstacle-Free Sector *Obstacle Free Sector)*
SOAL (LOS)	Obstacle sand-to-height Sector *(Limited Obstacle Sector)*
SOLAS	International Convention for the Safe guarding of Human Life at Sea
SS	Semi-Submersible Unit
SPAR	Deep Feather Units

SWL	Safe working *loads*
TLWP	Tensioned Legs Units *(Tension Leg Wellhead Platform)*
Screening of injured - framing of injuries	1) Category I - spinal cord injuries, large hemorrhages, severe inhalation of smoke and gases, thoracic asphyxia, cervical-maxillofacial lesions, head trauma with coma and progressive shock, exposed and multiple fractures, extensive burns, impact injuries and any type of shock 2) Category II - non-asphyxiating thoracic trauma, simple fractures, limited burns, head trauma without coma or shock and soft parts injuries 3) Category III - minor injuries
Trincaniz	- each of the pieces of wood or iron running along the ship, at the foot of the scuppers, and serve to drain water Scupper - opening on the coast of the ship, next to the deck, for water flow
VMC	Visual Weather Conditions *(Visual Meteorological Condition)*

INDEX

CHAPTER 11 - HELIDECK ON FERRY

CHAPTER 12 - HELIDECK ADAPTED amidships AND SHIPS SIDE

Chapter 13 - pick-up area helicopter vessel

EXHIBITS

CHAPTER 1

HELIDECKRECORDS AND CERTIFICATIONS

0101 – PURPOSE

Establish instructions for certification and registration of helidecks located in vessels or maritime platforms operating in Brazilian judicial waters (AJB).

0102 - ASSIGNMENT OF RESPONSABILITY

Inter-ministerial Normative Ordinance No. 1,422/MD/SAC-PR/2014 assigns responsibilities to the Brazilian Navy to develop standards for the registration and certification of helidecks in operation in the AJB.

0103 - RELATED LEGISLATION

a) Law No. 9,432 of January 8, 1997 - Ordering of Waterway Transport;

b) Law No. 9,537 of December 11, 1997 - Safety of Water traffic in Waters under National Jurisdiction;

c) Complementary Law No. 97 of June 9, 1999 - General Standards for Organization, Preparation and Employment of the Armed Forces;

d) Annex 3 to the International Civil Aviation Convention - *Meteorological* Service for International *Air Navigation,*

e) Annex 14 to the International Convention on Civil Aviation - Volume II;

f) CAP 437 - *Offshore Helicopter Landing Areas - Guidance on Standards - UK Civil Aviation Authority,'*

g) ICA 63-10 - Telecommunications and Air Traffic Service Provider stations;

h) ICA 63-25 - Preservation and reproduction of ATS Revisualization and Communications Data;

i) ICA 66-27 - Maintenance and Calibration of SISCEAB Meteorological Instruments and Equipment;

j) ICA 100-4 - Special Rules and Procedures for Air Traffic for Helicopters;

k) ICA 100-12 - Air Rules;

l) ICA 100-37 - Air Traffic Services;

m) International Convention for the Safeguarding of Human Life at Sea - ALONE; E

n) Code for Construction and Equipment for Mobile Drilling Platforms - MODU Code.

0104 - DEFINITIONS

a) Final Approach area and Takeoff (AAFD) - is the area in which the final phase of the approach maneuver for hovered flight or landing is completed and in which the takeoff maneuverings initiated.

b) Touch area - is the part of the AAFD, with dimensions defined by a circular strip in the yellow color that contains the Identification Sign "H", in which the helicopter's touch is recommended when landing.

c) Helicopter Launch and Landing Agent (ALPH) - is the crew member responsible for coordinating air operations, for the notification of the helideck

and by the conduct of the Aviation Fire Maneuvering and Combat Team (EMCIA).

d) Brazilian Courts (AJB) - comprise the in-terroirs and maritime spaces, in which Brazil exercises jurisdiction, to some degree, over activities, facilities, vessels and living or non-living natural resources, found in the liquid mass, in the bed or in the marine subsoil, for the purposes of control and supervision, within the limits of international and national law. These maritime space sompreend the 200 (two hundred) sea miles range counted from the baselines, plus the overlying waters to the extent of the Continental Shelf beyond the two hundred nautical miles, where it occurs.

e) Certification - is the official act by which the Directorate of Ports and Coasts (DPC) attests that a helideck presents satisfactory safety conditions for carrying out helicopter operations in the AJB.

f) Maximum helicopter length (D) - "D" is the total length of the helicopter, considering the maximum projections to the advance and the adre of the engine blades or more ré end of the structure.

g) DOE - is the acronym of the expression "Damage by Strange Object". Refers to damage caused by objects that can be aspirated by the engines or may collide with some aircraft. It generally designates these objects.

h) Offshore Vessel - is any construction, including floating maritime platforms and, when towed, fixed ones, which can get around in the water, used directly in the activities of prospecting, extraction, production and/or storage of oil and gas. Includes semi-submersible unidades, Self-Electric, Probe Ships, Tension Legs, Deep-Draught spar, Stationary Production, Storage and Transfer Unit (FPSO) and Storage and TransFerence (FSO) Stationary Unit.

i) Aviation Fire Maneuver and Combat Team (EMCIA) - is the team responsible for guarding the helideck on the occasion of air operations (boarding and disembarking of personnel and supplies, aircraft supplies, firefighting, first aid and injured transport).

j) It is complete - it is the non-compliance with the requirements set out in this Standard, found during an Initial Inspection, Renewal or Inopinada.

k) Preventing Expectations — are the requirements that directly compromise theegurancy of air operations. They will cause the helideck to be banned.

I) Non-Preventive Requirement — are requirements that do not directly compromise the safety of air operations, but that show some non-compliance with this standard and may result in a restriction on air operations.

m) Helideck Registration Sheet (FRH) - is the official document in which the Charterer/Shipowner describes the general characteristics of the helidecks of vessels and maritime platforms.

n) Helideck - is a helipad located in a structure on water, fixed or floating. It is also called *offshore* helipad

o) Helideck Adaptado — is an adapted landing area, located at half-ship, on the cover of the cargo hold *(hatch cover),* General Cargo Ships or Bulk carriers, or on the side of the main deck of other types of ships. It differentiates itself from the helideck by the absence of a structure built to enable landings and takeoffs of helicopters in routine situations, and its use is limited to the boarding and disembarkation of public/practical agents and removal of injured persons

or patients to places where they can receive adequate medical care.

p) Registration - is the official act by which the National Civil Aviation Agency (ANAC) authorizes the opening of a private helideck to air traffic, for carrying out operations with helicopters.

q) Interdiction - is the official act by which ANAC promulgates the interruption of air operations, definitively or temporarily, in a given helideck.

r) Helideck (L) diameter - is the diameter of the largest imaginary circle that fits in AAFD.

s) Merchant Ship - for the purposes of this standard is the flag ship, national or foreign, employed in the cargo transfer, activities of prospecting, extraction, production, storage of oil and gas or passenger transport in the AJB, for commercial purpose.

t) DOE Patrol - is the daily inspection carried out at AAFD, before air operations, to impify it from objects and debris that could cause damage to the aircraft.

u) Uninhabited platform - is a fixed maritime platform, remotely operated, end of helideck, with habitable facilities for overnight stay of a maximum of five people

v) Fixed Maritime Platform -permanently installed construction at sea or inland waters, intended for activities related to prospecting and extraction of oil and frogs. It's not considered a vessel.

w) Mobile Maritime Platform - generic name of vessels used directly in the activities of prospecting, extraction, production and/or storage of oil and gas. They include semi-submersible units, Self-Electrible, Probe Ships, Tension *Leg Units,* Deep Calade Units (Spar), Production, Storage and Transfer (FPSO) and Stationary Storage and Transfer Unit (FSU).

x) Reference Point - is the point located in the per-iférica line of AAFD, carefully chosen based on existing structures in the vicinity of the helideck, which serves as a reference for defining the Obstacle-Free Sector (SLO) and Obstacles with Limited Heights (SOAL).

y) Applicant - is the Shipowner brasileiro, the Brazilian Shipping Company, the charterer, the operator or its preposto, with representation in the country, which requests helideck regularization services.

z) Obstacle-Free Sector (SLO) - is a sector of at least 210º, where obstacles above 0.25m are not allowed in relation to the helideck plane.

aa) Obstacles sector with Limited Heights (SOAL) - is a sector of 150º, adjacent to the SLO, where obstacles with limited heights are allowed in relation to the level of the helideck.

bb) Identification sign "H" - the letter "H" is the identification signal of a helideck installed on vessel/sea platform. Longitudinal alignment with the "H" indicates the trajectory for the aircraft with greater separation of obstacles delimited by SOAL, for landing within the limits of the touch is, that is, the safest approach should be considered the trajectory of preferential approximation.

cc) Rhelideck survey filing (RVH) - is the document through which the Directorate of Ports and Coasts (DPC) had given technical opinion on the condition of

air operations in a given helideck, initiating the approval or interdiction process defined by that standard, the model of which is set out in Annex 1-D.

dd)Survey - is the official action by which qualified experts by the CPD inspect, on *site,* certain helidecks, verifying that their facilities, equipment, personnel and material meet the minimum requirements set out in this standard in order to ensure that there are satisfactory conditions for conducting helicopter operations in the AJB safely.

ee) Remotely Piloted Aircraft (RPA) - aircraft designed to operate without pilot on board and not used for purely recreational purposes. In this definition, all aerococts, helicopters and controllable airships are included on the three axles, thus excluding traditional balloons and aero models.

ff) Recognized Organization (OR) - Specialized entity authorized to act on behalf of the Brazilian Maritime Authority in the regularization and controller of vessels in aspects related to navigation safety, the safeguarding of human life and the prevention of environmental pollution. They act under the specific conditions of each recognition (NORMAM-06/DPC).

gg) Risk - is the assessment of the consequences of um danger or threat, expressed in terms of probability and severity, taking as reference the worst possible condition. Example:

- A 45-knot crosswind on the helideck is a danger. A pilot not controlling the aircraft during takeoff or landing is one of the consequences of this danger.
- The assessment of the consequences of the possibility that the pilot will not be able to control the aircraft, in terms of probability and severity, is the risk.

hh)Risk Management - is the identification, analysis and elimination, and/or mitigation of a hazard or threat that affects an organization's operational capacity. The process aims to reduce the possibility of occurrence and its consequences to an acceptable level, relying on the balanced allocation of resources to confront, control and decrease their and made to an acceptable, defensible and fancil level to explain.

ii) *Safety* Case - can be understood as a safety case study composed of one or more Risk Analysis Report (RAR), structured in evidence-backed and destinatedargumentsto justify that a system is acceptable with regard to the safety of operations perpetrated in a given operational environment.

For the purpose of this standard, *Safety Case* can be considered as the document composed of one or more RAR, as needed.

jj) Aeronautical Procure station Plan (PEA) or Emergency Response Plan with Aircraft (PRE) - is the document establishing the procedures to be followed by the sectors involved and defining the participation of the unit in the various situations of aeronautical emergencies.

0105 - PROVISIONAL AUTHORIZATION, SURVEY AND INSPECTION

Provisional Authorization - has the purpose of meeting the immediate needs of operation. DPC may recommend issuing a Provisional Authorization to carry out air operations on a given helideck that will enter the AJB, provided that it is in operation abroad.

The request for the issuance of Authorization Provisória should be requested

By being the model of Annex 1a, and preceding at least 20 (twenty) days of the date desired by the applicant for the start of air operations. The request must be attached to FRH (Annex 1-B)and the other documents provided for therein, which correspond to the situation that operates of the helideck.

The granting of Provisional Authorization will observe the following aspects:

1) It is necessary that the helideck already has type-approval with a validity period in force issued by a foreign civil aviation official body or by an entity which has the delegation of competence of such body;

2) If the documentation presented is assessed as satisfactory, the CPD shall request an acdeque to open the helideck to air traffic for landing and takeoff operations for a period of up to 30 (thirty) days, or until the expiration of the foreign approval in force, which ever occurs first, extendable for a single period of up to 30 (thirty) days, at the discretion of the CPD. Only a Provisional Authorization may be granted for the same helideck every period of 3 (three) years; and

3) Dentro from the term of the Provisional Authorization the helideck must be appropriate to this standard and the process of inspection, certification and approval established herein is carried out.

4) If the vessel, even with the various foreign approval, infringes any requirement preventing this standard, provisional authorization will not be granted.

5) Vessels that have their approval ordinance cancelled for non-compliance with item 0106 or the process of the Telecommunication and Air Traffic Service Provider Station (EPTA) may not apply for further provisional authorization.

b) Inicia l and Renewal Survey- to start conducting air operations in the AJB the helidecks must be submitted to the Initial Survey, for their certification and registration, which will be valid for 3 (three) years, and can be renewed before the end of the period of registry.

1) The technical parameters established for the authorization of carrying out air operations on the helidecks shall be evaluated by a Surveyor Scativa, whose constitution will be determined by the CPD;

2) The applicant is responsible for applying for the Initial Scan l Survey through Annex 1-C. The date of the application entry protocol to the Secretariat of the CPD must precede at least 45 (forty-five) days of the date desired by the applicant for the inspection;

3) After the end of the validity of ordinance and initial registration, the helidecks must be submitted to renewal surveys;

4) Renewal Surveys must take place within thirty (30) days before the end of the registration ordinance term, in order to verify the maintenance of the technical conditions of the helideck and renew their certification and registration;

5) The Renewal Survey request must be made through Annex 1-C. The applicant must submit his application at least 50 (fifty) days in relation to the due date of the ordinance;

6) In the case of Initial Inspection or Renewal, the documents provided for in Annex 1-Cshould be attached to the application. FrH must be filled with all current helideck data. From the beginning of the registration process, when there is any lteration of the information contained in the

last form delivered to the CPD, the applicant must update it and forward it correctly completed;

7) In order to serve newly built vessels in Brazil or abroad, an Initial Survey may be carried out outside the operating area, if considered acceptable and feasible by the CPD. To this end, the vessel must have an aircraft to land on the helideck, or be placed univalent net weight half of the tonnage of the heaviest helicopter it will support, and should be forwarded to the DPC, if no "on-site" are presented, copy of the alph's certificates of qualification, aviation firefighters (BOMBAV), plata beam operator maritime form(RPM), the crew of the rescue vessel and the receipt of the EPTA approval process at the Lgrante Center of Air Defense and Air Traffic Control (CINDACTA) responsible for the area of operation. Only the helidecks approved in the final checks carried out during the first aircraft landing with the DPC experts in AJB will be certified; and

8) After the Initial Survey or Renewal the RVH (Annex 1-D) will be issued, with a copy to the applicant within 5 (cinco) working days.

c) Survey for Withdrawal of Exigéncia — is used to verify compliance with the requirement found during an Initial Inspection, Renewal or Inspection. It will be scheduled upon request from the Shipowner/Operator or his legal representative. The applicant must communicate compliance with the requirement to the CPD through the document "Information of Compliance with Requirement" (Annex 1-E). Communication must be made at least 10 (ten) days in advance in relation to the maturity of the deadline stipulated for the withdrawal of the application. Failure to comply with this deadline will result in the cancellation of the Registration Ordinance. It will be considered as a date of communication of compliance with the requirement to the protocol of receipt of the document "Information of Compliance with Requirement" by the Secretary of the DPC.

These Standards establish a list of preventative requirements and generally define them as those whose severity immediately compromises the minimum conditions for carrying out air operations safely. The relationship of Itiva sive lmped requirements, Annex 1-F, is not taxing and will be dynamic, suffering constantly updates, due to the accumulation of experience of surveyors, as well as the evolution of technological resources and operational procedures.

After the Survey for withdrawal of requirement the RVH (Annex 1 D) will be issued, with a copy to the applicant within 5 (five) working days.

d) Inspection - DPC may perform expertise, without notice, at any time, called Inspection Inspections, to verify the maintenance of the technical conditions of the helideck.

1) Após a Inspector de Fiscalização serã emitido o RVH (Anexo 1-D), com cópia para o requerente;

2) For the withdrawal of requirements, the procedures laid down in point (c) preceding,

3) If a requirement is identified relating to the design of the platform or ship that has not been observed at the time of the Initial Survey or the previous Renewal Survey, observation will be made in the RVH determining compliance with the requirement until the next inspection scheduled for the helideck; and

4) Inspection surveys will not be considered for extension of the validity period of the helideck registration ordinance.

e) Parameter Change Survey - in the case of a requirement to change parameters, the applicant must request it from the CPD, by completing the Requirement for Helideck Parameter Change (Annex 1-G),to which the documents mentioned therein should be attached, the request must precede at least 20 (twenty) days of the date desired by the applicant for the change.

1) If the CPD considers that the changes do not imply substantial changes in the characteristics of the helideck, it will request anac to issue the Registration Ordinance containing the requested changes, the validity period of which should be the same as the previous Registration Ordinance;

2) Where THE CPD identifies that the changes requested imply the need to carry out an *on-the-spot survey,* it must notify the applicant;

3) The inspection for verification of the alteration of parameter will not imply a change in the validity period of the previous Approval Ordinance; and

4) After the Perimeter Change Survey, the RVH will be sent to the applicant.

Note: Law No. 13,726 of October 8, 2018, should be cumpr ed.

0106 - OUTPUT AND RETURN OF AJB OF VESSEL WITH HELIDECK REGISTERED

The Shipowner/Operator, or its legal representative, shall inform the DPC of the output of any vessel or platform of the AJB, otherwise the vessel or platform will have its registration cancelled.

If the vessel or platform, which has a Registration Ordinance issued by ANAC, is absent from the AJB and later returns with it still within its validity, it will not lose its effectiveness. However, the Shipowner/Operator must forward to DPC, a Certificate of Maintenance of the Technical Conditions of Helideck, according to the model of Annex 1-H.

0107 - EXPENDITURE UNDER THE RESPONSIBILITY OF THE APPLICANT

It is up to the applicant to bear the costs ofindenization for registration and certification of the helideck, as well as the logistics expenses for air transport, land in urban displacements, food and lodging of the Surveyors. In the event that any inspection is carried out abroad, in addition to the costs related to transport, stay and food, the daily fees due to the Surveyors will be the responsibility of the applicant. The values referring to the daily will be those adopted by MB for the post/graduation of each Surveyor; and the transport and the lodging must be consistent with the level of Superior Officer.

The amounts of indemnities whose payment guide contained in Annex 1-1 should be requested from the CpD.

0108 - CONDITIONS FOR INSPECTIONS

For planning purpose, the following aspects should be considered:

a) The inspections will be carried out at the place of operation or where all systems and equipment of the platform or vessel related to the operation of the helideck can be tested, under the normal operating conditions in which it will be employed.

b) Surveys will be carried out in the day period, and when the total period of the day journey is longer than 8 (eight) hours, the overnight stay of surveyors should be provided in a place near where the survey will be carried out according to guidelines

of this Specialized Board. At the time of the request for the survey the applicant will receive from the DPC a proposal for logistics, programming, in order to be assessed

c) Surveyors should be transported to the multi-engine helicopter helideck that meets the requirements of offshore *operation,* which has the Helicopters Operation *Monitoring Program* (HOMP) equipment that, standardizes operations and previously identifies any problem in the quality of operations) *Health and Usage Monitoring Systems* (HUMS - monitoring system that uses data collection and analysis techniques to help ensure the availability, reliability and safety of aircraft), *Blue Sky* (satellite system that monitors various aircraft information) and the *Traffic Alert and Collision Avoidance System* (TCAS), or similar, and its crew must be able to fly under instrument flight weather conditions (BMI). The helicopter will be destined unexclusively to meet the inspection and will be in the helideck, at the disposal of the Inspection Scans' Office, during its realization; a communication point should be made available (3rd phone - "rabicho") in the helicopter, so that a surveyor p ossa check the procedures for communication frog of the unit to be inspected; and

d) During the survey the helideck will be banned and at the disposal of the Surveyors Committee, and the vessel must make all the necessary resources available to tender its implementation.

0109 - REGISTRATION PROCESS

a) Certification - Helideck Certification (Annex 1-J) will be issued by the DPC, with the validity counting from the date of completion of the Initial Survey or Renewal.

If there is no Non-Preventative Requirement on the occasion of the Surveys, the CPD will ask ANAC to open the helideck for air operations. After verifying compliance with the requirements, the CPD will issue the final RVH of helideck, counting the certification period from the date of the survey. The helideck may operate for up to 60 (sixty) days, extendable for a single period of up to 30 (thirty) days at the discretion of the CPD. After this deadline without the requirement being met by the pain weapon and verified by the CPD, anac will be asked to cancel the Registration Ordinance. After the cancellation of the Registration Ordinance, a new Initial Survey must be carried out for the vessel/platform to be authorized again to operate the helideck.

If there is no Requirement of Impediment, the CPD will request an Acomb to interdiction of the helideck, in accordance with the procedure provided for in point (c) below.

Helideck Certification will be valid for 3 (three) years and may be renewed indefinitely for equal periods by conducting Renewal Surveys with satisfactory result.

The DPC will forward the Helideck Certification to ANAC to join frh in order to subsidize the issuance of the Registration Ordinance. A copy of the RVH will be forwarded to the applicant.

The DPC may cancel the Certification at any time if you become aware that the technical parameters or that the conditions of the plat aforma or the vessel undertake to perform air landing and take-off operations safely.

b) Approval Registration - will occur by referral, by dpc,

helideck certification together with its FRH for ANAC.

ANAC is responsible for the dispatch of the Registration Ordinance and its publication in the Official Union Day (DOU).

The Registration Ordinance shall be valid for 3 (three) years, and its term must be matched by the expiration date of the Helideck Certification issued by the DPC.

Observation: ANAC will always issue the Registration Ordinance with its minimum term. If the vessel/platform helideck contains non-preventable requirements, they will be read on the RVH with its execution times. If they are not fulfilled within the respective period, the CPD will request an accomb slate spree (Annex 1-J).

c) Notification of Interdiction and Disinter diction of Helideck - If the existence of The Preventive Requirement is verified, the Helideck Interdiction Notice for helicopter landing will be issued, being signed by the Surveyors and the person responsible for the vessel/helideck, as provided for in Annex 1-K. After the Survey for Withdrawal of EXigência, the correction of the Mandatory Requirement(s) is found, the representative of the Maritime Authority will issue the Helideck Deinterdic Notice, Annex 1-K, and will ask ANAC to open/reopen the helideck for air traffic. The notifies will be issued on 3 (three) roads, the original with the responsibility of the Vessel/Platform, a copy with the survey team and a copy will be delivered to the Traffic Room (AIS) of the corresponding airfield.

0110 - CERTIFICATE OF MAINTENANCE OF CTECHNICAL ISSUES

Annually, from the date of the helideck survey, the Certificate of Maintenance of helideck technical conditions (CMCTH) shall be forwarded to the DPC, according to Annex 1-H,signed by the helideck officer, up to 20 (twenty) dias before the due date. The Protection Screen Resistance Certificate and friction coefficient certificate shall be forwarded together with CMCTH, where applicable.

Failure to present this document, within the prescribed deadline, cancel automatically larã the validity of the Helideck Certification, causing the revocation of the registration ordinance.

It will be up to the CPD to request an accomb the helideck ban and the cancellation of the Registration Ordinance. In this case, in order for the helideck to resume carrying out the air operations, it must be submitted to a new Initial Survey.

0111 - SPORT AND RECREATIONAL VESSELS WITH HELIDECK

DPC does not certify helidecks installed on a sport and recreational vessel. For such cases, ANAC procedures must be complied with.

0112 - COMMUNICATION BETWEEN VESSEL/PLATFORM X AIRCRAFT

If there is no aeronautical frequency allocated by the Airspace Control (DECEA) partitioning, through the Project Approval Certificate (CAP), for a given helideck, for safety reasons, essential communications between the helicopter and the maritime unit must travel through the maritime VhF, until the approval of the respective Telecommunication and Air Traffic Service Provider Station (EPTA).

The use of unapproved frequencies in the aeronautical range is a crime, as provided for in art. 183, law no. 9,472 of 16 July 1997.

0113 - REMOTELY PILOTED AIRCRAFT (RPA)

Remotely piloted aircraft, which comprise remotely piloted aircraft systems and fully autonomous aircraft, fall within the definition of "aircraft" present in the Brazilian Code of Aeronãutica - CBAer (Law 7.565/1986) and, therefore, are the subject of regulation and supervision of ANAC, in the case of civil operations.

The authorization of ANAC is a necessary condition, but not sufficient for the operation of remotely piloted civilian aircraft systems in Brazil. The operator must also obtain authorization from the DECEA.

The competencies of ANAC and DECEA are complementary and therefore ambas authorizations are necessary for the operation of remotely piloted civilian aircraft in Brazil.

The use of RPA in vessels/platforms that have helidecks is not allowed, simultaneously with helicopter landing and takeoff operations, except in cases of use of RPA in the internal area of the Maritime Unit, such as tanks, reservoirs, space the confined, without the possibility of interfering with the operation of helicopters.

0114 - COMPLIANCE WITH REQUIREMENTS

The CPD will keep up-to-date on its website(www.marinha.mil.br/dpc) a table of deadlines for compliance with requirements and exceptions; the Maritime Authority recommends consultation and prior knowledge by helicopter operators and vessels of exceptions and deadlines of this table, especially when operating in areas with difficult internet access.

If the vessel/platform, after the type-approval of its helideck, infringes any requirement of this standard, it will receive communication (Annex 1-L) and inform its compliance with the CPD, otherwise they may have air operations suspended, definitively or temporarily.

0115 - TRANSPORT OF HAZARDOUS GOODS

RBAC No. 175 (Transport of Hazardous Articles in Civil Aircraft) must be fulfilled.

0116 - RISK OF FAUNA

Pca 3-3/2018 (Bãsico Plan for Wildlife Risk Management - PBGRF) of the Aeronautics Command should be fulfilled.

0117 - VESSELS WITH UNREGISTERED HELIDECK

The vessels, which will operate in AJB, which have helidecks, but do not wish to register it must:

- in the expertise and inspections, submit to the Naval Inspector a statement that will not use its helideck, Annex 1-M; and
- place the helideck sign, item 0504, subitem g of this standard.

0118 - DOCUMENTS

All documents must be forwarded to DPC electronically using the PDF format (Adobe Reader).

Helideck plants, in the range 1:100, in addition to the electronic format also

should be forwarded by printed means.

The original documents must be kept archived by the interested party until the process is completed for possible consultation.

0119 - UNFORESEEN CASES

Cases not provided for in this standard should be referred to PCD in order to be analyzed.

CHAPTER 2

HELIDECK PROJECT

0201 - FUNDAMENTAL REQUIREMENTS

To design the structure of a helideck, the engineer needs as a starting point, set its location, dimensions and weight of the largest and heaviest helicopter than the structure should be able to bear. To define these fundamental requirements the engineer may, as a project data:

a) adopt the dimensions and weight of the largest and heaviest known helicopter that may operate on that helideck; or

b) take dimensions for AAFD and floor resistance that allow operation on the helicopter helideck, known or not, with lower dimensions and weight or, at most, equal to those assumed.

0202 - LOCATION

a) the location of a helideck on fixed maritime platforms, merchant ships and on barges employed in *offshore* operations is almost always a compromise solution between the different basic requirements of the project such as space limitation and the need to perform various functions. The location of the helideck must be carefully chosen to meet these different needs;

b) aafd must be positioned, in relation to other structures, in such a way that there is an obstacle-free sector below the helideck level outside the negative gradient sector, which allows an aircraft to approach and take off or lease safely, even if it presents loss of engine power;

c) aafd should also be located in order to minimize the occurrence of turbulence over the helideck, originated by wind flow in the structures of the installation; for the new projects of constancy, initiated from 2018, vessels/platforms must have a study of the wind environment on the helideck in which helicopters must operate whose criteria are in the document of item 0103(f);

d) there should be no gases from burning burns or other equipment that may dump hot gases that alter the environmental parameters for which the flight was planned. Sudden increases in room temperature can cause decreased engine performance and rotor effectiveness at a critical stage of helicopter operation. Designers should therefore be very careful with the location and elevation of gas discharges in relation to AAFD; vessels/platforms must carry out you in a wind tunnel or helideck computational fluid (CFD) in a wind tunnel or Dinemic Stes to determine wind parameters for landing and aircraft takeoffs;

Note: In projects prior to 2018, PCD may request the above study when there is a history of turbulence formation in the helideck.

e) the project should provide for the installation of several environmental condition sensors in the helideck area in order to provide the pilots with as faithful as possible of the reigning conditions in aafd. Motion sensors should be positioned on the helideck floor. If not possible, the values presented of caturro *(pitch),* balance *(roll,)* arfagem *(heave),* speed and arfagem *(heave rate)*

and *inclination* should be corrected for the height and position of the helideck, while thermometers and wind sensors must be installed, mandatorily, close to the helideck;

f) where not all parameters established in this standard for the helideck design can be fully satisfied, it may be necessary to impose restrictions on helicopter operations;

g) the touch card should be at the heart of aafd; and

h) it must be avoided to place the rescue vessel under or near the projection down the helideck, so that it is not damaged in the event of an accident.

0203 — DIMENSIONS

The helidecks will be classified according to the length "D" of the largest helicopter quand may operate in each installation in the categories (H) defined in Article 0302 of this Standard.

0204 - SECURITY

a) Protective screen - protection screens must be installed around the helideck area, in accordance with that contained in Annex 2-A,except when and xyster structural protection that comes to provide sufficient safety to personnel involved in air operations. The screen must consist of flexible and fire resistant material.

1) the protective screen must have a minimum width of 1.5m, horizontally, from the outer edge of the helideck, and may include the drain trough;

2) the mesh of the protective screen must have dimensions of a maximum of 0.10m x 0.10m;

3) the spacing between the screens and the edge of the helideck, and between sections of the same should not give up0.10m. If the construction characteristics prevent this spacing with the batting nets, such spaces should be closed with a network of the same material;

4) the lower end of the protective screen should be at the same helideck level or at a level slightly below the drain pipe when existing. The screen should have an approximate slope from 10º upwards to the horizontal plane. The upper exterminate of the protective screen may be slightly above the helideck level and should not exceed the height of 0.25m in relation to that plane;

5) the protective screen should not be stretched too much, in order to avoid its performance as a springboard and, if lateral and longitudinal beams are installed to give greater resistance to the structure of the screen, they should not have a format that may cause injuries in people who may eventually be supported by the screen. The ideal design should produce the effect of a stretcher, and must safely support a body that falls on the screen without causing it injury;

6) protective screens can be made in any carbon, sisal or polyester steel material.

7) each section of the screen shall resist, without rupture, the test consisting of the impact of a 100kg sandbag, with a base diameter of 0.76m, loose, in free fall, from a height of 1m;

8) must be presented a Certificate of Screen Resistance, issued by recognized Organization (OR) by DPC, or by the company's engineering sector

platform/vessel operator, attesting that all sections of the protection screen have safe conditions of use in accordance with Annex 2-D. This document must be valid for 12 (twelve) months;

9) the protection screen should always be free of any object on it or its support; and

10) annually, from the date of the helideck survey, the Protection Screen Resistance Certificate shall be forwarded to the CpD, together with the CMCTH.

Note: Destructive laboratory tests of polyester fabrics are accepted to verify the strength and degradation of the material over time, and mecemic tests of point 7 are not required.

b) Access - in order to provide fire-comba teroads, regardless of the prevailing wind, and in order to allow for possible evacuation of wounded, the following accesses outside the AAFD and preferably equidistant must exist:

1) Category H1: two accesses;

2) Categories H2 and H3: three accesses; and

3) For categories H1 and H2 one of the accesses can be emergency.

Observations:

- In cases where handrails associated with helideck access points exceed the permissible maximum elevation of 0.25m around aafd, they must be of the folding or removable type, and are necessarily lowered during the operations of the reas, so that they do not obstruct the accesses or emergency exits.

- Emergency access may be within the AAFD outside the touch area, however, it should be 0.025m high in relation to the helideck floor, not constituting an obstacle.

c) Cranes - pay attention to the location of the cranes in the vicinity of the helideck that, during their movement, can invade the SLO or SOAL.

In helideck certification, they should be evaluated if the cranes do not interfere with the air operation.

d) Structural design - the helideck floor and its support structure must have sufficient resistance to support 150% of the Mass [Cargo] Maximum *Take Off Mass (* MTOM), for normal landings, and 250% of MTOM, for emergency conditions landings of the heaviest helicopter considered in the helideck design, in addition to those due to the concentration of people, equipment, meteorological and sea effects. The project must contain the helideck resistance certificate.

Helideck built by August 12, 2011 may meet only the 150% requirement for normal landings. When sending the standardized certificate to the DPC should be placed the observation: "This helideck was built in xx/xx/2xxx, not meeting the requirement of 250% MTOW for emergency landing"

e) Helideck Resistance Certificate - is a prerequisite for the realization of Initial Survey, Renewal Survey and perimeter Change Survey (where applicable), and should be presented in the original or copy, in Portuguese or English languages, attesting to the resistance of the floor and its support structure declared in frh, issued by organization recognized by the DPC, or by the engineering sector of the platform/vessel operator; Annex

2-E. In this case, the technical manager of the company must present the Technical Responsibility Note (ART) and copy of the registration in CREA. This document must be vain for five years and has been issued two years of the visari's application to be issued for five years, in order to contemplate the entire term of the Approval Ordinance.

0205 - PLANTS OF GENERAL ARRANGEMENT AND HELIDECK MARKINGS

The Plants of General Arrangement and Helideck Markings must be in scale 1:100, following the models of Annexes 2-B and 2-C, respectively, and must contain the location of the helideck and its markings, the non-slip network and its fastening links, per detection screens, accesses, lights and spotlights, foam monitors, fire extinguishers, drains, buffaloes, birutas, hot gas discharge ducts, obstacles and structures that can generate turbulence, and any other item placed on the helideck.

CHAPTER 3 PHYSICAL

FEATURES

0301 - PURPOSE

Describe the minimum physical characteristics required for helidecks located on board platforms and vessels.

0302 - HELIDECKS CATEGORIES

Depending on the length "D" of the largest helicopter that can operate, the helidecks will be classified according to the following table:

LENGTH (D)	CATEGORY (H)
< 16m	H1
between 16m and 24m	H2
> 24m	H3

0303 - FINAL APPROACH AREA AND TAKEOFF

AAFD may have any geometric shape and must contain an inscribed circle of diameter 'L' equal to or greater than the length "D", inside which no obstacle stemming above 0.025m will be allowed.

a) Exceptions - Exceptions are listed in the Deadlines Table for Compliance with Requirements and Exceptions, published on the DPC website. The Maritime Authority recommends consultation and prior knowledge by helicopter and vessel operators of the exceptions and deadlines of this table, especially when operating in areas with difficult internet access.

b) Surface of AAFD on helideck

1) the entire surface should be painted in dark green or gray color, with non-slip paint, and all markings on it should be made with non-sliding materials. It is mandatory to paint the external area to AAFD with other colors, so as not to confuse pilots with the size of the helideck;

2) aluminum-made floors do not need to be painted and must:

I) aluminum is matte so as not to overshadow the pilots' vision by reflection of ambient luminosity (e.g.: sun rays); and

II) the color of aluminum should provide adequate contrast to the perfect visualization, individualization and identification of the marking lines of the various painted areas of the AAFD (Touch Area, etc.). To highlight, these lines must be circumvented by a strip ten centimeters wide, painted in black color or have the black background;

3) the surface of the AAFD, painted or not, must have a coefficient of friction in any direction and direction, certified by a certificate, for marine units that choose to operate without the use of the non-slip network on the helideck, measured by the test method specified in point (d), below. Fixed platforms do not need to perform the test of the coefficient of friction and are exempted from the use of non-slip network;

4) should be watertight, avoiding leakage of liquids to the lower converses; and

5) on the occasion of the Initial Surveys or Renewal the painting and markings of the AAFD must be new and uniform, not being accepted repairs,

mendos or rusty areas.

c) Certificate of coefficient of friction - original document or copy, in Portuguese or English languages, issued by organization recognized by DPC, or by the engineering sector of the operating company of the platform/vessel, attesting to the average value of the coefficient of friction reigning on the floor of the AAFD, whose periodicity between tests is in the table of Article 0305, and must be attached to the application for the realization of Initial Survey, Renewal Survey and this would be a parameter amendment (where applicable), in accordance with Annex 3-B This document must be issued every time there is helideck painting and must be valid for the entire term of the ordinance.

This requirement must be met for marine units that choose to operate without the use of the non-slip network on the helideck, except for fixed platforms. Annually, from the date of the helideck survey, this certificate should be embroin had to DPC, along with the CMCTH.

d) Friction coefficient test method — friction coefficient testing should be performed by method that meets the following requirements:

1) use the *braked whee technique,*

2) the surface of the helideck should be wet and with the amount of water produced by the controlled test equipment;

3) the Test Report automatically produced by the test equipment, must present the coefficient of friction values of the entire surface of the helideck, subdivided into areas of, in the mãximo, 1m° and also the day, time and place (Lat - Long) of the test;

4) the test must be performed by a qualified technician; and

5) the test equipment must meet the following requirements:

I) it should be appropriate to stop measuring the coefficient of friction by the locked wheel technique, covering the entire surface of the helideck;

II) should be able to control the amount of water to be applied to the helideck surface during testing;

III) should electronically process and store the result of measurements; and

IV) must have GPS so that you can automatically register, without external interference, the day, time and place of the test (Lat - Long).

The calibration of the equipment must be in accordance with the parameters established by the Brazilian Calibration Network (RBC), consisting of laboratories accredited or recognized by the National Institute of Metrology, Quality and Technology (In metro).

0304 - DRAINAGE

Every helideck must be provided with an effective drainage system that prevents the formation of puddles and that is able to ensure the rapid disposal of any liquid fuel or liquid stemming from firefighting. Gutters, trincanizes around the helideck and/or drainage points within the AAFD may be used.

The drained liquid must be directed directly to the sea to prevent any fire in the helideck from spreading to other areas of inferior conveses.

Although there is a permanent commitment to the preservation of the environment, the aforementioned procedure aims at prioritizing human life at sea and

rank of the vessel.

0305 - NON-SLIP NETWORK

The non-slip network aims to prevent aircraft from sliding as a result of the platform or vessel game, when operating in adverse weather conditions (strong wind, rain, etc.).

In vessels with friction coefficient whose value is proven by the test certificate required in Article 0303 (c), the use of non-slip nets is optional, but it is recommended to use shims and the attractive coefficient should be met, according to the following table:

Helideck section	Vessels
Touch area	0.65
Out of touch	0.5

Note: Helideck should be tested again annually or when your condition suggests that more frequent tests are appropriate, for example, guano accumulation or other contaminant(s).

On fixed platforms is exempted the use of anti-derra networks

The maritime units that, although floating, constantly have great stability, such as a tension leg wellhead platform (TLWP) installation, and reduced caturro, swing and sphage movements, will be considered, as "fixed platforms". To meet this criterion, caturro and balance movements should be demonstrated to be limited to 1st and the maximum variation of arfagem is 1m/s, measured by HMS equipment in a period of 6 months.

Helideck paint must remain in good non-slip conditions, regardless of network use.

Guano, a material produced by the accumulation of excrement and corpses of seabirds, is an extremely effective destroyer of frictional surfaces. Dividing the difficulty of ensuring that a frictional surface can be kept free of contaminants, permanent removal of the non-slip network on Uninhabited Platforms is not usually a viable option unless effective preventive measures are in place.

a) Characteristics of the Non-Slip Network - the non-slip network must extend throughout the Touch Area, not covering the other identifications external to it, and its dimensions must be adjusted, if necessary, to cover this area, and must have any format.

The cables must:

1) have a diameter of 20mm, when in cylindrical form, or width of 20mm, for frictape, and do not exhibit wear that compromises its functionality;

2) be made of sisal or material other than easy combustion; and

3) have mesh formed by squares or losangos of 20cm of lado.

b) Fixing the Non-slip Network - the network must be firmly secured by means of cables and/or stretchers, to the eyes installed at the edge of the AAFD, with a maximum spacing of 2.0m and with a maximum height of 0.05m. It should not be possible to lift any part of the network by more than 0.25m above the surface of the helideck.

that when applying vertical traction with hand

0306 - MOORING LINES

Buffaloes are devices installed on the surface of helidecks intended for the mooring of helicopters, through peias (straps). Aircraft parking areas must also be gifted from buffaloes.

a) Quantity and distribution -buffaloes should form with the peas, mooring points with angles within the limits recommended by the manufacturers of helicopters. At least six buffaloes, distributed uniformly, should be installed in each concentric circumference in the Touch Area (Annex 3a).

b) The minimum amount of buffalo and the rays of the circumferences for their dis- assignment vary according to the helideck category, according to the table below:

Category	MINIMA QUANTITY OF BURICS	RADIUS OF CIRCUMFERENCES (m)
H1	6	2.5 or 3.0
H2	12	2.5 or 3.0 and 5.0
H3	18	2.5 or 3.0; 5.0 and 7.0

When it is not possible to install the buffaloes following the above rules, the rays and spacing between them may vary and should be as uniform as possible.

c) Height of buffaloes - fixed buffaloes must have a height or preferably in the mãximo 0.025m high or preferably, face the helideck floor and parking area. In the case of buffaloes with concealable links, they must be hit when they are not in use and in the case of removable buffaloes, they may only be placed after landing and cutting the aeronav and removed before takeoff.

d) Resistances to buffaloes — the set of buffaloes/peas must withstand the loads of the largest helicopter operating on the helideck. The movement of the platform/vessel imposes accelerations on the aircraft that generate dynamic loads higher than its weight, thus the set of buffaloes/peias and will have a rupture load higher than the forces generated by the aircraft, in order to ensure that it does not be detached. In addition, these dynamic loads should be distributed by an adequate amount of buffalo.

The workload data segura (SWL- *safe working loads)* should be obtained from the manufacturers/ operators of helicopters, in order to di- mensionar the set of buffaloes / peats.

e) Diameter of the buffalo crosslet - the diameter of the mooring point bar should be 22mm, so as to facilitate adjustment to the dimension of the mooring peia hook.

Note: Units already in operation, which do not meet this requirement, must provide the fitting between peas and buffaloes using load mooring cuffs or straps, with resistance equal to or greater than that of the farias.

f) Búricas Resistance Certificate — forth time of the request for inspections, the certificate of resistance, issued by an Organization recognized by the DPC, or by the engineering sector of the platform/vessel operating company, clearly describes that they are in safe conditions for the conduct of the largest helicopter operations to operate on that helideck, in accordance with Annex 3- C. In this case, the person responsible for

the company must present the Technical Responsibility Note (ART) and copy of the registration in CREA. This document will have the validity of 3.5 years, and have been issued for six months of the inspection request in the morning.

CHAPTER 4

SECTORS AND URFACES

0401 - GENERAL PROVISIONS

In order to ensure that helicopter operations are conducted safely, sectors and surfaces are defined around the helideck, which may have obstacles as long as with limited heights

The minimum dimensions required for surfaces vary depending on the dimensions (D) of the largest helicopter considered in the project.

0402 - OBSTACLE-FREE SECTOR (SLO)

It is a sector of 210º, at least, where obstacles are not allowed The SLO is defined in the horizontal plane coincident with the helideck plane by the following limits.

a) Lateral - semi-straight originating from the reference point *(chevron vertex,* defined in article 0504 (f d),making the membership of at least 210° and located externally to aafd.

b) External - by the line parallel to the aafd boundary line, up to the distance of 370m.

c) The maximum heights allowed for essential equipment in relation to the helideck, such as luminaires and firefighting equipment existing in the SLO and external to AAFD, should not exceed 0.25m, or exceed 0.05m for helideck where the value D is less than 16m.

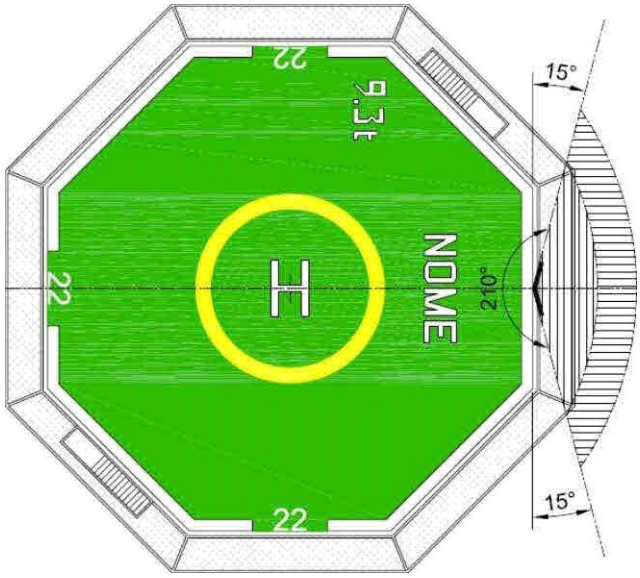
d) The characteristics of the SLO, depending on the positioning of the helidecks on the ships, are described in the following annexes:

1) Helideck on the side of the main deck of ship - in accordance with subpoint 3, to follow;

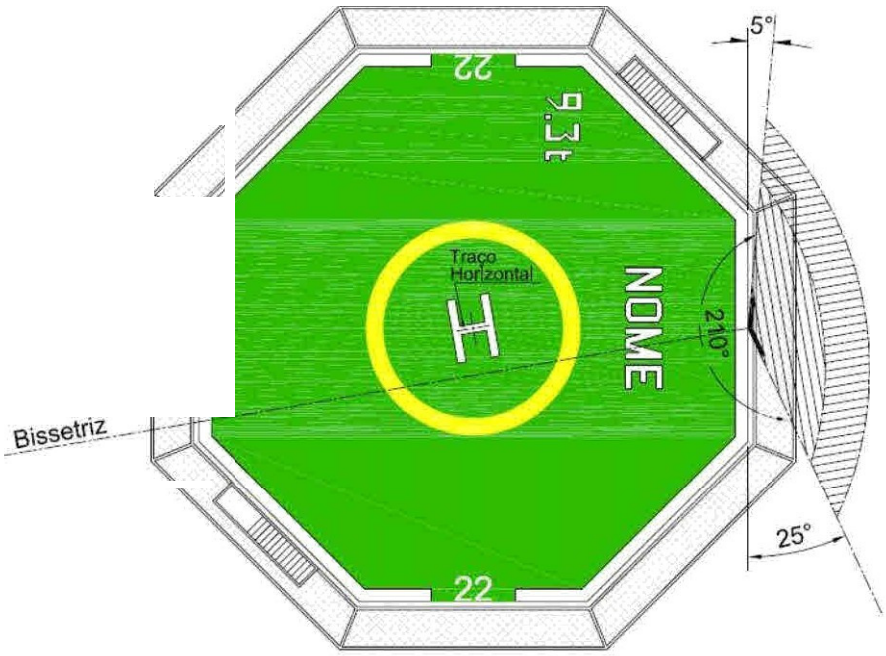
2) Helideck on the bow or stern of ship (Annex 4a);and

3) Helideck to ship half-ship (Annex 4-B).

e) The SLO bissetriz should normally pass through the center of the Touch Area, as shown in the following illustration:



f) It is acceptable to vary by up to 15º clockwise or counterclockwise, however, the "H" should be directed so that its horizontal fi trace parallel to the210º varied SLO bissetriz, as illustrated in the following figure:



Observações:

1) Para o SLO, a distância horizontal dos obstáculos abaixo do nível do helideque, fora do setor do gradiente negativo, deverá ser tal que forneça uma separação vertical segura compatível com os modelos de helicópteros classe de desempenho 1 e 2, no caso de perda de um motor no pouso ou na decolagem.

2) Mesmo com a rotação do Chevron as medidas do SOAL deverão ser realizadas do centro do sinal de identificação.

3) Sempre que o helicóptero não é manobrado inteiramente dentro do SLO, na sua trajetória para o pouso, o risco de colisão com obstáculos aumenta significativamente.

4) Em um acidente aeronáutico, com cinco vítimas fatais, ocorrido no Brasil em 2003, o rotor de cauda da aeronave atingiu um mastro da embarcação porque na trajetória escolhida para o pouso, o helicóptero não foi manobrado inteiramente dentro do SLO. Em 2012 e 2017, outros dois eventos com impacto do rotor de cauda em obstáculos fora do SLO e SOAL ocorreram pelo mesmo motivo.

0403 - GRADIENTAND NEGATIVE

It is necessary to consider the possibility of the aircraft losing flight height during the last moments of its approach or that it cannot keep the flight horizontal in the first moments after takeoff. In this way, protection should be provided below the helideck n ível in this critical sector.

Regarding the top view of the helideck, from its center, imagining a line perpendicular to the slo's angle *(chevron)* angle, should be considered a sector of at least 180º. With respect to the perfil view, the sector is counted from the end of the protection screen to the water surface, with the gradient from 3m (vertical) to 1m (horizontal). This sector should not contain obstacles affixed to the platform or floating as illustrated in Annex 4-C. In the accesses (BOMBAV platforms) will be counted from their baluslate, but the alert strip should be painted as described below.

No obstacle should be allowed in this sector of 180º, except for the

ships performing *offloading operation,* where they can be accepted, and must be confined to an arc not exceeding 120º (one hundred and twenty degrees) subtended from the center of the helideck and meet the requirements, such as that presented in Annex 4-C.

For the marine units built, or with the construction begun, before 12 August 2011, as well as those whose projects are prior to the aforementioned date and present restrictions on the adequacy to this requirement, the operation will be allowed, provided that the Shipowner and/or Responsible by the Unit presents a Risk Analysis Ratio, based on the manual of each aircraft to be used, containing the procedures for mitigating risks.

In this case, a range of fifty centimeters wide, in black and yellow colors, next to the aafd boundary line, in the direction of the obstacle, as described in Annex 4-C,should be painted in order to alert pilots how much their existence.

The Comman and/or Unit Manager shall adopt procedures to ensure that aircraft pilots are informed of the existence of obstacles with regard to the negative gradient.

The requirements for the inclusion of maritime units in this exception will seedpc be forwarded to the CPD, with the appropriate justifications.

0404 - OBSTACLE SECTOR WITH LIMITED HEIGHTS

It is a sector of 150º, adjacent to the SLO, where obstacles with limited heights are allowed in relation to the helideck level, according to Annex 4-D. The sector is defined in the horizontal plane coinciding with the helideck plane by the following limits:

a) Lateral - semi-straight originating at the reference point, coincident with semi-straights defined for the SLO, making each other the 150º angle (anorgumulo replementar to the angle of the SLO) and located externally to AAFD.

b) External:

1) by the circle arc originating in the center of the touch area and radius equal to 0.62D, where obstacles with a maximum height of 0.25m are allowed, counted from the origin of the *chevron,* and

2) by the circle arc originating in the center of the touch and radius of 0.62D and 0.83D, where obstacles are allowed from 0.25m; obeying an increasing gradient of 1:2m (a vertical unit for two horizontal units), in the directions of the angulo from 150º to 0.83D, as detailed in the illustration of Annex 4-E.

c) For helidecks located in half-ship, SOAL must have at least the dimensions indicated in article 0402 (d) figure

d) For helidecks located on the sides of the vessels, the obstacles located in the SOAL shall have at least the dimensions indicated in article 0402 (d) figure

e) It may be necessary a painting scheme or other device to highlight obstacles close to the helideck, such as chaminés, antennas and other buildings, in order to highlight them for better visibility of the helicopter crew. Typically, obstacles are painted with diagonal stripes in red and white, black and yellow colors or other combinations of contrasting colors with existing structures, according to Annex 4-E. It should be avoided the installation of whip-type antennas in places near the limit bounded by the semi-sections originating at the reference point, as they are difficult to visualize by pilots during landing approaches. In the case of units that have

antennas in this situation, an alternative is to use devices with colors that enhance their position, provided that they are not able to fall apart from the turbulence caused by the Engines

f) It is not recommended for the aircraft to make the approach to the landing by the Problem.

g) The crew must keep within their field of view the obstacles existing in SOAL during landing and take-off operations. The tail rotor must be facing the obstacle-free area.

Note: Theoretically outside the SLO and SOAL there may be unlimited obstacles.

0405 - Exceptions

Exceptions are listed in the Deadline Table for Compliance with Requirements and Exceptions, published on the DPC's website; the Maritime Authority recommends the consultation and prior arrangement by helicopter and vessel operators of the exceptions and deadlines of this table, especially when operating in areas with difficult internet access.

0406 - Coupled vessels/marine platforms

When coupled, vessels/sea platforms may use a 180° SLO while maintaining the painting of their driver's license. Annex 4-F.

Coupled vessels/platforms are those joined by a passagin *(Gangway),'* are not considered coupled vessels/platforms, operations involving only cable and duct passage (e.g.: vessels in the service of divers, performing pull in *or offloading maneuver).*

CHAPTER 5

VISUAL AIDS

0501 - PURPOSE

This chapter is intended to present the visual signaling and lighting aids of helidecks on board maritime platforms and vessels.

0502 - GENERAL PROVISIONS

The signaling and lighting aid was developed, mainly, to assist approximations of non-precision and operations in visual weather conditions.

0503 - WIND DIRECTION INDICATOR (BIRUTA)

At least there should be an indicator of wind direction, placed in a very visible place, but it does not subject the turbulence and that does not pose danger to the maneuvers of helicopters. A beather should be placed as close as possible to the helideck. These beadings should receive the "clean" wind, without the effect of the structures.

On some maritime platforms or embarcations, more than one wind direction indicator may be required, due to the fact that air above landing and takeoff is subject to a disturbed flow depending on wind direction and existing obstacles

The wind direction indicator must be made with high strength fabric, in the colors white, yellow, orange or with combination of two colors (orange and white, red and white, and black and white), and the option should be by the color that offers their ability to contrast with the bottom of the structure. You should be able to rotate freely in the 360º in any weather conditions and wind intensity. The specifications of this indicator are shown in Annex 5a.

The wind direction indicator devand be illuminated by white light if night or low visibility operation is required. The beam of light should be positioned so as not to overshadow the pilots' vision.

0504 - SIGNALLING AIDS

a) Identification Sign - for helidecks situates of the on maritime platforms and on vessels is the letter "H", which should be painted in white color, in the center of the Touch Area. The horizontal trait of the "H" shall coincide with the slo's angle bissetriz, except in the case of chevron *variation,* provided for in Article 0402 (f), when its horizontal trait must be parallel to the SLO's angle bissetriz. The "H" signal must have a height of 4m and the width of 3m, with the width of the ranges of 0.75m. For helidecks with a16m auuffle Dvalue, the dimensions of the "H" can be reduced to 3m x 2m x 0.5m.

If the floor is aluminum, the painting must meet that contained in item 0303 (b). The dimensions and positioning of the "H" are indicated in the illustration of Annex 5-B.

b) Maximum Permissible Load - is expressed in tons, with two or three digits, specifying the maximal resistance that the floor and its support structure

can bear. It should be painted in white color. The positioning of numerals must be as indicated in Annex 5-C and dimensions in accordance with Annex 5-D.
For the definition of numerals it should be observed:

1) whole values up to nine tons: they will be painted in 2 (two) digits, using zero in front;

2) decimal values should be approximated to the nearest and separated hundred pounds of the ton whole by a 'dot';

3) whole values accompanied by decimals, greater than 10 (ten) tons, will be painted with three digits, separating an integer from the decimal by a "point"; and

4) when painting is not possible as described above, due to lack of physical space, the characters may have their dimensions reduced by up to 1/3 of the predefined soc.

The models and dimensions of the numerals are indicated, in centimeters, in the illustration of Annex 5-D.

Note: This information refers to the maximum weight that the floor and its structure can withstand and not to the minimum takeoff weight of an aircraft model to be used in air operations on that helideck.

c) Limit of the Final Approach area and Takeoff - the perimeter of the AAFD should be demarcated with a track and 0.30m wide, in white color, as indicated in the illustration of Annex 5-E

d) Touch Area - must be demarcated with a circular strip of one meter wide, in yellow color, with an internal diameter of 0.5D, as indicated in the illustration of Annex 5-E.

The crew of the aircraft must orient themselves through the touch circle for a normal landing, so that when the pilot's seat is on the circular strip, and the wheels of the main landing gear are within the Touch Area, all parts of helicopter will be free of any obstacles with safety margin. It is noteworthy that only the correct positioning on the Touch Area will ensure an adequate distancing from obstacles. For helidecks with a value D below 16m to largura of the circular strip can be reduced to 0.5m.

The /\rea of Touch must present an non-slip surface for helicopter operations, according to the table on item 0305. The installation operator shall ensure that the helideck is free from oil, grease, ice, snow, water accumulated on the surface or any other contaminant (particularly guano) that can degrade surface friction.

e) Signage of the name and/or visual indication and indicative of the location of the platform / vessel- should be painted in white color contrasting with the color of the helideck floor. Its alphanumeric characters (name or visual indication) must be painted between the beginning of the SLO and the Touch Area Limit, as indicated in the illustration of Annex 5-C.

When the name and/or visual indication is a composition of letters and numbers, ararar Roman numerals of the same size as the letters should be used and can be separated by a dash.

The platform name cannot be covered by the non-slip network.

In order to facilitate the identification of the maritime unit by the

aircraft, helidecks will have their locality indicative painted in white characters, in the diametrically opposite position the position provided for the name or visual indication of the platform/vessel, between the touch area and the limit of aafd, conforme illustrated in Annex 5-C. This painting must occur within 15 days of receipt of the indicative through ANAC or DPC.

The dimensions and spacing between the characters must be in accordance with Annex 5-F. When painting is not possible as described earlier, due to lack of physical space, characters may have their dimensions reduced by up to 1/3 of the predefined size.

Chevron - geometric figure painted in black color, on the outside of the band that defines the AAFD Limit, in the form of "V", where its vertex defines the origin of the SLO. Each chevron "leg" will be 0.79m long and 0.1m wide, for- i have an angle as shown in the illustration of Annex 5-G.

In the impossibility of painting in the place described above, the *chevron* may be painted in the range of the track that defines the AAFD Limit; even so, the origin of the SLO will continue to be considered on the outer periphery of the AAFD boundary line, as indicated in the illustration of Annex 5-G.

Chevron's painting site must follow the guidance indicated in Annex 5 G.

Observations: - Chevron's goal is to provide visual guidance to ALPH, so that it can ensure that the 210º of the SLO is free of obstructions before releasing the helideck that for a helicopter to land or take off.

- In the old vessels/platform, authorized to have helideck with 180º SLO, chevron paint will not be required.

g) Helideck signaling prohibited - for certain technical or operational reasons, the helideck may be temporarily or temporarily banned for operations with aircraft operating in AJB. In such circumstances, the "closed" state of the helideck indicated by the sign indicated in the color and dimensions of Annex 5-H, should be painted(if definitive) or attached a canvas (if temporary), on the identification sign 'H'.

h) Safety Warnings - panels near the accesses should be placed in well visible locations, painted with black letters on yellow background, with dimensions of 0,80m x 1.60m, with black border of 0.05m, in Portuguese language or if in Portuguese and English, with dimensions of 1.20m x 1.60m, with black border of 0.05m or one in each language with the previous dimension, and with recommendations to be followed by passengers, who board or disembark from helicopters and links too many users of the previous dimension, and with recommendations to be followed by passengers, who board or disembark from helicopters and links too many users of the aircraft, with the characteristics, detailed in Annex 5-H.

Warnings for passengers boarding or disembarking may be painted on the bulkheads of the sea platforms and on the vessels, provided in a very visible location. It isoibida your placement on the protection screen.

i) Marcação do valor de “D" - deverã ser pintado na cor branca, no perímetro do helideck, na faixa que delimita a AAFD, o valor de “D”, approximate para o inteiro mais próximo. O posicionamento e as dimensões desta marcação estão mostrados nas ilustrações do Anexo 5-G.

0505 - LIGHTING AIDS

The lighting aid necessary to comply with Article 0502

are listed below. No other platform light device may interfere with helideck lighting when it is being used for the orientation of aircraft approach, landing and takeoff, in conditions of redu zida visibility and especially in the night time, on an emergency basis.

a) End Approach area limit lights and takeoff - spaced green lights of, in the mãximo, 3m, and tangents to the boundary line of the AAFD, with dystãnci a tolerance this line of up to 0.50m and with a maximum height of 0.25m, regardless of the helideck format as shown in the illustration of Annex 5-1.

The installation of the lights should be taken into account that they cannot be seen by the pilot from a position below the elevation of the helideck.

For square or rectangular helidecks there must be a minimum of 4 (qua-tro) lamps of each lado includes ndthe one in each vertex, respecting the same 3m of misimoss spacing between them.

For circular Helideck the lights must also be spaced along the aafd boundary line, with a minimum of 14 (fourteen) lamps.

These lights must have a minimum intensity of 30 candelas (cd) and may not exceed 60cd. The material used in the manufacture of the luminaires must be frank able or "turtle".

Turtle-type luminaires can be installed on the AAFD boundary line, with a maximum height of 0.05m.

The color of the perimeter lights must follow the standardized by ICAO (2009), Annex 14, Volume 1, Appendix 1, paragraph 2.1.1, item c - chromaticity limit

These lights will be lit, in the day time or night, whenever the helideck is ready and checked for air operations; should remain apagadas when not in air operations.

b) Obstacle lights - Incarnate and omnidirectional fixed lights should be installed in the obstacles and obstruction points existing in helideck AAFD adjacencies and at the highest locations of the sea or vessel Plata that may pose in danger to air operations. These lights must have an intensity of at least 10cd.

At the highest point of the maritime platform or vessel, a fixed, omnidirectional and incarnated obstacle light should be installed, with intensity between 25 and 200cd. When placement is not possible at the highest point, the closest possible end should be placed.

When it is not possible to install lights on obstacles and obstruction points, reflectors should be used illuminating them as an alternative solution. Reflectors should be positioned in such a way as not to overshadow the pilots' vision at the time of landings and takeoffs. The reflectors must be designed to produzir a luminosity of at least 10cd/m2.

c) Helideck condition lights *(status light)* - An alert system should be installed as aid to alert conditions that may be dangerous to the helicopter or its occupants.

The helideck condition light consists of an incarnate light, flashing (flashing), installed near the aafd boundary line, and there may also be elsewhere on the vessel/platform, so that it is visible in any direction of aircraft approach.

The *light status* must be switched on and off manually by ALPH and the

RPM, and be visible at a distance of at least 1400m, having a minimum intensity of 700cd, between 2°and 10º above the horizontal plane of AAFD and at least 176cd in all other elevation angles.

Observations:

- the key on/off the *light status* must be found for the ALPH next to the helideck and rpm within the EPTA.

- the vessel that has automatic light *status drive,* by extrapolating some HMS parameter, the switch is not required to turn off on the EPTA.

Chromaticity and light intensity should follow icao standard (2009), Annex 14, Volume 1, Appendix 1.

d) Touch Area Lighting — all toqu area and must be adequately illuminated in order to provide depth notion for pilots.

The best way to achieve proper lighting is to use built-in lighting in touch circumference and letter 'H'. This lighting can be made by using LED technology or by light cords. The system must be assembled in such a way as not to allow the commitment of its sealing and according to cap 437 (2016), apd C - Standards for Offshore Helicopter Landing Areas *and cap* 1077 (2013) *Specification for Offshore Helideck Lighting System - UK Civil Aviation Authority.*

When it is not possible to install or when the lighting described above cannot be installed, spotlights may be used for touch area lighting, so that the lighting provides depth indications that allow the pilot to deduct the helicopter's approach as is. These in tips are essential for positioning the helicopter during the final approach and landing.

Spotlights must be properly installed to ensure that the light source is not directly visible by the pilot at any stage of the landing. Illumination should be designed to provide an average horizontal illumination of at least 10cd with a uniformity rate of eight to one.

The spotlight may be controlled by the ALPH and its intensity may be reduced or off at the request of the pilot.

CHAPTER 6

OPERATIONAL PROCEDURES

0601 - PURPOSE

The purpose of this chapter is to describe the operational procedures to be adopted by the crew directly involved with air operations.

0602 - QUALIFIED PERSONNEL

On the occasion of air operations, the helidecks of the hab itadas maritime platforms and vessels must be guarded by:

a) Aviation Fire Maneuvering and Combat team (EMCIA), consisting of:

1) a Helicopter Launch and Landing Agent (ALPH), who must be the leader of emcia and be able to operate the portable air-friendly VHF transceiver radio, ready to communicate about risk situations or in case of emergency, in the language Portuguese, pilots and/or radio operator, and operate the portable maritime VHF transceide, ready to communicate with the rescue vessel;

2) two (category H1) or three (categories H2 or H3) Aviation Firefighters (BOMBAV), aiming at the guarnecement of foam monitors and assistance in case of emergency; and

3) Helideck Assistant (AHD), when necessary, personnel assisting in the loading or unloading of material and passengers, must have the Aviation Fire Maneuver and Combat course (MCIA), affection to BOMBAV, as well as fuel suppliers, if any.

b) Sea Platform (RPM) - must remain at the frog station (Telecommunications and Air Traffic Service Provider Station (EPTA) of platforms or vessels, aim to establish bilateral communications with the aircraft, in the language Portuguese.

c) Rescue and Rescue Vessel Crew - consists of three crew members, one of them in the role of boss, all qualified for rescue and rescue activity and dealing with the necessary personal protective equipment (EPI).

EMCIA components, rescue vessel crew, Radio operator and fuel suppliers will not be able to accumulate other functions during the air operations period.

0603 - OPERATIONAL ASSIGNMENTS AND RESPONSIBILITIES

Each crew member engaged with air operations must be properly qualified and trained to perform the functions of their responsibilities.

The certificates of technical qualification (CHT) of the courses, ALPH, BOMBAV, RPM and the crew of the Rescue Vessel, must be presented at the time of the inspections.

The Aviation Fire Maneuver and Combat course carried out in the country, in an institution accredited by the CpD, shall meet that contained in the NORMAM-24/DPC or, if carried out abroad, those who are within the expiration date and are issued by the Foreign Maritime Authority or by subordinate organization, or by an accredited institution provided that they have been endorsed/approved by it.

Companies wishing to teach this course will be certified and can be audited by the DPC.

THE ALPH and BOMBAV will have their performances evaluated at the time of the

Torias.

The Radio operator course in Maritime Platform must meet the requirements established by the Institute of Airspace Control (ICEA).

The course established for the master of the Rescue Vessel must meet the requirements set out in Chapter VI, section A-VI/2 of the STCW Convention 78/95 and the other two components must have basic first aid training, the specifications of which are shown in Table A-VI/1-3 of that Convention.

a) Helicopter Launch and Landing Agent - is the crew member responsible for coordinating air operations, reporting the helideck, EMCIA's leadership.

The ALPH must:

1) know the requirements for helidecks set out in this standard;

2) fire-resistant jumpsuit (RF)

3) wear contrasting color vest in order to be easily identified;

4) be equipped with a portable aeronautical VHF transceiver, tuned to the aeronautical frequency of the Helideck EPTA;

5) communicate directly with the aircraft to alert pilots to risk situations;

6) check and maintain communications with the Command, the Radio operator and the crew of the rescue vessel, through the portable seabed VHF transceiver radio, throughout the period of the air operas;

7) use the Portuguese language in communications with the aircraft;

8) observe, at the time of landing and takeoff of the helicopter, any hazardous situation and use the aeronautical VHF transceiver for communication with pilots; visual signals may also be used according to ICA 100-12, Annex A, items 3 and 4.

9) know the functions of all EMCIA components;

10) coordinate firefighting in the helideck;

11) know the emergency exits, doors, luggage compartment, main equipment and dangerous areas of aircraft operating on the helideck;

12) secure the helideck at least 15 (fifteen) minutes in advance in relation to the estimated time of landing of the aircraft on the platform/vessel;

13) maintain the helideck garnished after takeoff of the helicopter, for at least 15 (fifteen) minutes or until it establishes contact with another unit;

14) ensure that, before take-off, passengers are aware of the normal and emergency procedures of the helicopter *(briefing)',*

15) supervise all activities on the helideck such as:

I) boarding and disembarking of personnel and material; II) helicopter supply;

III) check that the cargo and/or luggage are trapped and locked;

IV) ensure the weighing of personnel, cargo and baggage;

V) paving and/or tanning of the aircraft;

VI) keep luggage and loads isolated after weighing; and

VII) sign the air transport manifest (MTA).

16) conduct training with EMCIA components every time there is class exchange, and register in a specific book (with date, names and subject) addressing the following issues:

I) familiarization with copter hel operating on the helideck;

II) helideck characteristics (capacity, signaling and extinguishers);

III) handling of firefighting equipment;

IV) helicopter crash procedure at sea, including the maneuver ing of the rescue dinghy;

V) firefighting procedures;

VI) helideck guarnecement procedure; And

VII) reading accident prevention reports.

17) ensure that, before air operations, the helideck is prepared, complying with the following procedures:

I) DOE patrols on helideck and nearby conveses; II) check the biruta (conservation status and free movement)

III) or remove obstacles within the SLO and SOAL,

IV) check that the cranes are de-energized in cots or in a safe position;

V) check the support and rescue material;

VI) do communication test with Radio operator and Rescue and Rescue Vessel;

VII) perform AAFD light tests;

VIII) check the condition light status of the helideck *(status light),*

IX) Test the monitor cannons with water and keep them pressurized during helicopter operations;

X) limit the three-way of people in the helideck to the personnel involved;

XI) hold *briefing* and *debriefing* with EMCIA components;

XII) check that bombav are equipped and positioned on their proper monitors (foam cannon) and ready to fire;

XIII) check the integrity of the protection screens; and

XIV) report "helideck released for pouso" for or radio operator.

18) perform, in the landing and takeoff phase, visual scanning of the horizon in order to identify risks in the trajectory by not releasing landing or takeoff until this trajectory is free of possible obstacles, instructing rushes, if necessary; vessels and birds may constitute obstacles to air operations.

19) know the PEA/PRE.

b) Aviation Firefighters - are specifically qualified crew members to guard firefighting equipment during helicopter operations.

BOMBAV should:

1) provide basic protective clothing and accessories, conforme described below:

I) approaching clothing or 7/8 cover for firefighting;

II) balaclava mask;

III) ear protector;

IV) fireman's helmet;

V) fireman gloves; and

VI) fireman boots.

2) know the emergency exits, doors, luggage compartment, main equipment and hazardous areas of aircraft operating on the helideck;

3) garnish the helideck at least 15 (fifteen) minutes in advance in relation to the estimated time of landing of the aircraft on the helideck;

4) during the supply of the helicopter, remain ready to stand in the cannons monitors ready to be triggered;

5) request test of the monitor cannons with water and keep them pressurized during helicopter operations; and

6) know pea/pre

c) Helideck Assistant - are specifically qualified crew members for

assist alph on the occasion of the boarding and disembarkation of personnel and material, as well as replace bombav in immediate needs. Should:

1) fire-resistant jumpsuit (RF) and PPE;

2) wearing contrasting color vest in order to be easily ide stained;

3) know the emergency exits, doors, luggage compartment, main equipment and dangerous areas of aircraft operating on the helideck;

4) secure the helideck at least 15 (fifteen) minutes in advance in relation to the estimated time of landing of the aircraft on the platform/vessel;

5) coordinate with ALPH the boarding and disembarkation of personnel and material; and

6) know the PEA/PRE.

d) Radio operator in Plataforma Marítima - EPTA "M" - professional possessing the Technical Qualification Certificate (CHT), issued by the Department of Airspace Control (DECEA), after completion with the use of the CNS-014 taught by ICEA (FAB). The vain CHT must be presented at the time of inspections on the helideck.

The Radio operator must:

1) trigger emcia and the crew of the Rescue Vessel at least 15 (fifteen) minutes in advance of the estimated time of landing of the aircraft on the platform;

2) trigger crane operators to deenergize all appliances and position in the cribs or in a safe position, previously defined and not interfere with the SLO and the Helideck SOAL;

3) maintain radio contact with the aircraft by transmitting the necessary aeronautical information. Administrative matters should be dealt with ALPH when landed;

4) keep permanent listening until the landing and "cutting" of the helicopter engines on the platform/vessel and after takeoff until it establishes contact with another unit;

5) use the Portuguese language in radio communications, carried out between the platform and aircraft, in the Brazilian Courts;

6) maintain communications with alph and the rescue boat crew throughout the air operations period;

7) provide the following information:

I) the course of the vessel (where applicable) or appesing, informed in *g* raus in relation to the magnetic North;

II) direction and intensity of the wind, informed in degrees and we (kts), in relation to the northern nética mag, on average of the last 2 minutes; and gusts of wind (where applicable);

III) temperature, reported in degrees Celsius;

IV) sea condition on the Beaufort scale and, if possible, the temperature of the water;

V) *pitch* (caturro), *roll* (balanço), *heave* (arfagem), *heave rate* (velocidade inclination (inclination) of the vessel, the maximum values of the last 20 minutes; indication of HMS light (green or red) and the condition light status of the helideck *(light status* - on or off);

VI) fortification of the helideck; and

VII) known movements of nearby aircraft.

8) warn, where applicable, through the vessel's speaker system/Platform: "Vessel in air operations, the use of RPA is prohibited".

9) know the PEA/PRE;

10) transmit data on weather conditions and vessel movements to helicopter operators and ground support units;

11) adjust on HMS the correct category of the aircraft that iran land on the helideck;

12) prior to air operations, request the technician responsible for maintaining EPTA to verify the operation and recording of hms video, industry and data system;

13) Preencher the communications registration book (LRC) until the approval of the voice recorder by the Air Force; and

14) immediately inform the Aircraft Commander when gas leakage or helideck condition change (red light on HMS and/or *light status* on) on the vessel/platform.

e) Rescue and Rescue Vessel Crew

The crew of the rescue vessel must:

1) keep the vessel ready and guarded for sea launch so that it is in a position to start its commute at sea to carry out the rescue within 2 (two) minutes during air operations;

2) maintain communications with ALPH, Radio operator and Command throughout the period of air operations, through portable maritime VHF transceiver frog;

3) be able to carry out first aid and rescue survivors of an aeronautical accident at sea near its platform;

4) use seat belts when on board the rescue vessel, during the execution of the lifting and lifting maneuvers, connecting it in a safe place on the rescue vessel or the look of the lifting/lifting cable; and

5) know the PEA/PRE.

f) Helicopter Commander

The Helicopter Commander must:

1) know NORMAM-27;

2) know the rules of the Air Force Command and the ANAC in force;

3) maintain bilateral contact with the protective bodies for flight, platform or vessel;

4) communicate, via frog, with the vessel/destination platform at least thirty minutes in advance of the time scheduled for landing. If the flight time is less than thirty minutes, the communication shall be made after takeoff;

5) comply with safety standards for the transport of external cargo and restricted items;

6) accept the receipt of properly tested fuel on the aircraft under your command;

7) report to your company the irregularities found;

8) check, before landing/takeoff, whether in the vicinity of the helideck there is a vessel that may interfere with its operation in case of need for use of single-engine performance of the helicopter;

9) note that in view of the greater removal of the obstacles from the installation, it is recommended that the aircraft make the approach to landing by the SLO. Observe point (g) of item 0404; and

10) comply with the aeronautical regulations in force when moving to helidecks or helidecks adapted to vessels/platforms.

g) Helicopter Operator Company

The Helicopter Operator Company must:

1) provide training on NORMAM-27 for helicopter pilots;

2) communicate to ANAC and the owner or shipowner or operator, to the platform manager or vessel commander, irregularities found in the helidecks by the Commanders of the Helicopters;

3) ensure that before flights to platforms/vessels, all passengers attend the safety *briefing;*

4) inform the platform operator the wind envelope for landing and takeoff, wind limits for engine start-up and stop, and the balance sheet limits *(roll,* pitch) and arfagem *(heave)* for air operations, with regard to plataforbut or vessels;

5) inform the operator of the scheduled time for landing and takeoff on the destination helideck; and

6) ensure that landing and takeoff operations are carried out only within the limits defined in the landing envelope and takeoff of the ero helicopter.

h) Owner or Shipowner or Operator

The owner/shipowner or operator must:

1) ensure that the helidecks meet the requirements set out in this Standard

2) ensure that before flights from platforms/vessels, all passengers attend the safety *briefing;*

3) inform the CpD and helicopter operators any change in the conditions for which the Helideck Registration Ordinance was issued;

4) for the movement of platforms or vessels, proceed according to what prescribes Chapter 2 of the Standards for Traffic and Permanence of Vessels in Brazilian Jurisdictional Waters - NORMAM-08/DPC and consider the conditions that will influence operations, such as alignment of the approach and takeoff axis with the predominant average wind on site and the location of burners, exhaust ducts of turbines or air coolers, so as to interfere in the non-interfere so that they interfere in the approach and takeoff trajectory or on the surface of the helideck;

5) ensure that landing and takeoff operations are carried out only within the limits defined in the landing envelope reported by the helicopter's operating company;

6) provide air transport between the host town of the CPD and the city closest to the platform to be inspected; land transport, in urban displacement; and lodging of the Surveyor Scans; and

7) provide mb's Survey committee with an exclusive *offshore* flight for the relevant platform/vessel for the inspections provided for in this standard.

0604 - VIDEO AND VOICE RECORDING SYSTEM

The helideck must have a video recording system, with continuous recording and without using motion sensors, to record air operations (final approach, landing and takeoff) with visualization according to the layout of Annex 6A, and voice recording, for recording communications between the aircraft and the Radio operator. To improve the control and adonization of their operations, airlines will be able to request the recorded images from the maritime units, which must share tas.

Video and voice recording system records should be stored

according to the deadlines established in the Data Preservation Procedures contained in the Instruction of the Air Force Command (ICA) no. 63-25, for the voice recording system.

In the case of the inoperãncia of the helideck voice and video recording system, the head of the maritime unit shall immediately communicate the fact to the CPD, estimating the deadline for restoring the operational condition. At the cpD criterion, if the time for repair ing the systems considered excessive, palliative control measures may be applied or even operational restriction.

RPM must have a video monitor on the radio station for helideck viewing.

This system is a valuable tool for investigation in the event of aeronautical accidents and prevention in relation to possible future occurrences.

0605 - STATUS LIGHT

The *light status* when connected will mean that the helideck does not offer safe conditions for landing and aircraft must remain away, or, if already inns, in case of risk to the marine unit (gas leakage), they must take off immediately or turn off their engines; when the light status is erased it means that there is safe condition to operate on that helideck.

On drilling and/or production platforms this system must be connected to the alarm system and is automatically triggered in case of gas leakage in the marine unit.

When the helideck is un-guarnecified, in an area with many vessels/platform, or when the limits provided by the Helideck Monitoring System -HMS are outside thermometers, or the vessel has an alarm system triggered that interferes with the operation of the helideck, the light *status* must remain on.

At night, if no air operations are expected, all helideck lights may be turned off.

Note: The Aircraft Commander shall be informed immediately by ALPH and/or RPM when gã scan leakage or helideck condition change (red light on HMS and/or *light status* on) on the vessel/platform.

0606 - SANCTIONS

Helidecks may only operate with helicopters if they are certified and approved, respectively, by MB (DPC) and ANAC, in conform age with this standard.

The misuse of helidecks, detected in surveys, reported by a helicopter operator or through proven complaints, will result in the penalties provided for in the legislation in force, which may result in the suspicion, definitive or temporary, of air operations by ANAC, at the request of the CPD or DECEA/CINDACTA, when applicable.

CHAPTER 7

FIRE PREVENTION AND FIRE FIGHTING 0701 - PURPOSE

Describe the basic requirements for fire prevention and firefighting in platform and vessel helidecks.

0702 - GENERALITIES

The basic requirements for fire prevention and firefighting and rescue vary depending on the helideck category.

The fire on board aircraft has two main origins: fuel and electric. In both possibilities pilots have resources, extinguish ores in the compartments or inside the aircraft, to combat it. However, after landing, crash, incident or accident on the helideck or at sea, they may need external help.

The fire fighting on the helideck should be coordinated by the ALPH which should maintain, if possible, contact with the aircraft crew.

0703 - FIRE FIGHTING

a) Foam application system - every helideck must have a firefighting system, equipped with a few foam generators, preferably equidistant, which guarantees its application throughout the helideck and meets the requirements listed in table c below. The maximum time for the start of the use of the foam should be 15 (fifteen) seconds from the activation of the foam monitors.

In the case of the use of "foam monitors (cannons" the helidecks:

1) category H1 must have at least 2 (two) foam monitors; and
2) categories H2 and H3 must have at least 3 (three) foam monitors.

In the case of using the *pop-up spray system,* it must be equipped with two hose lines, with sufficient length to reach any part of the helideck, in order to allow access to the interior of the helicopter or replacing the system in case of failure. Such hoses may be equipped with nozzles, connected to the foam generator system, or alternatively with a manual foam applicator using bomb ones.

b) Chemical Powder and Carbon dioxide extinguishers - every helideck must also possess chemical powder and carbon dioxide extinguishers, with quantities and capacity, according to their category, listed in the following item.

c) Minimum number of extinguishing agents

Helideck category	Fire extinguishers of chemical powder	Portable carbon dioxide extinguishers	Minimum capacity of lge foam generator liquid tank (l) (AFFF 1%)	Minimum capacity of lge foam generator liquid tank (l) (AFFF 3%)
H1	1 unid x 50 kg	3 unid x 6 kg	90	250
H2	2 unid x 50 kg	3 unid x 6 kg	170	500
H3	2 unid x 50 kg	3 unid x 6 kg	250	800

Notes:

1) The minimum discharge ratio of foam monitors (cannons) should be 6 liters per square meter per minute;

2) The minimum discharge ratio of the hoses for foam production should be 250 liters per minute;

3) Chemical dust extinguishers should be positioned to ensure that the extinguisher agent reaches the center of the helideck and may be replaced by 25kg units;

4) One of the 'foam monitors' can be temporarily replaced by a water pressure outlet, with a hose equipped with nozzle and foam generator connection device. Alternatively, such a hose can be equipped with manual foam applicator using bombonas. The vessel/platform shall inform the situation to the CPD, setting the deadline for system notification;

5) LGE storage tanks must have the capacity identified in liters and have a level indicator or other instrument that reports the amount of liquid in the reservoir. If there is a manometer, this must have the measurement report, to be presented at the time of the survey;

6) The jets of the foam monitors should reach the center of the touch area, when activated simultaneously and the opposite helideck Finger, when triggered individually; and

7) The LGE storage tank may be temporarily replaced by bombonas, provided that they have their capacity in liters and have the quantity determined by the table above. The vessel/platform shall inform the situation to the CPD, setting the deadline for system notification.

0704 - RESCUE VESSELS

Platforms and vessels must have a rescue vessel, approved by the DPC, for the rescue of shipwrecked according to the publications International Convention for the Protection of Life at Sea (LSA).

Foreign-made rescue vessels may be accepted, provided they have a Certificate of Approval issued by the Foreign Maritime Authority.

The uninhabited platforms are exempted from owning the rescue vessel, but must have at least one life raft.

The lifting and lifting system should be tested when performing the simulated exercises. The time of risk must be recorded at the time.

The crew must use an individual seat belt when on board the rescue vessel, connecting it to the look of the lifting/ring cable during the lifting and lifting maneuvers thereof. The "talabarte" equipment may be used to increase the safety cable and facilitate movement on the vessel. The seat belt is part of the individual portion (PPE) equipment of the vessel crew.

0705 - TOOLS, SUPPORT MATERIAL AND RESCUE

Helidecks must be provided with tools and support and rescue material, which will be stored in cabinets painted red, adequate men

near the helideck and properly protected from the sun and rain. The chosen place shall allow, in the event of an accident, the materials to be moved to the helideck immediately.

The following items should be available for ready use:

a) Tools:

1) 1 (one) fireman axe for rescue (greater than 3kg);
2) 1 (one) crowbar of at least 1m;
3) 1 (one) rebar-cut rebar goldsmith of at least 0.60m;
4) 1 (one) manual saw for metals;
5) 1 (one) universal pliers, isolated, 8 (eight) inches;
6) 1 (one) 10 (ten) inch screwdriver;
7) 2 (two) belt trimming; and
8) 3 (three) portable flashlights.

b) Support Material:

1) 1 (one) scale with a minimum capacity of 150kg, with a vain measurement certificate, placed in the vicinity of the helideck, in order to weigh personnel, baggage or material to be shipped on the aircraft;

2) 3 (three) pairs of shims;

3) at least 4 (quatro) metal, or nylon peas, specific for mooring of aircraft, whose couplings are compatible with buffaloes. If it is not possible to fit between peats and buffaloes, cuffs may be used, or load mooring straps, with a ratio equal to or greater than that of the farts;

4) 1 (one) hinged or supporting ladder, with height compatible with the dimensions of the largest helicopter operating on board; and.

5) 1 (one) banned helideck signaling canvas, Annex 5-H. Note:

The shims must be compatible with the helicopter wheel. Offshore helicopter operation experience has shown that the most effective shim for use in helidecks is the "NATO sandbag" type. Alternatively, "triãng ulo de borracha" or one-piece back and a dre shims can be used. The "triangular rubber shim" is generally effective on platforms without nets.

c) Firefighting clothing:

Each BOMBAV must have a firefighting suit composed of:

1) approaching clothing and combat ing incenium or cover 7/8 for firefighter approach and firefighting;

2) balaclava mask;
3) ear protector;
4) fireman's helmet;
5) fireman gloves; and
6) fireman boots.

d) Rescue material:

1) a first aid portkit;
2) 3 (three) floating rigid stretchers with head immobilized; and
3) 1 (one) portable oxygen ampoule and 2 (two) masks.

0706 - UNINHABITED PLATFORMS

The helideck located on an uninhabited platform, where the rescue capacity is reduced, must be employed only for occasional landing.

When there are people on board, the platform must have at least one with the ALPH course, carrying an airoronãutic VHF transceiver or portable seafarer, at frequency to be combined with the crew during the briefing. The others do not need to have the BOMBAV course, but they need to know how to use the equipment and be equipped with the firefighting suit.

Platforms uninhabited because they do not have EPTA do not require voice recorder. In the units uninhabited the extraction of video images can be performed remotely.

When there are no people on board, uninhabited platforms should receive staff enabled for the shelter of the helideck. EMCIA should be conducted on the first flight and withdrawal on the last flight to/from the uninhabited platform

The following items must be available for ready to use at least:

a) Tools:
   1) 1 (one) fireman axe for rescue (greater than three 3kg);
   2) 1 (one) crowbar of at least one meter;
   3) 1 (one) rebar-cut rebar goldsmith of at least 0.60m;
   4) 1 (one) manual saw for metals;
   5) 1 (one) universal pliers, isolated, 8 (eight) inches;
   6) 1 (one) 10 (ten) inch screwdriver;
   7) 2 (two) belt trimming; and
   8) 3 (three) portable flashlights

b) Supporting material:
   1) 3 (three) pairs of shims;
   2) at least 4 (four) metal, or *nylon peas,* specific for mooring of aircraft, whose couplings are compatible with buffaloes;
   3) 1 (one) hinged or supporting ladder, with height compatible with the dimensions of the largest helicopter operating on board; and
   4) 1 (one) banned helideck signaling canvas, Annex 5-H.

c) Rescue material:
   1) 1 (one) portable first aid kit;
   2) 1 (one) floating rigid stretcher with bile imohead; and
   3) 1 (one) portable oxygen ampoule and 2 (two) masks.

d) Firefighting material:
   1) 3 (three) 6kg portable chemical powder extinguishers;
   2) 3 (three) portable 6kg carbon dioxide extinguishers; and
   3) 1 (1) firefighting system equipped with "foam monitor" that ensures the application throughout the helideck and meets the requirements set out in article 0703(c) table.

e) Combatand fire clothing:

Each EMCIA component, except alph, must have a firefighting suit composed of:
   1) approaching clothing and firefighting or 7/8 cover for firefighter approaching and firefighting;
   2) balaclava mask;
   3) ear protector;
   4) fireman's helmet;
   5) fireman gloves; and
   6) fireman boots.

f) Life-saving raft:

Approved according to the requirements laid down in the International Convention for the Safeguarding of Human Life at sea (SOLAS) and with capacity compatible with aircraft that can operate on that helideck. This ferry must have device for your frog toss in case of need.

Note: The above items are exceptions, all other items of this standard must be serviced by uninhabited platforms.

CHAPTER 8 FUEL SUPPLY

0801 - GENERAL PROVISIONS

This chapter contains general information on aircraft supply on sea platforms and offshore vessels.

The on-board fuel supply system must have:

a) storage tank;
b) discard tank;
c) distribution system;
d) pipes, filters and outlets;
e) a fuel supply hose line, with their respective supply nozzles (by gravity and/or pressure)
f) a ground wire sized to provide aesthetic discharge, compressing the minimum of 2.5m and terminals type male and "alligator"; and
g) a pump system that allows to debit 50 gallons UK (227 liters) per minute on the helideck, with a minimum pressure of 40 psi.

The design of fuel systems should provide for the containment of possible spills, as well as facilitate firefighting in these systems and also have the insulation capacity of other areas of the unit.

0802 - STORAGE TANK

The storage tank must meet the specifications of the *Intergovernmental/ Marine Consultative Organization* (IMCO). It must have filter ing steam and resources that allow recirculation through curding filter and separator, as well as drainage facilities.

Storage tanks must have:

a) external indication of tank capacity;
b) device for measuring level and fuel in the tank. If a probing rod is used, it should not touch the internal wall of the tank in order to avoid any scratching, especially on coated tanks; and
c) corrosion treatment and yellow finish.

0803 - DESTOD TANK

There must be an appropriate tank to dispose of the drained fuel samples.

0804 - DISTRIBUTION SYSTEM

The distribution system for transferring fuel from the storage tank to the aircraft shall include at least the components described below:

a) Pump - should be able to supply up to 50 gallons UK (225 liters) per minute under normal flow conditions and minimum working pressure of 40 psi and maximum of 60 psi. The remote start and break button must be located in the vicinity of the helideck and the emergency stop button must be near the pump. The flashing light of the pump's operating viso must be visible by the aircraft's supply team.

Normal and emergency operating manuals must be on board.

b) Filter equipment - filters with oalescedores and separators equipped with differential pressure gauge whose filter elements are in accordance with the standards in force. These filters should provide protection against particles of a micron and be arranged in the system so that drainage and recirculation through filters and supply nozzle can be carried out.

At least one monitor-type filter, whose filter elements meet current standards, must be installed immediately before the fuel passesto *the* supply mangote. The main purpose of such a device is to block the passage of aviation fuel if it has a water content higher than the acceptable limit.

Filters must have plates with the identification of the manufacturer as well as the filter elements, with the identification of the last inspection and exchange performed, in accordance with the standards in force.

c) Flow Meter - must be volumetric and sized to meet the flow rate and should be calibrated regularly in accordance with the manufacturer's recommendations. The flow meter should include a filter and an air eliminator.

d) Supply Mangote - must meet the standards in force and should be stored and the reel appropriate to its size and protected against the action of rain and sun rays.

e) Grounding cable - must be used to provide static electricity discharge before the start of supply. The ends of the cable must be connected, from one lado, to the distribution system and the other, to the structure of the aircraft through a frog disconnection device.

f) Supply Nozzle - aircraft supply can be carried out by gravity or pressure. It is recommended that the unit have both types of supply, to cover all aircraft models.

g) Protection Against Exposure to Time - the distribution system must be protected from weather, minimizing the deterioration of mangotes and contamination by dust and water.

0805 - MAINTENANCE OF THE FUEL SYSTEM

The storage, handling and quality control of aviation fuel is critical to the safety of air operations, as fuel contaminated by water or solid particles can be linked to engine erasure.

Minimum procedures for ensuring fuel quality.

a) Fuel Sample - regularly should be removed from the fuel supply nozzle samples to check for the presence of solid particles and water. Samples shall be packed in canisters whose requirements are set out to point(b). Where accessories are used in the collection of samples (funnel, etc.), they must be stainless steel, glass or aluminum and must be absolutely cleaned before collection in such a way as not to contaminate the sample.

Not being observed the presence of impurities (solid particles), the samples should be tested for the presence of water, using appropriate testing, such as the Shell Water Detector and *exxon hidrokit.*

b) Fuel Sample canisters - must be glass or stainless steel with two liters capacity in the mãximo and be absolutely cleaned before receiving the samples. The canisters with the samples taken and tested must have the test date affixed and must be stored for a minimum period of 48 hours, sheltered from light and heat.

The storage of such samples will be verified at the time of the surveys.

c) Storage Tanks - Static storage tanks must be subjected to regular inspections, with periodicity dependent on the constitutive material of the tank. If the storage tank is carbon steel with epoxy coating (in the light cor) it should be inspected at least once a year; if stainless steel are these inspections should take place every 2 (two) years.

The fuel quality certificate delivered by the supplier of the supplier to the operator for the last supply shall be presented to the surveyors.

The reports of the inspections carried out must be kept archived and may be checked at the time of the surveys carried out by the CPD.

d) Distribution Systems - must be inspected every 3 (three) months. In addition, they must be subject to daily, weekly and monthly inspections carried out by helideck stocking staff to ensure satisfactory fuel quality.

1) Daily Inspections - the performance of these inspections must be recorded in a book of its own and in the Daily Inspection Form, as model of Annex 8a. The following procedures must be followed.

I) Filters - remove fuel from the collector until clean. The sample should have the correct coloring, visually clean, clear and free of any solid material. The sample (QAV-1) should be analyzed, checking for signs of dissolved water, usando syringe and water detection cramp; and

II) Storage Tank - also remove a fuel sample from each compartment of the storage tank and verify its quality as described in point (a. Remove another sample from the hoseage extrem and check its quality as described above. Check conditions of drains, gasps and valves regarding physical appearance and leakage.

Retain the fuel samples taken according to items I and I above for at least 48 hours in order to allow them to be analyzed in the event of an air accident.

2) Weekly Inspections - the performance of these inspections must be recorded in a book of its own and in the Weekly Inspection Form, as model of Annex 8-B.

I) Differential pressure indicator - during supply, the differential pressure indicator reading should be noted and recorded in the filter registration technical sheets;

II) The whole system - the general verification of the entire system is necessary, with special attention to leaks and the status of connections, verifying that they are all clean and hermetically closed;

IV) Filters - Filters installed on the injectors and filling joints should be inspected and cleaned. During inspections, the sealing condition should be checked;

V) Mangote distribution - the filter should be removed and inspected; and

VI) Grounding cable - should be inspected for general conditions and electrical connections.

3) Quarterly inspections - Quarterly inspections must be carried out by qualified personnel. Inspections depend on the type of installation and serve as a general guide. Additional items can be included as needed.

These inspections shall be recorded in a book of its own and quarterly inspection form, as model of Annex 8-C. The following procedures should be followed:

I) Filtration units, decanting line, filter monitor and dispenser – the bter fuel sample and inspect the appearance and presence of water. Write down the sample inspection results in the respective records sheets. If the samples are unsatisfactory, this may indicate the presence of bacteriological growth in the separator. If this occurs, open the filter container and inspect for the presence of detersive additives, bacteriological presence, mecemic damage and the condition of the coating (if applicable). Clean any tank and run water test on the water stopper;

II) Mangote - perform visual inspection of the hose while under pressure system. Inspect external damage, dents, cokes, leaks and any other sign of defect. Carefully inspect the hose sections within 45 cm of distance of the joints, as these sections are especially prone to deterioration;

III) Pump- remove, clean and inspect the filters. If it is pneumatic, remove the lubricant units from the air line, regulator and water separator, and perform the necessary maintenance;

IV) Mangote reel - check the correct operation of the reel mechanism and lubricate the mechanism gears;

V) Supply nozzle - inspect the operation to ensure that the operation isso correct and that there are no leaks. Visually remove, clean, and inspect tapered filters and replace if necessary. The dust caps must be properly positioned and fixed; and

VI) Grounding cable - inspect, as to the general and continuity, the claws and connecting pins, replacing them if necessary.

4) Mid-annual inspections - half-yearly inspections must be carried out by qualified personnel. They shall include all elements of the quarterly inspections, in addition to including the procedures below:

I) Filtration units, decanting line, monitor filter and distributor - inspect the operation of the differential pressure indicator (replace the filter element if the differential pressure limit has been exceeded); and

II) Pump - inspect all electrical circuits. Inspect the oil level dgear box as appropriate. Inspect whether the junction between motor and pump is worn or with misalignment signals. Check the maintenance schedule recommended by the pump manufacturer for additional items.

These inspections shall be recorded in a book of its own and in the Six-monthly Inspection Form, as model of Annex 8-D.

Observation:

All items in the system can be checked at the time of the survey, including with the removal of samples para the performance of tests.

0806 - AIRCRAFT SUPPLY PROCEDURES

ALPH must be notified before the start of supply.

The supply of aircraft must be carried out by qualified personnel

The Vessel or Platform approved for the supply of aviation fuel shall have certified personnel for this supply throughout the type-approval period of the helideck.

All passengers must disembark from the helicopter and withdraw from the helideck before the start of the supply. The firefighting team must be ready during the entire supply operation.

The following procedures shall be carried out at the time of the filling in:

a) draw fuel sample from the end of the nozzle for the gravity supply or drainage point of the water separator for pressure supply;

b) perform water detection test. One of the pilots must face-to-face the test to verify that the result is within the acceptable limit;

c) connect the grounding cable to the aircraft;

d) connect the pressure supply outlet to the aircraft. The head of the faina should position itself near the supply point. If the supply is by gravity, the tank outlet of the aircraft must be opened and the supply nozzle is inserido. The supply must be controlled and interrupted by the pilot as soon as it confirms receipt of the desired quantity. Gravity supply is not recommended simultaneously with rain;

e) trigger the valve and immediately if any abnormalities are observed during supply;

f) remove the supply nozzle or disconnect the pressure supply outlet as the case may be, and replace the aircraft tank cover. Finally, disconnect the cable from secondary grounding;

g) remove the supply mangote from the helideck and perform final check to make sure that the aircraft fuel tank cover is properly placed; and

h) disconnect the main grounding cable of the aircraft. The mangote should be wrapped in the respective reel.

0807 - AVIATION FUEL SYSTEM CERTIFICATE

The Vessel or Platform wishing to include in the type-approval of the helideck the fuel supply must, at the time of the request for inspections, submit a certificate of the fuel system, issued by an Organization recognized by the DPC, explicit that it is in safe conditions for the conduct of aviation fuel supply; according to Annex 8-E. This document will have the validity of 5 (five) years, being endorsed annually, and should have been issued a maximum of 2 (two) years from the date of the survey, in order to contemplate the entire term of the Registration Ordinance.

Observation:

The Directorate of Ports and Coasts does not approve of fuel systems of vessels/ maritime platforms.

CHAPTER 9

COMMUNICATIONS AND NAVIGATION SYSTEMS 0901 -

PURPOSE

Thisca pítulo deals with the characteristics of communication systems and assistance to Navigation. Brazilian aeronautical legislation provides that every station that performs communications or provides air traffic service to aircraft must meet specific requirements in the euvary depending on the nature of communications and the services provided. These stations are called Telecommunications and Air Traffic Service Provider Stations (EPTA) and are standardized by Instruction of the Air Force Command (ICA) 63-10,whichrelates the definitions and requirements necessary for the installation of an EPTA.

0902 - HELIDECK RATING FOR NAVIGATION

a) Stationary helidecks - are those located on maritime platforms or vessels that will be approved to operate in a stationary geographical position in the AJB.

Depending on the type of vessel, this position may undergo tolerizeable variations, and in the case, the informed position should be the position of the mooring to the bottom.

The position must be included in the FRH and will be published in its Registration Ordinance, always in geographical coordinates and with accuracy of tenths of minutes.

They will be considered park helidecks, those expected to operate in the same geographical position for at least one year.

b) Variable Position Helidecks - are those located on maritime platforms or vessels that, in view of the nature ofnomanic operation, will be approved to operate in any position or geo-large in the AJB.

0903 - COMMUNICATIONS

All communications made between helidecks and aircraft must be made in the language Portuguese.

The frog room must be approved as EPTA categories "M", in accordance with the ICA Standard in force, and the Radio operator must have specific training.

Communications include the exchange of information necessary for the aircraft's approach and its preparation for landing, i.e. the performance of initial contact with the helideck by the aircraft and the receipt of information about the conditions in the AAFD, which must be obtained from the Helideck Monitoring System *(Helideck Monitoring System* - HMS).

This information includes:

a) direction of the vessel (where applicable) or proption, informed in degrees in relation to the magnetic North;

b) direction and intensity of the wind, informed in degrees and we (kts), in relation to the magnetic north, in the average of the last 2 minutes; and gusts of wind (where applicable);

c) temperature, reported in degrees Celsius,'

d) pitch (caturro), *roll* (swing), *heave* (arfagem), *heave* ra/e *(air* speed-

inclination (inclination) of the vessel, the maximum values of the last 20 minutes; HMS light condition (green or red) and the helideck condition light situation *(light status* - on or off);

e) sea condition on the Beaufort scale and, if possible, the water reaped temper;

f) fortification of the helideck; and

g) known movements of nearby aircraft.

ALPH must communicate directly with the aircraft to alert pilots to risk situations or in the event of an emergency.

Communications in aeronautical frequency should be limited to matters of interest to the aircraft and should not be trafficked administratively. Other matters, such as helideck ready, number of passengers boarding and disembarking, cargo to be transported, etc. must be trafficked between ALPH and vessel/platform by another frequency

On uninhabited platforms there is no need for a registered Category "M" EPTA, however, there must be at least one portable aeronautical VHF transceiver radio or portable seafarer, which operates on aircraft frequency.

Note: EPTA rpm category "M" is not allowed to perform air traffic control service.

0904 - HELIDECK MONITORING SYSTEM

Every EPTA category "M", must have a Helideck Monitoring System *Helideck Monitoring Syshas* - HMS). This equipment provides wind information (direction, intensity and gusts), ambient temperature, helideck movements in real time, data storage, reporting tools, and critical alarms. It aims to assist in the safety of air operations.

The Vessel Manager (Platform Manager or Commander)
must:

- suspend air operations when the helideck movements of your units are above the values indicated in the following tables learn spre sentadas;

- ensure that data on the movement of the unit are forwarded to helicopter operators and ground support units;

- ensure that the data is reliable and accurately accurate;

- ensure that measurement instruments and associated systems are adequately measured, calibrated and maintained;

- ensure that the calibration of instruments and sensors should be carried out according to the technical specifications established by the fabricates, if there is no defined interval should be carried out every 24 months, and in accordance with the parameters established by the Brazilian Calibration Network (RBC), consisting of laboratories accredited or recognized by In metro; and

- make sure the motion sensors should be positioned on the helideck floor. If it is not possible, the values presented with pitch, balance (ro/§ arfagem *(heave),* arfagem speed *(heave* ra/e) and inclination should be corrected para the height and position of the helideck, while thermometers and wind sensors should be installed, mandatorily, close to the helideck.

Next, the limits of helideck movements that must be applied to floating sea units are established and, when satisfied, the helideck will be safe for landing and takeoff.

a) Procedure to be adopted:

1) with swing movement, Turro ca, slope; and arphage speed

higher than the values listed in the following table, the helideck must be closed for air operations;

2) the value of arfagem is only a limit to be observed when no information on the speed of the arfagem is available;

3) with values equal to or lower than those indicated in the table, the assessment as to the conditions for the landing and/or take-off to be made will be served by the aircraft commander.

4) under normal conditions, if on HMS light turns on the red light because the limit of algum *pitch parameter, roll, heave, heave* rafe, *inc/na/ion* or intensity or gust of wind has exceeded, rpm will close the helideck for air operations through light *status,* and wait for the 20 minutes required for the HMS system to change the light condition; aircraft must be tied up, passengers disembarked and crew will wait, with the engines cut or not, the green light on HMS, necessary for the opening of the helideck for air operations.

b) Category of helicopters:

1) Category A - comprises all series of helicopters AS332, EC225, S-61; S-92; and others considered super medium and large; and

2) Category B - comprises all helicopters not included in the Category A.

c) Class of helidecks:

1) Class 1 - comprises the helidecks of semi-submersible platforms; fpso; floating storage units (FSU); of cramps and barges, semi-submersible or not; production vessels; converted tankers and other vessels of equivalent size, with good visual references;

2) Class 2 - buy the helidecks of vessels (e.g. DSV, seismic, maritime support, etc.) which offer good visual references during landing and takeoff operations, installed on the stern or half-ship; and

3) Class 3 - comprises the helidecks of vessels that, offer few visual references during landing and takeoff operations, installed on the bow or above the superstructure.

Table 1 - Movement limits of floating maritime units

Helicopter	Operation Period	Helideck											
		Class 1				Class 2				Class 3			
		B/C	Inc	Act ed		B/C	Inc	(A s	Arf (m)	B/C	Inc	VArf (m/s)	Arf (m)
Categories	Daytime	+3”	3,5°	1 3	5 0	t2”	2,5”	1 0	3,0	t2“	2,5°	1,0	3 0
	Night	z3”	3,5”	1,0	4,0	z2°	2,5”	0,5	1,5	*1 °	1,5°	0,5	1,5
Categories B	Diurno	Z4”	d.5	1,3	5,0	t3 °	3,5°	1 0	3,0	t3 °	3,5°	1,0	3,0
	Night	t4 °	4,5°	1,0	4,0	*2nd	2,5°	0,5	1,5	t1 .5º	2,0°	0,5	1,5

- B/C - swing and caturro *(roll and pitch),'*
- Inc - slope;
- VArf - arphage speed; is the average speed of the center of the helideck, when it moves between the mãximo and the minimum of the highest vertical oscillation; and
- Arf - arfagem is the vertical displacement of the center of the helideck.

Observations:

I) Do not confuse helideck arfagem with vessel arfagem, which is the vertical displacement of the vessel's center of gravity;

II) The values of B/C, Inc, VArf and Arf are the maximum values that occurred in the last 20 minutes apart;

III) The vessel will release in its helideck record sheet to which class belongs, but the CPD may change it if it does not agree with this indication;

IV) Helidecks installed on the bow and/or above the superstructure of vessels will always be Class 3;

V) Vessels with helidecks at half-ship will always be class 2; and VI) Adapted helidecks, located at half-ship, on the lid of the hatch cover or on the side of the main deck of ships will always be class 3.

In units where the slope measure is not directly available, its value will be obtained through Table 2, combining the balance sheet and caturro of the unit.

Table 2 - Calculation of the slope from the balance sheet and the caturro

		Balance								
		0,0°	0,5°	1,0°	1,5°	2,0°	2,5°	3,0°	3,5°	4,0°
Caturro	0.0º	0.0º	0,5°	1.0º	1,5°	2.0º	2,5°	3,0º	3,5°	4.0º
	0.5º	0,5°	0,7°	1,1°	1,6°	2,1°	2,5°	3,0º	3,5°	4.0º
	1,0°	1.0º	1,1°	1,4°	1,8°	2,2°	2,7°	3, 2nd	3,6°	4,1°
	1,5°	1,5°	1,6°	1.8th	2,1°	2.5º	2,9°	3,4°	3,8°	4.3º
	2.0º	2.0º	2,1°	2, 2nd	2,5°	2,8th	3,2°	3,6°	4,0°	4,5°
	2.5º	2.5º	2,5°	2.7º	2,9°	3,2°	*,5th	3,9°	4,3°	4.7º
	3,0°	3,0º	3,0°	3,2°	3,4”	3,6°	3,9°	4,2°	4,6°	5,0°
	3,5°	3,5°	3,5°	3,6°	3,8°	4,0°	4,3°	4,6°	4,9°	5,3°
	4.0º	4.0º	4,0°	4,1°	4,3°	4,5°	4,7°	5,0º	5,3°	5,7°

Example: If the balance is 2.5° and the caturro of 3.0°, the slope is 3.9°, as shown in the following table:

		Balance								
		0,0°	0,5°	1,0°	1,5°	2,0°	2,5°	3,0°	3,5°	4.0º
Caturro	,	0	0 5	1,0°	1,5°	2 0º	2,5°	3 0º	3,5°	4 0º
	0,5°	0,5°	0,7°	1,1°	1,6°	2,1°	2,5°	3.0º	3.5º	4.0º
	1,0°	1,0°	1,1°	1,4°	1.8th	2,2°	2,7°	3, 2nd	3,6°	4,1°
	1,5°	1.5th	1,6°	1.8th	2,1°	2,5°	2,9°	3,4°	3,8th	4.3º

	2,0°	2.0º	2,1°	2,2°	2,5°	2,8°	3,2°	3,6°	4,0°	4.5º
	2,5°	2.5º	2,5°	2,7°	2,9°	3,2°	3,5°	*, 9th	4,3°	4,7°
	3,0°	3,0°	3,0°	3,2°	3,4°	3,6°		4,2°	4,6°	5,0º
	3,5°	3,5°	3,5°	3,6°	3.8º	4,0°	4,3°	4,6°	4,9°	5.3rd
	4,0°	4.0º	4,0°	4,1°	4.3º	4,5°	4,7°	5,0°	5.3rd	5,7°

d) For helidecks installed in tank ship mooring buoys, the limits are +2° during the day and +1° at night, for swing, caturro and inclination, for all categories of helicopters.

Mooring buoys of tankers are large buoys, with helideck-gifted and used in oil storage and loading of tankers

e) On fixed platforms, motion parameters (swing, caturro, slope and sphage) are not applicable. These platforms should have a system that presents and records wind information (direction, intensity and gusts) and temperature, following the same requirements as HMS systems for these parameters.

f) Fixed platforms can be considered marine units that, although floating, constantly have great stability, of the Tension Leg *Wellhead Platform* (TLWP), and reduced movements of caturro, balance and arphage (less than 1º c/B and less than 1m of Arf/VArf) in the period of 6 months, measured by HMS equipment.

g) In case of unavailability of THE HMS, in vessels with Dynamic Positioning (DP), rpm must obtain the movement information of the DP system; those who do not have this system should observe the parameters, through mechanical cininometers or inclinometers (Swing and Caturro) installed within the EPTA for about 2 minutes and record as a reading the maximum value of the period. If the vessel/platform does not have mechanical inclinometers the helideck must be closed for air operations until hms prenotification. The vessel/platform shall inform the situation to the CPD, setting the deadline for pornification of the HMS system

h) Records of the recording system of HMS data must be stored in accordance with the prazos established in the Data Preservation Procedures contained in the Instruction of the Aeronautics Command (ICA) no. 63-25.

i) RPM should pay attention to insert the vessel class (1, 2 or 3) and the category of the aircraft (A or B) which are sensing of the vessel.

0905 - RADIOFAROL (NDB)

They may be installed on the maritime platforms and vessels to guide a procedure for approximation by "non-precision" instruments, approved together with an EPTA category "A" or as EPTA category "C", in accordance with the provisions of the ICA Standard in force. In this case, the helideck must be of the park type. The implementation request must be forwarded to the DECEA Regional Body.

Platforms and vessels with helidecks, with EPTA category "M",

do not need to have NDB, however, in order to increase flight safety, it is possible that every mobile unit has NDB with a minimum range of thirty nautical miles. The NDB can be installed only as localization aid, it cannot be used for any IFR procedure, but must be registered by the Air Force Command and duly registered, having specific frequency. This NDB must be connected only at the request of the aircraft pilot with which the unit communicates, to assist in the location, and logo should be switched off to stop the need for its use.

CHAPTER 10

OPERATIONAL SECURITY MANAGEMENT
RISK ANALYSIS REPORT AND AERONAUTICAL EMERGENCY PLAN

1001 - PURPOSE

Guide the execution of Operational Safety Management for the preparation and maintenance of a Risk Analysis Report (RAR) and Aeronautical Emergency Plan (PEA) the Aircraft Emergency Response Plan (PRE) where the dangers inherent in the operation of helicopters on the vessel/platform should be identified, carried out the risk assessment and implementation of the necessary control measures (barriers), in order to maintain, within an appropriate level of safety, air operations in the helideck and then provide a PEA/PRE, appropriate at the level of the operation, which must be prepared and presented by all vessels/maritime platforms operating on approved helidecks.

1002 - GENERALITIES

The purpose of this chapter is to define the minimum requirements for an operator to have its Operational Safety Management System (SGSO) focused on risk assessment and risk reduction, as well as the planning of responding to an aeronautical emergency that occurred during helideck operations.

It applies to all aviation service providers and vessel operators/platforms holding approved helidecks performing *offshore operations.*

Operational Or Aviation Safety Management Systems, as they are called (SGSO or SGSA) are part of the regulatory requirements adopted by the National Civil Aviation Agency (ANAC) for all Aircraft Operators. Vessel/platforms that hold approved helidecks and contracted aircraft operators are obliged to comply with anac's national regulations applicable to SGSO, as they relate to air operations by the associated infrastructure (helidecks and equipment), thus becoming co-responsible for the safety of the operations of the binomial vessel/platform and aircraft.

Vessels/platforms shall require aircraft operators to report any changes in risk tolerãncia that may result in changes in management processes, procedures, practices or any other linked to risk management for each type of aircraft authorized and contracted for passenger and cargo transport operations for a particular vessel/maritime platform.

Every Manager should keep in mind that it is impossible to eliminate all risks. However, risks can be minimized at such a low level as nationally practical. Risk mitigation is a balance between time (speed), costs and difficulties in reducing or eliminating risks. The preparation of rar helps to list the reasons for decisions and to obtain the acceptance and commitment of all those involved in operations.

The PEA/PRE contains the measures to be taken from the moment when the emergency is characterized until the moment when aeronautical infrastructure is unprohibited forn-ormais operations in order to:

- garantir a eficácia da transição das atividades de rotina para as operações de emergência;

- define the delegation of authority for emergency operations by establishing its competence and limits;

- establish the various degrees of responsibility and authorizations within the tasks provided for in the PEA/PRE;

- establish the means for effective coordination of the efforts involved; and

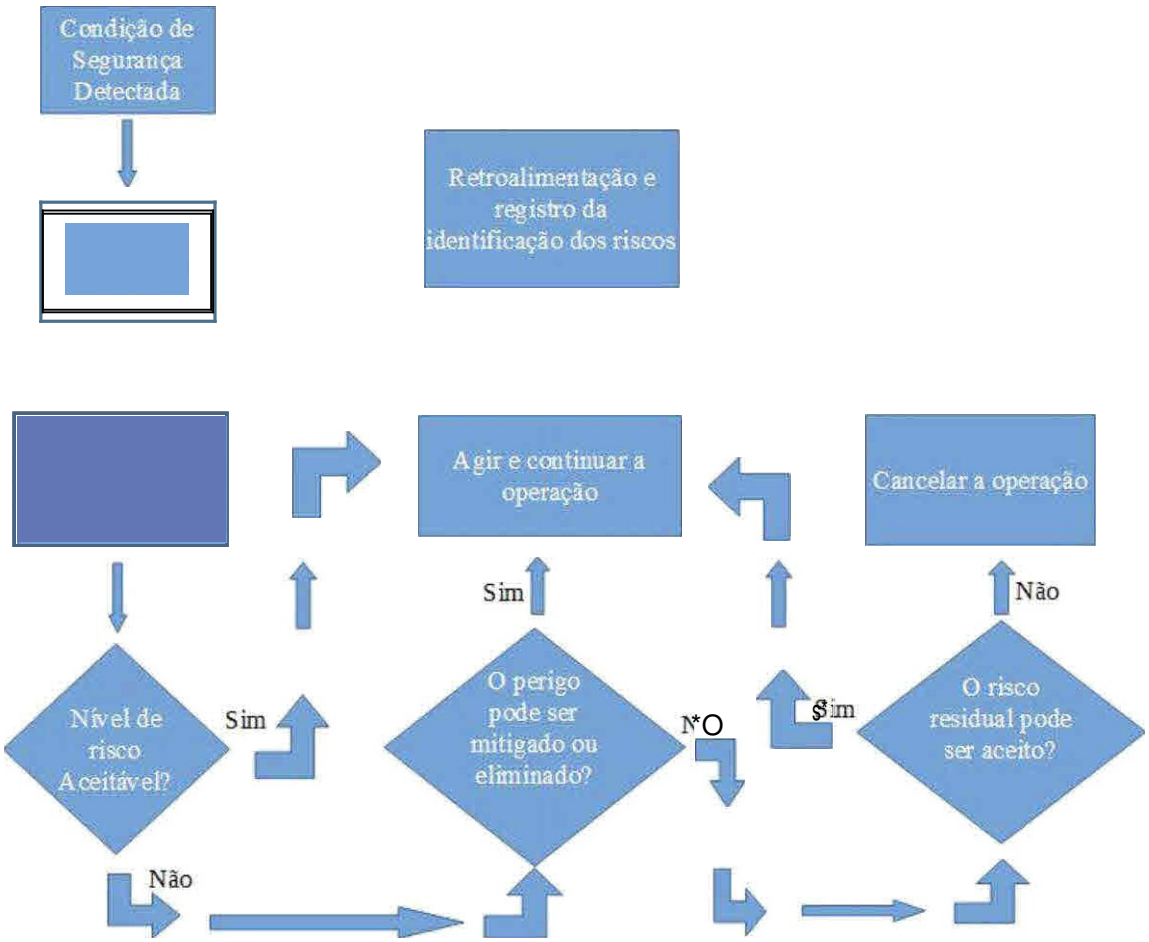
- ensure the return to normal and routine operations of aeronautical infrastructure after the end of the emergency.

The Plan should include prompt response procedures related to services that are necessary, including firefighting, rescue, medical, psychological and hospital care.

Periodic procedures and training of the Plan and analysis of its results should be provided in order to improve its effectiveness. The exercises must be carried out, at least once each crew exchange, and registered. The EPA must be in Portuguese.

The following flowchart summarizes the actions and activities performed in operational management.

Risk Management Process



1003 - CRITERIA FOR RAR DEVELOPMENT

a) Mandatory - All hazards inherent in the operation of helicopters on the vessel/platform should be identified, and the risk assessment and implementation of the necessary control measures should be carried out in order to keep the operation of aircraft within an adequate level of safety.

b) Risk assessment report - A copy of the risk-analyzed risk RAR should be sent to the PCD when requested. Rar must contain at least the following items:

- Date of analysis.
- Review date (if applicable).
- Risk name or threat analyzed.
- Name of the vessel or platform.
- Activity description.
- Initial potential for damage.
- Initial risk rate (Not tolerable or unacceptable / Tolerable or acceptable / Acceptable).
- Personnel at risk.
- Material or equipment at risk.
- List of evaluators or analysts.
- Description of the risk or threat analyzed.
- Control measures for each threat.
- Initial risk rate.
- Rate final risk.
- Acceptance of the final rate of each risk or threat.
- Listing of control measures.
- Residual or final rate after implementation of control measures.
- Action plan for implementation of control measures containing what, when, where, how and who is responsible.
- Deadline for implementation of control measures (before initial inspection and start of operations).
- Risk rate after analysis and implantation of all control measures.
- Declaration of acceptance of the report and control measures.
- Manager responsible for acceptance of the report.
- Signature of the Manager and Analysts responsible for RAR.

1004 - CRITERIA FOR THE PREPARATION OF PEA/PRE

a) Mandatory - every vessel or maritime platform where there is a helideck for operation with helicopter must have a PEA/PRE with the human resources and materials available.

A copy of the PEA/PRE should be sent to the CpD as an annex to the Application for Provisional Authorization, Annex 1-A,or Helideck Survey, Annex 1-C,in order to enable its analysis before the survey.

At the time of survey, the CPD will verify the existence and divulgation of the PEA/PRE, as well as the training carried out.

The PEA/PRE should be widely disseminated to the sectors involved.

b) Emergency types - the various actions provided for in the PEA/PRE should be grouped into lists by emergency type, and not by the attributions of each responsible sector. For each type of emergency there must be a list of actions to be

clearly indicating the person responsible for that action and their supervision.

c) Vessels and Maritime Platforms - vessels and maritime platforms capable of conducting or supporting air operations draw up their PEA/PRE, predicting, range from the emergencies reported with the aircraft in flight, emergency landing, fall, incident or accident at helideck and at sea.

d) Management of the onshore unit - the management of the ground unit must possess an sector with the ability to support the unage with emergency in the helideck, triggering the necessary organs and providing all the necessary help to minimize the emergency.

e) Area of operation - for the planning and dimensioning of the necessary resources for the execution of pea / PRE, the area of operation to be considered is the operation area of the helideck, from the beginning of communication with the helicopter. However, procedures should be provided for the receipt of the communication of an aircraft in emergency outside this area.

f) Human and material resources - in this PEA/PRE item, the resources necessary for emergency care should be described. The material and human resources of the PEA/PRE are allocated according to the largest aircraft for which the respective helideck is homologated.

The service to the wounded must be planned in order to serve this aircraft with its maximum capacity. The PEA/PRE should take into account the personnel available in the unit in routine situations.

g) "Distress" or "urgency" conditions- the aircraft will report an emergency preceding its message of expressions:

- "MAYDAY, MAYDAY, MAYDAY", for the condition of "help" or
- "PAN-PAN, PAN-PAN, PAN-PAN", for the condition of "urgéncia".

From this information the PEA/PRE of the unit that is in communication with that aircraft should be activated.

The PEA/PRE should contain detailed procedures for the conditions of "relief" and "urgency", indicating the sector responsible for each action. Among these procedures, we highlight:

1) Urgency:

I) Radio-operator: inform the person responsible for the unit, ALPH and the master of the rescue boat; trigger medical support to be close to the helideck (doctor or nurse) for possible care;

II) ALPH: position EMCIA and test combat equipment to fire; and

III) Responsible for the unit: interrupt ongoing exercises that interfere with the landing of the helicopter in emergency; start recording the information provided for in the Pre-Investigation Plan and be ready for the possible activation of the search and rescue structure

2) Help

I) Radio-operator: comply with the measures for reviewed for the condition of "urgency"; and inform all support sectors to assume their maximum readiness; and

II) Responsible for the unit: comply with the measures provided for the condition of "urgency" and inform the Management of the unit on the ground; sand in a propelled vessel, maneuver in order to reduce the distance to the aircraft, and subsequently to offer the ideal wind for collection.

1005 - ESTABLISHMENT OF THE EMERGENCY PHASE

The vessel/platform to which the aircraft was headed, shall immediately notify the Area Control Center (ACC) that an aircraft is in emergency. The PEA/PRE must contain frequencies and emergency phones.

a) Emergence Phases:

1) Uncertainty Phase (INCERFA):

I) where there is no communication from the aircraft after 30 (thirty) minutes following the time when communication should be received from the aircraft, or 30 (thirty) minutes after mome nto in which for the first time communication with that aircraft was tried, whichever occurs first; or

II) when the aircraft does not arrive after the subsequent 30 (thirty) minutes the estimated arrival time estimated by the pilot or calculated by the organ or control station, which results later.

Procedures:

- make calls at emergency frequencies and alternatives;
- request other units in the area to make calls in aeronautical and maritime frequencies;
- check or consult other units or control bodies on the ground as to the existence of radar contact;
- write down the time of the start of INCERFA, the last known po sição of the aircraft, people on board, its altitude, direction, speed, takeoff time and autonomy;
- checar as informações do briefing ou plano de voo;
- assess whether the current situation could lead to a momentary loss of contact,
and - keep the vessel/platform responsible informed.

2) Alert Phase (ALERFA):

I) where, the uncertain phase has occurred, no communication has been established with the aircraft or, through other sources, no news of the aircraft has been obtained;

II) where an aircraft authorized to land, it does not do so within 5 (five) minutes following the scheduled time for landing and communication with the aircraft is not restored;

III) when information is received pointing out that the operating conditions of the aircraft are abnormal, but not indicating the need for a forced landing; theu

IV) when it is known or suspected that an aircraft is being unlawfully interfered.

Procedures:

- ensure that INCERFA procedures have been complied with;
- keep the unit responsible informed;
- prepare the activation of the search and rescue structure (SAR);
- start planning a possible search; and
- interrupt ing ongoing exercises that may interfere with a possible collection of an emergency ANV.

3) Danger Phase (DETRESFA)

I) when the alert phase has been over, the new

attempts to establish communication with the aircraft, and where other external means of research also result in fruitless and it can be assumed that the aircraft is in danger;

II) where it is evidenced that the fuel that the aircraft was carrying on board has been exhausted or that is not sufficient to allow the landing in safe iugar;

III) where information is received that abnormal conditions of operation of the aircraft in may that a forced landing is possible; or

IV) information or if it can deduce, that the aircraft will make a forced landing or that has already made it.

Procedures:

- trigger the search and rescue structure as needed;
- make communication of the air accident, as shown in the item below; and
- if in a propelled vessel, require the last known position of the ANV and start the search actions.

Every AEP should emphasize that any delay in notification of emergency phases is unacceptable, as this delay reduces the likelihood of life-threatening victims of an air accident.

b) Communication of the accident - the vessel/platform that is operating with the aircraft at the time of the accident must transmit, to the Control Agency, standardized messages provided in the PEA / PRE, stating:

1) type of occurrence;
2) helicopter model;
3) numerator helicopter registration;
4) date and time of occurrence;
5) geographical reference or latitude/longitude;
6) number of people on board the helicopter;
7) names of fatal ities;
8) names of victims with serious injuries;
9) consequences and third parties; and
10) helicopter and vessel/deck condition after occurrence.

c) Combat the inéndio in helicopter and rescue of the crew

1) starts when properly qualified and equipped personnel approach the crashed ve aero nave for extinction or prevention of possible fire and crew rescue

2) the firefighting brigade of the vessel must be deployed to stand by, ready to take action if necessary;

3) after the fire is extinguished, medical staff will assess the convenience of starting care still inside the aero ship or performing the immediate removal. The best route to the place of service after removal should be previously determined and be known to all those involved in this stage; and

4) after the rescue the area of the accident or incident must be toso isolated until cenipa arrives.

The rescue of victims takes priority on the need to preserve evidence for the investigation of the accident, however, this need should be emphasized whenever it does not interfere with the aid.

d) Helicopter landing or fall at sea and crew rescue

1) once the unit becomes aware of the landing or fall of the helicopter into the sea, the rescue dinghy, which will already be guarded with properly qualified and trained personnel, should be launched into the sea immediately in the

ximo in 2 minutes;

2) trigger nearby vessels for sending relief if necessary;

3) the rescue boat upon arriving at the site should start the rescue;

4) the medical team must wait for the arrival of the rescued to start first aid and perform the removal (the best route to the place of care after removal must be previously determined and be known to all involved in this step); and

5) the unit should always have related all nearby vessels and nautical resources available for immediate action during a helicopter landing or crash at sea.

e) Screening of injured - the priority in care occurs by framing the injuries of each injured in the following categories:

1) Category I - spinal cord injuries, large hemorrhages, severe inhalation of smoke and gases, thoracic asphyxia, cervical-maxillofacial lesions, head trauma with coma and progressive shock, exposed and multiple fractures, extensive burns, impact injuries and qualquer type of shock;

2) Category II - non-asphyxiating thoracic trauma, simple fractures, limited burns, head trauma without coma or shock and soft parts injuries;

3) Category III - minor injuries; and

4) assistance to the unharmed survivor - the surviving unharmed may be affected by discomfort conditions that may have unpleasant consequences, because, most of the time, after an emergency evacuation, it may be wet, with the psychological state shaken, inhaled gases or smoke, although little, providing potential condition for the occurrence of the state of shock or hysteria. There must be provision of blankets and, within the priority of the wounded, should be taken to a place where they feel comforted. It is important to consider that the unharmed survivor may be anxious for news of the person accompanying him.

f) Treatment of the fatal victim - before the removal of the bodies should be taken photographs of them and the instruments/indicators of the aircraft panel to provide subsidies for the accident and the bodies, when removed, should be identified with the indication of the place where it was in the crashed aircraft or in its wreckage, as well as the registration of its general condition. It should be put into strip bag preventing it from being in the sight of people, especially the survivors. The identification of the body should have started so logo is possible, allowing the proper continuation of the legal procedures, as well as the provision of the relevant information.

g) Infirmary — todas vessels must have a main ward and a place to serve as a secondary ward, where they can receive injured. The person responsible for the vessel shall disclose the route (route) indicated for the removal of the wounded and the doctor/fefermeiro to which infirmary levar, main or secondary.

1006 - ACCIDENT COMMUNICATION / INCIDENT ON HELIDECK OR ON THE VESSEL/PLATFORM THAT AFFECTS HELIDECK

When an Accident or Incident occurs that reaches the helideck, its structure or signage, or an Accident on the vessel/platform affecting the shelter of the helideck, EPTA or rescue vessel, the CPD shall be informed.

The Shipowner/Operated/Commander responsible prohibit the helideck.

After actions for the operational restoration of the helideck, in order to

to continue air operations, the shipowner/legal representative will request its opening to the CPD which, at its discretion, may carry out a new technical survey or request a Certificate of Maintenance of the Technical Conditions of Helideck, in accordance with Annex 1-H.

1007 - PRE-INVESTIGATION plan (PPI)

The PPI describes the necessary procedures and records from the communication of the emergency or aeronautical occurrence, until the beginning of the investigation itself.

PPI can be an integral part of the PEA/PRE or an isolated document.

It is vital ly important that ppi is available for consultation and is known to all sectors of the unit that may eventually receive informal communication of the occurrence of an aeronautical accident (e.g. EPTA). The consternation normally caused by this ipo of news sometimes causes valuable information to be lost or not requested from the informant and it is impossible to recover it later.

Initial information:

a) probable time of the accident;

b) location of the accident;

c) local weather conditions at the time of the accident;

d) estimated direction of anv displacement;

e) characteristics of the ANV: color, registration number;

f) whether fire has been noted during the flight or after impact, or even if the fire still persists on site;

g) number of fatal injuries or casualties;

h) if medical aid has already been provided and by whom;

i) if there was damage to third parties, and how long there is such damage;

j) when the accident was received, half usesthe (phone call, message, etc.), name and qualification of those who received it; and

k) identification of the informant: name, address, telephone number, occupation and other witnesses who may provide information.

1008 - DIS-INTERDICTION OF THE LANDING SITE

After an arena Utica occurrence in the helideck, the unit may have to deal with the possible need to immediately release the landing site, so that another aircraft in emergency perform an immediate landing at the same location or for support.

In these situations, the disinter diction of the landing site has a higher priority than the preservation of the wreckage or evidence necessary for the investigation of the occurrence and should be taken by the unit's head.

The PEA/PRE shall establish para procedures that the decision tode-interdict the landing site occurs with the necessary promptness and considering the following aspects:

a) the risks that may arise for the helideck, of the non-removal of the wreckage;

b) the potential for degradation that such debris may suffer because they have not been collected from a sheltered site until the start of the investigation; and

c) in the case of a ship, the sealing of the wreckage should be carefully assessed when the need for helideck is imperative.

1009 - UPDATE

The APE should be updated whenever any deficiencies are detected during the application of the simulated exercise in the response of each participating service in the established procedures; or in real emergency care; or when there is any alteration in the following respects:

- physical characteristics of the helideck;
- firefighting system; and
- change of the type of the largest helicopter to operate.

CHAPTER 11

BALSA HELIDECK

1101 - PURPOSE

Describe the necessary characteristics for helidecks located on ferries for indoor operation.

Landing and take-off operations will only be authorized on certified helidecks and homo-logged, installed on ferries with a minimum dimensions of 12 x 42 meters.

1102 - QUALIFIED PERSONNEL

On the occasion of air operations, the ferry helideck must be guarded by:

a) Aviation Fire Maneuvering and Combat team (EMCIA), consisting of:

1) a Helicopter Launch and Landing Agent (ALPH) - must be the leader of EMCIA and be able to operate the portable air aerobic VHF transceiver frog, ready to communicate, in the Portuguese language, with pilots and/or radio operator, if necessary; and

2) three Aviation Firefighters (BOMBAV) - must have the aviation fire maneuver and fight course (MCIA),affection for BOMBAV.

b) Crew of the Rescue and Rescue Vessel - composed of three crew members, one of them in the role of boss, all qualified for rescue and rescue activity and dealing with the necessary personal protective equipment (PPE).

c) Fuel supplier - qualified to replenish helicopters, must have the aviation fire maneuver and combat course (MCIA), affection for BOMBAV.

EMCIA components, rescue vessel crew and durable combus suppliers will not be able to accumulate other functions during the air operations period.

1103 - SECURITY

a) Protective screen - protection screens must be installed on the edges adjacent to the helideck area, according to that contained in Annex 11-A.

1) thepr-detection screen must have a width of 1.5m, horizontally, from the outer edge of the helideck, and can be folding;

2) the mesh of the protective screen must have dimensions of, in the mãximo, 0.10m x 0.10m;

3) the spacing between the screens and the edge of the helideck, and between the sections of the same should not exceed 0.10m. If the construction characteristics prevent this spacing, such spaces must be closed with a network of the same material;

4) the lower end of the protection screen should be at the same helideck level or at a level slightly below the drainpipe when existing. The screen must have go approximate slope from 10º upwards to the horizontal plane. The top end of the protection screen may be slightly above the helideck level and should not exceed the height of 0.25m in relation to that plane;

5) the protective screen should not be stretched too much, in order to avoid its performance as a springboard and, if side and longitudinal beams are installed

to give greater resistance to the structure of the screen, these should not have a format that may cause injury in people who may eventually be supported by the screen. The ideal design should produce the effect of a stretcher, and must safely withstand a colorpo that falls on the screen without causing it injury;

6) the screen should resist, without rupture, the test consisting of the impact of a 100kg sandbag, with a base diameter of 0,76m, loose, in free fall, of a height of 1m;

7) a Screen Resistance Certificate shall be presented, valid for 12 (twelve) months, issued by an Organization recognized by The DPC, or by the engineering sector of the platform/vessel operating company, attesting that all sections of the protection screen have safe conditions of use in accordance with Annex 2-D;

8) the protection screen must have its conservation and safety conditions checked annually by the shipowner, on the occasion of sending to the DPC of the Certificate of Maintenance of The Technical Conditions of helideck; and

9) the protection screen should always be free of any object on it or its support.

1104 - WIND DIRECTION INDICATOR (BIRUTA)

At least there should be an indicator of wind direction, placed in a very visible place, but not subject to turbulence and that does not pose danger to the maneuvers of helicopters, in accordance with Annex 5a.

1105 - NON-SLIP NETWORK

a) Features of the Non-Slip Network - the non-slip network should be limited to covering the entire Touch Area, and may have any format, not covering the other external Identifications.

The cables must:

1) have a diameter of 20mm, when in the form of cythic, and do not present wear that compromises its functionality;

2) be made of sisal or material other than easy combustion; and

3) have mesh formed by squares or losangos of 20cm of lado.

b) Fixing the Non-slip Network - the network must be firmly secured by means of cables and/or stretchers to the eyes installed at the edge of the AAFD, with a missive spacing of 2.0m and with a maximum height of 0.05m. It should not be possible to lift any part of the network at more than 0.25m above the helideck super ficie when applying vertical traction with your hand.

1106 - SIGNALLING AIDS

a) Identification Sign - is the letter "H", which must be painted in white color, in the center of the Touch Area. The "H" signal must have a height of 3m and the width of 2m, with the width of the ranges of 0.40m

b) Maximum Permissible Load - is expressed in tons, with two or three digits, specifying the maximum resistance that the floor can withstand. It should be painted in contrasting yellow with the color of the floor, with its size according to Annex 5-D. The position of numerals shall be as indicated in the illustration of Annex 11a.

For the definition of numerals it should be observed:

1) whole values up to nine tons: will be painted in 2 (two) digits, utilizer se zero in front;

2) decimal values should be approximated to the nearest and separated hundred pounds of the ton whole by a "point";

3) whole values accompanied by decimals, greater than 10 (ten) tons, will be painted with three digits, separating an integer from the decimal by a "point"; and

4) when the painting is not possible as described above, due to lack of physical space, the characters may have their dimensions reduced by up to 1/3 of the predefined size.

c) Limit of the Final Approach area and Takeoff - the perimeter of the AAFD should be demarcated with a range of 0.30m wide, in white color, laterally away one meter from the edge, as indicated in the illustration of Annex 11-A.

d) Touch Area - must be demarcated with a circular strip of 50cm wide, in yellow color, with the internal dimension of 6m, as indicated in the illustration of Annex 11-A. You should be located in the center of the alas b.

e) Signage of the name and/or visual indication and indicative of the platform/vessel locality - should be painted in white color, contrasting with the color of the helideck floor (green), as indicated in the illustration of Annex 11-A.

When the name and/or visual indication is a composition of letters and numbers, Arabic or Roman numerals of the same size as the letters must be used and can be separated by a dash.

The dimensions and spacing between the characters should be conforme annex 5-F. When painting is not possible as described earlier, due to lack of physical space, characters may have their dimensions reduced by up to 1/3 of the predefined size.

g) Helideck signaling banned - by certain technical or operational azoles, the helideck may be temporarily banned or temporarily for operations with aircraft operating in AJB. In such circumstances, the "closed" state of the helideck indicated by the sign indicated in the color and dimensions of Annex 5-H,must be painted (if definitive) or attached a canvas (if temporary), on the identification sign "H".

h) Safety Warnings - panels should be placed near the accesses, in well visible locations, painted with black letters on a yellow background, with dimensions of 0.80m x 1.60m, with an edge of 0.05m and recommendations to be followed by passengers boarding or disembarking from helicopters and other aircraft users, with the following characteristics, detailed in Annex 5-H.

Your placement on the protection screen is prohibited.

1107 - FIRE FIGHTING

The ferry helideck must own:

a) Sistema foam application - a firefighting system equipped with foam monitor, with hose line length sufficient to reach any part of the helideck. Such hoses may be equipped with nozzles, connected to the gfoameraser system, or alternatively with manual foam applicator using bomb ones.

b) Chemical Powder and Carbon dioxide extinguishers - two units of 25kg chemical powder extinguishers and three units of 6kg carbon icem frogs.

There may be another nearby ferry, with equipment and crews reaching the entire length of the helideck ferry.

1108 - SUPPORT VESSEL AND RESCUE BOAT

There must be a support vessel and a rescue boat near the ferry with helideck.

1109 - TOOLS, SUPPORT MATERIAL AND RESCUE

Helidecks must be provided with tools and material from thepoio and rescue, which will be stored in cabinets painted red, properly signposted, close to the helideck and properly protected from the sun and rain. The chosen place shall allow, in the event of an accident, for the materials to be moved to the helideck immediately

The following items must be available for ready to use:

a) Tools:

1) 1 (one) fireman axe for rescue (greater than 3kg);
2) 1 (one) crowbar of at least 1m;
3) 1 (one) rebar-cut goldsmith at least 0.60m;
4) 1 (one) manual saw for metals;
5) 1 (one) universal pliers, isolated, 8 (eight) inches;
6) 1 (one) 10 (ten) inch screwdriver;
7) 2 (two) belt trimming; and
8) 3 (three) portable flashlights.

b) Support Material:

1) 1 (one) scale with a minimum capacity of 150kg, with a vain measurement certificate, placed in the vicinity of the helideck, in order to weigh personnel, baggage or material to be shipped on the aircraft;
2) 3 (three) pairs of shims;
3) 4 (four) metal, or *nylon peas,* specific for mooring of aircraft, whose couplings are compatible with existing buffaloes;
4) 1 (one) articulated or supporting ladder, with height compatible with the dimensions of the largest helicopter provided for operating on board; and.
5) 1 (one) banned helideck signaling canvas, Annex 5-H.

c) Firefighting clothing

Each BOMBAV must have a firefighting suit composed of:

1) approaching clothing and firefighting or 7/8 cover for firefighter approaching and firefighting;
2) balaclava mask;
3) ear protector;
4) fireman's helmet;
5) fireman gloves; And
6) fireman boots.

d) Rescue material:

1) a portable first aid kit;
2) 1 (one) floating rigid stretcher with head immobilized; and
3) 1 (one) portable oxygen ampoule and 2 (two)

masks. 1110 - FUEL SUPPLY

The on-board fuel supply system must have:

a) storage tank.
b) discard tank.
c) distribution system.
d) a fuel supply hose line, with their respective supply nozzles (by gravity and/or pressure).
e) a ground wire sized to provide the sterile discharge, with a minimum length of 2.5m and male and "alligator" terminals.
f) a pump system.

1111 - COMMUNICATIONS

All communications made between helidecks and aircraft must be made in the language Portuguese.

The communications include the exchange of information necessary for the approximation of the aircraft and its preparation for landing, that is, the realization of the initial contact by the aircraft and the receipt of information about the conditions on the helideck.

This information includes:

a) the vessel (where applicable), informed in degrees in relation to the northern nethical mag.
b) towards the magnetic north, and wind intensity.
c) room temperature.
d) notification of the helideck.
e) known movements of nearby aircraft.

ALPH should communicate directly with the aircraft to pass on the information and alert pilots to risk situations.

1112 - AERONAUTICAL EMERGENCY PLAN (PEA) OR EMERGÊNCIA RESPONSE PLAN WITH AIRCRAFT (PRE)

You must have a PEA/PRE in the manner of Chapter 10 of these Standards.

Periodic procedures and training of the Plan and analysis of its results should be provided in order to improve its effectiveness. The exercises must be carried out at least once each crew exchange and registered. The EPA must be in Portuguese.

The PEA/PRE should be widely disseminated to the sectors involved.

1113 - OPERATIONAL RISK MANAGEMENT (GRO)

The perigos inherent in the operation of helicopters on the ferry should be identified, and the risk assessment and implementation of the necessary control measures should be carried out in order to keep the operation of aircraft within an adequate level of safety.

1114 - LANDING AND TAKEOFF

Landings and takeoffs must be carried out in the longitudinal direction of the ferry.

The ferry must be positioned in a place with adequate distance from obstacles.

1115 - ACCIDENT COMMUNICATION / INCIDENT ON THEEU HELIDEQ

When an Accident or Incident occurs that reaches the helideck, structure, or signage, the DPC must be informed.

The owner/operator responsible prohibits the helideck and will forward, to the DPC, a Certificate of Maintenance of the Technical Conditions of Helideck, according to Annex 1-H,within 5(five) days after the event, in order to enable the continuity of air operations. At the discretion of PCD there may be a new technical survey.

CHAPTER 12

HELIDECK ADAPTED TO HALF-NAU AND ON THE SIDE OF SHIPS

1201 - PURPOSE

Describe the requirements necessary for certification and registration of adapted helidecks, located at half-ship, on the cover of the cargo hold *(hatch* cover) in General Cargo Ships and Bulk carriers, or on the side of the main deck of ships.

1202 - GENERALITY

The requirements of these standards which have not been mentioned in the following articles in this chapter remain mandatory for carrying out air operations.

1203 - QUALIFIED PERSONNEL

During the period of air operations, the vessel must be guarded by:

a) Nautical Room Officer - must be able to operate the vhf transceiver frog on the walkway, aiming to establish bilateral communications with the aircraft, ready to pass the necessary information to the landing and takeoff to pilots, preferably in the language Portuguese.

b) Aviation Fire Maneuvering and Combat team (EMCIA), consisting of:

1) a Helicopter Launch and Landing Agent (ALPH) - you must be the leader of EMCIA and be able to operate the portable maritime VHF transceiver frog, ready to communicate, with the Nautical Room Officer, or, if necessary with pilots; and

2) two or three Aviation Firefighters (BOMBAV) - according to their helideck category - must have the Aviation Fire Maneuver and Combat (MCIA) course, affecting BOMBAV.

c) Rescue and Rescue Vessel crew - consisting of three triple antes, one of them in the role of boss, all enabled for rescue and rescue activity and wearing the necessary personal protective equipment (EPI).

EMCIA components and rescue vessel crew will not be able to accumulate other weapons during the air operations period.

1204 - SECURITY

The item 0204(c) and these Standards shall be complied with.

The three-way number of people on the helideck should be limited to the personnel involved in air operations.

1205 - LIGHTING AID

The subject of item 0505(b) of these Standards shall be complied with.

1206 - FIRE FIGHTING

a) Foam application system - a firefighting system equipped with hose lines, with sufficient length to reach any part of the helideck, according to the helideck category, as set out in point (a) of item 0703 these Standards. Such hoses should be equipped with nozzles, connected to the foam generator system, or alternatively with a manual foam applicator using firecrackers

b) Carbonic Powder and Carbon dioxide extinguishers- two 25kg chemical powder extinguishers units and three units of 6kg carbonic gas extinguishers.

c) Lge foam generator liquid capacity - as shown in 0703(c) of these standards. You may have bombonas that total the established quantities.

1207 - NON-SLIP NETWORK

The use of non-slip network is not mandatory; therefore, in no situation is the aircraft's engines cut, but the aircraft shall use shims on those helidecks

1208 - BÚRICAS

It is desirable to comply with the constant in item 0306 of these Standards, with the minimum quantity of four buffaloes within a radius of three meters.

1209 - RESCUE AND RESCUE VESSEL

There should be a rescue and rescue vessel ready and guarded during air operations.

1210 - CATURRO, BALANCE SHEET and SLOPE

Chapter 9 tables should be used for pitch *limits,*
balance (ro/§ and *inclination* of the vessel class 2.

1211 - COMMUNICATIONS

All communications made between helidecks and aircraft must preferably be made in the Portuguese language through the maritime VhF.

Communications include the exchange of necessary information (item 0603(c) of these Normas) approximation of the aircraft and its preparation for landing and takeoff, i.e. the performance of the initial contact by the aircraft and the receipt of information on the conditions in the helideck

The ALPH must communicate directly with the aircraft to alert pilots to any hazardous situation.

1212 - OBSTACLE SECTORS

For adapted helidecks:

a) At half-ship on the cover of the cargo hold of ships - Annex 12-A.
b) On the side of the main deck of ships - Annex 12-B.

Note: The balustradas near the adapted helideck must be removable or rebativeis.

1213 - LANDING AND TAKEOFF

Landing and takeoff operations on the adapted, approved helidecks are authorized only with anchored ships, or with stop machines and in the day time, for the boarding and disembarkation of public/practical agents and removal of injured people to the sick u to place where they can receive adequate medical assistance.

In situations where an emergency is established, by a doctor or, in his absence, a nurse, nursing technician or Ship Commander for the removal of injured or sick people to where they can receive adequate medical assistance, operations are allowed at night. In this case, lighting should be provided for the adapted helideck. The spotlight must be properly installed to ensure that the light source is not directly visible by the pilot. The inaction ilum arrangement must ensure that the shadows are reduced to a minimum.

In no situation is the aircraft's engines allowed to be cut on these helidecks.

CHAPTER 13

HELICOPTER *PICK-UP* AREA ON VESSEL

1301 - PURPOSE

Describe the necessary requirements of a helicopter *pick-up* area in vessels that do not have helideck, for the use of the *winch* of the aircraft to transfer material or persons (live load) from the ship to the helicopter or vice versa.

1302 - RELATED DOCUMENTS

a) Guide to Helicopter/Ship Operations — International Chamber of Shipping, fourth edition, 2008.

b) CAP 437 — *Chapter* 10 - *Offshore Helicopter Landing Areas - Guidance on Standards - UK Civ// Aviation Authority, eighth edition,* 2016.

1303 - *PICK-UP* AREA

It comprises the body of the vessel in which the air operation will take place, which is characterized by the use of the aircraft's winch to transfer material or persons from the ship to the helicopter or vice versa

There are two distinct ways to make a live cargo *pick-up,* namely:

- by the *sling* rescue handle), and
- on the stretcher (rescue of wounded).

1304 - QUALIFIED PERSONNEL

On the occasion of air operations, the vessel must be guarded by:

a) Nautical Room Officer - must be able to operate the vhf transvector frog on the walkway, aiming to establish bilateral communications with the aircraft, ready to pass the necessary information to pilots, preferably in the Portuguese language.

b) Pickup area *team:*

1) a Coordinating Officer - must be the team leader and be able to operate the portable maritime VHF transceiver radio, ready to communicate, preferably in the language Portuguese, with pilots, if necessary, and with the Nautica Room Officer; and

2) two crew members, at least - will assist in the operation and grounding with the stationery discharge stick (ground rod).

1305 - PERSONNEL SAFETY

Riders should be eligible in the *pick-up* maneuver in accordance with ANAC standards.

The three-way in the *pick-up* area should be limited to the personnel involved in the operation.

The *pick-up* team must use the personal protective equipment (PPE): jumpsuit, gloves, helmet, glasses and ear protector.

Realizer the DOE patrol.

1306 - HELICOPTER PERFORMANCE FOR *PICK•UP*

The helicopter must have enough power reserve to ensure, if an engine fails, that it can continue in hover ing with the other engine.

1307 - STATIC ELECTRICITY UNLOADING BATON

This equipment, grounding rod, comprises a stick one to two meters long, covered with electrical insulating material, having inu ma from its ends a metal hook to which is connected a copper or steel wire, four to five meters long, ending in an alligator-type claw, as illustrated in Annex 13-A.

The ground stick operator must hold the "jacaré" in a non-insulated location and touch with the end of the bat on the cable or winches hitch to perform the unloading of the sterile electricity (grounding), thus remaining until the end of the *pick-up maneuver.*

1308 - *PICK-UP* AREA CONFIGURATION

The marking of the *pick-up* area must comply with Annex 13-B.

a) The *pick-up* area must provide a maneuvering zone with a 2D diameter (twice the length of the largest helicopter allowed to use the area). Within the maneuvering zone, a clean area should be centered.

b) This clean area should be 5m in diameter, be pintada in yellow color, with non-slip paint.

c) At the inside of the maneuvering zone, with a diameter of 1.5D, no obstacle should be greater than 3m.

d) On the outside of the man oeuvre zone, no obstacle must be greater than 6m.

e) Although it is not desirable, it is acceptable to exist in the clean area of obstacles with a maximum height of 11 centimeters, provided that they have a smooth contour.

f) The external maneuver zone marking must consist of a broken circle with a line width of 30 cm, space ratio of approximately 4:1. The marking should be painted in yellow color. The extension of the internal maneuver zone may be indicated by painting a white line 10 cm thick.

g) Within the maneuvering zone, in an adjacent location unobstructed, the words "WINCH ONLY" should be painted, with the dimensions of the characters according to Annex 5-Fin white color.

h) All obstacles within or adjacent to the man oeuvre zone must be visinaibly marked, in accordance with Annex 4-F.

To reduce the risk of accidents, all protective rails, awnings, poles, antennas and other obstructions in the vicinity of the maneuvering zone must, as far as possible, be removed, lowered or arranged safely.

All doors, basements, hatches etc. in the vicinity of the operation body must be closed; this also applies to deck levels below the operation area.

1309 - FIREFIGHTING

Firefighting and rescue personnel must be ready but protected outside the area of operation.

1310 - RESCUE AND RESCUE VESSEL

There should be a rescue and rescue vessel ready and guarded during air operations.

1311 - COMMUNICATIONS

All communications made between the vessel and the aircraft must preferably be made in the Portuguese language through the maritime VhF.

Communications include the exchange of information necessary forth aircraft's approach.

Officer Coordinator must communicate directly with the aircraft to alert pilots to any hazardous situation.

1312 - TRANSFER OF MATERIAL (CARGO) OR PERSONNEL (LIVE LOAD)

Considering the aircraft already positioned in a flight hovered over the *pick-up* and bilateral contact between pilots and the Official Nautical Room.

a) Material transfer

1 Down the winch.

Without load, landing after touching the ground, thus remaining throughout the maneuver, after touching the hitch of the winch in the *pick-up* area the grounding rod operator holds the "alligator" in a non-insulated place, remaining until the end of the maneuver.

With load, to land before touching the ground, remaining so throughout the maneuver.

The helpers place the load to be hoisted and withdraw from the Maneuver.

2 - Safety precautions.

The material to be shipped must be checked and weighed with the weight written in a visible place.

Counter or remove, if possible, obstacles near the location of the maneuver or on the aircraft's approach line, with special care to the safety nets.

b) Transfer of personnel

1 - Transfer through the rescue handle (sling).

a. Down the winch

Without carga, landing after touching the ground, remaining so for the whole maneuver.

With load, land before touching the ground, thus remaining throughout the maneuver.

b. Climbing the winch

The Coordinating Officer will confirm for the aircraft, the ready for lifting the carga-viva. In the impossibility of lifting, if there is a need to cancel the operation, it will signal to cancel the operation with both arms erected above the head, with his hands flat, performing movements of crossing and uncrossing the arms - sowing to the rush signal.

At the time of descent or ascent, at the time the victim is near the aircraft door, only the auxiliary on the aircraft should pull it inwards and cannot be helped in any way.

c. Instructions for using the rescue handle

Completely remove the ends of the handle *(sling)* from the winch.

Pass the handle under your arms around the chest, adjusting it to the body of the element to be transferred, through the seat belt on the handle.

Hook the ends of the handle on the winch hitch, so that they are together with the hitch stand in front of the face of the element to be hoisted.

The element to be hoisted should cross arms by tightening the "SLING"

against the
body. During lifting if the body begins to rotate, remove the legs

each other.

d. Safety Precautions

The personnel to be transferred must be informed of the procedures for the safety and use of the individual protective equipment, necessary (inflatable vest, muffler, glasses, etc.).

Counter antennas, masts and remove, if possible, any obstacle that may interfere with the maneuver.

2 - Transfer of wounded (on stretcher).

The Coordinating Officer will confirm for the aircraft, the ready to descend or climb the winch, as the maneuver to be realized; then coordinate the placement or removal of the stretcher and the live load.

a. Down the winch.

Without the stretcher, landing after touching the convoo, remaining so throughout the maneuver.

With load, landing before touching the convoo, thus remaining durant and all the maneuver, and the maneuvering assistant with the right fist is closed, signaling.

b. Climbing the winch with the stretcher.

Make sure that the patient's head is raised about 30º in relation to the feet and that this is the first part of his body to enter the aircraft.

Tie a guide cable (Annex 13-C),to avoid stretcher spins and cause it to be maintained parallel to the longitudinal axis of the aircraft.

Notes:

1) The guide cable can only be released from the stretcher when it is safely inside the aircraft. In this case, the end of the cable that is attached to the stretcher must be configured with carabiner in order to facilitate its release.

2) The stretcher shall contain lifting points, to receive spider or manual stro position (Annex 13-C), containing four legs, its upper ends attached to a ring through reinforced seam, containing also four small cuffs at each lower end to be installed at the fixing points for hoisting the stretcher, so that the weight of the stretcher is equally distributed.

3) The stretcher that best suits is 'Neil Robertson', due to its fixation and immobilization characteristics of the injured in the most difficult conditions of transport, as it completely involves the patient. When installed, it has very small dimensions, adjusting to the size of the person. It is equipped with three handles of each lado for transport by padioleiros and risers, which possible item its vertical hoist or thirty 30º inclination, according to the choice of the point where the winch is connected. All these characteristics are perfectly compatible with the desired employment.

c. Safety Precautions

Do not attach the guide cable of the stretcher or the winch cable to pieces ship's fixed.

Do not touch the winch cable without it touching the deck
in order to avoid the risk of electric shock.

Collect all material that is loose on the deck, through the DOE patrol.

1313 - CERTIFICATE OF MAINTENANCE OF TECHNICAL CONDITIONS OF *PIC/ - UP* AREA (CMCTAP)

The Certificate of Maintenance of technical conditions of the Helicopter Pick-up Area, in accordance with Annex 13-D, issued by an Organization recognized by the DPC, or by the engineering sector of the vessel's operating company, should be forwarded to the date of the first referral, clearly describing that it remains in the technical conditions in accordance with this Chapter and is in safe conditions for conducting operations Air. This document will be valid for 36 months.

Upon receipt of this certified, DPC will implement its control and inform, via fax, the OR, consulting companies and aircraft operators the vessels that had their *pick-up* company approved.

There will be no survey and certification of THE CPD for these areas

1314 - GENERALIDADES

Landing and take-off operations are not authorized on vessels that only have *Pick-Up Areas.*

Pick-up operations will only be performed in the day time, under visual weather conditions (CMV).

(Company name)

APPLICATION FOR PROVISIONAL PERMISSION OF HELIDECK

Hon. Mr. Director of Ports and Coasts,

(Company Name),
(full address, ZIP Code) registered with cnpj/mf under the _____ _____ ___ __ _____ _____ _____ _____ na qualidade de (Agente/Proprietário) do(a), _____de bandeira_____ a serviço de(a) _____ vem solicitar a V. Exa. autorização provisória por um período de_____ dia(s) para realizar operações aéreas no helideck da mencionada (plataforma / embarcação), em conformidade com o item 0105 da NORMAM-27/DPC.

In these terms, you ask for a deferral.

Email:
contact phone:

LOCAL E DATA

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Attached documents:

a) Helideck Registration Tab;
b) Top and profile view of the fixed platform or signed vessel, on the scale 1:100,
c) Approval document issued bya foreigncompetent authority;
d) Original power of attorney or certified copy where the necessary powers are granted to administrative proceedings related to the type-approval of helideck, with the Brazilian Navy, when the applicant is not the shipowner or owner.
e) photo 21 x 29,7cm (A4) panoramic vessel/platform;
f) photo 21 x 29.7cm (A4) with the top view (top) of the Helideck;
g) Payment of the corresponding indemnity;
h) Aviation Emergency Plan (PEA) or Emergency Response Plan (PRE);
i) Proof or statement, from the Commander or legal representative, that the ALPH and radio operator speak the language Portuguese and that the vessel has HMS and light status; and
j) Length of stay in AJB.

Observations:
1) All items must be forwarded in electronic media, using the PDF format (Adobe Reader), item b must also be forwarded printed; and
2) Unsent documents should be justified and the order of the annexes should be maintained.

Company Name HELIDECK RECORD		
1- Name and acronym of the Vessel/Platform:		
2.1- Phonia Call Indicator of The Radio Station of the Vessel/Platform:		
2.2- Vessel/Platform EPTA Phonia Call Indicator:		
3- Registration number in the Captaincy of Ports, Police Station or Agency:		
4- Locality Code (ANAC):		
5- Registration in the International Maritime Organization (Imo N°):		
6- Flag:		
7- Type (Vessel/Platform):		
8- Armador:		
9- Operator / CNPJ:		
10- Owner:		
11- Afretador:		
12- Name, address, telephone number and email of the applicant:		
13- Length (D) of the largest helicopter to operate (in meters):		
14- Helideck features:		
14.1- Diameter (L):	14.2- Helideck height:	14.3- Nature of the floor:
14.4- Format:	14.5- Maximum vessel height:	14.6- Helideck resistance:
14.7- Class:	14.8- Categories:	14.9- Adapted Helideck: (YES / NO)
15- Obstacles close to helideck:		
15.1- Type(s) and height(s) in relation to the level of the AAFD floor:		
a)	b)	
15.2- Type(s) and distance(s) in relation to the limit of the AAFD area:		
a)	b)	
16- Communications and Navigation Systems - framework agreement item 0902:		
( ) Stationary helideck	( ) Helideck variable position	
16.1- NDB (applicable case):		
a) Frequency:	b) Registration (DECEA):	
16.2- VHF:		
a) Frequency(s):	b) Registration:	
17- Vessel/Platform position (when helideck is stationary):		
a) Latitude:	b) Longitude:	
17.1- In marking and distance (MN):		
a) From the nearest coastline:	b) The most prôximus airfield:	
18- Has approved helicopter fuel supply system: (YES / NO)		
19- Has non-slip network: (YES / NO)		
20- Area(s) of exploitation of natural resources and UF:		

I declare that I take full responsibility for the information presented herein, as well as for the immediate communication to the Directorate of Ports and Coasts of any changes that may occur in the data contained in this document. Local e data.

SIGNATURE OF THE
RESPONSIBLE NAME AND
CARGO

Company Name HELIDECK

SURVEY REQUIREMENT

Hon. Mr. Director of Ports and Coasts,
(Company Name), headquartered (full _____ ___ _____ address, ZIP Code) registration of cnpj/MF under no._____ ___ _ (vessel/platform), _____ __ _____ _____ flag, _____ ____ in service of (a) _ _____ __ , comes to request the V. Exa. Inspection for Certification and Registration of Helideck existing in the aforementioned vessel/platform, in accordance with the determinations contained in the NORMAM-27/DPC.
I participate in you. that the aforementioned helideck was prepared for the inspection according to the technical parameters established by the above-mentioned Standard and thatthe _____tomou ciência desta solicitação. (Capitania dos Portos, Delegacia ou Agência de jurisdição).

Email:
contact phone:

LOCAL E DATA NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Attached documents:
a) View of the top and profile of the helideck, on the scale 1:100;
b) Helideck Registration Tab;
c) Helideck Resistance Certificate;
d) Helideck Floor Friction Coefficient Certificate;
e) Helideck Protection Screen Resistance Certificate;
f) Payment of indemnity corresponding to the requested inspection;
g) Copy of one of the documents below, proving the epta type-approval process:
- Application for authorization for implementation of EPTA (ICA Annex 63-10), with its protocol of entry into the CINDACTA or AR of the mail with the stamp of the CINDACTA;
- Certificate of Approval of the Project (CAP);
- Provisional Operation Authorization (APO); or
- EPTA Approval Ordinance.
h) Power of attorney, original or certified copy, where the necessary powers are granted to administrative proceedings related to the type-approval of helideck with the Brazilian Navy, when the applicant is not the Shipowner or owner;
i) Certificate of Resistance of buffalo;
j) Plyear of Air Emergency (PEA) or Emergency Response Plan (PRE); and
k) Risk Analysis Report if applicable.
Observations:
1) All documents, must be forwarded in electronic media, using the PDF format (Adobe Reader), the item must also be forwarded printed;
2) Unsent documents should be justified, and the order of the annexes should be maintained;
And
3) The appropriations delivered to obtain the Provisional Authorization do not need to be resent.

BRAZILIAN NAVY
DIRECTORATE OF PORTS AND COASTS
Waterway Traffic Safety Superintendence
Helidecks Division

HELIDECK SURVEY REPORT No. xxx/20xx

VESSEL/PLATFORM: Name / Visual Indicative / Locality Indicative

Unit Photo

1 - SURVEY PROCESS

This survey was carried out according to NORMAM-27/DPC.

2 - RESUMO DA VISTORIA

Survey Date	
Type of Survey	
Vessel Name / Platform	
Type of Vessel / Platform	
N° IMO	
Indicative of call fonia of The Vessel / Platform	
Indicative de chamada phonia from EPTA	
Flag	
Owner	
Operator / CNPJ	
Owner	
Afretador	
Area of operation and UF	
Vistoriadores	

3 - HELIDECK DATA:

Category	
Class	
Adapted Helideck	
Length (D) of the largest helicopter to operate	
Helideck diameter (L)	
Maximum permissible load	
Helideck height (in relation to sea level)	

It has approved supply system	( ) YES () NO
Uses non-slip network:	( ) YES () NO Validity of friction coefficient certificate
Operating conditions	

4 - HELIDECK PHOTOS

Profile picture of the Vessel / Platform	(photo n° 1)
Top photo of helideck	(photo n° 2)
Photo of foam monitors or Pop-up spray system in operation	(photo n° 3)

5 - REQUIREMENTS (with photos)

ITEM	PREVENTING REQUIREMENT	STANDARD-27 DEADLINE

ITEM	NON-PREVENTIVE REQUIREMENT	STANDARD-27 DEADLINE

6 - OBSERVATIONS

a) Conduct periodic training with the rescue vessel crew in order to reduce your reaction time (2 minutes) in the garrison and launch.

b) The vessel/platform has the following exceptions authorized by the DPC:

c) Vessels and plat approved forms shall adapt to the requirements contained in STANDARD 27, the expiry of which expires:

After these deadlines, any irregularities arising from the non-compliance with these requirements are under the responsibility of the Platform Manager or Vessel Commander.

d) Unit situation: (requirements with deadline)

I - Contain (or not)

II - Own (or not)

e) If there is no aeronautical frequency allocated by the DECEA, or its iicença is overdue, for safety reasons, the essential communications between the helicopter and the maritime unit must travel through the maritime HBV.

f) The calibration of instruments and sensors should be carried out according to the technical specifications established by the manufacturers, if there is no defined interval should be performed every 24 months, and in accordance with the parameters established by the Brazilian Calibration Network (RBC),consisting of laboratories accredited or recognized by Inmetro.

g) Full name, CPF or identity of the person responsible for the vessel (Commander, ImOM or Manager), functional telephone, fax and e-mail, responsible for the vessel at the time of the survey.

h) Company Name; full name, CPF or identity of the company responsible, functional telephone and e-mail of the person responsible for the advice of the vessel / platform at the time of the survey.

7 - The Helideck surveyed DO NOT APRESAT SATISFACTORY SAFETY CONDITIONS. The Helideck surveyed PRESENTED Satisfactory SAFETY CONDITIONS and the requirement(s) found(s) allows the operation of the helideck with helicopters, up to the date of _/_/

Local e data.

_____	_____
Name Auxiliary Surveyor Graduation	NOME Auxiliary Surveyor Graduation
_____	_____
NOME Place Vistoriador	Name Chief Surveyor Post

Nome da Empresa

HELIDECK REQUIREMENTS COMPLIANCE INFORMATION

Hon. Mr. Director of Ports and Coasts,

(Company Name), headquartered (full __ _____ _____ _____ address, ZIP Code),registered in cnpj/MF under the

_____ na qualidade de Agente/Proprietário) do (a),_____ from Flag _____ ___ to service of _____ vem participar a V. Exa. que as exigências de n°_____ constantes no Relatório de Vistoria de Helideck n°_____, datado de_____ , foram sanadas, em conformidade com a alínea c do Item 0105 da NORMAM-27/DPC.

Email:
contact phone: LOCATION
AND DATE NAME,
POSITION AND
SIGNATURE OF THE
PERSON RESPONSIBLE

Annexes:
a) Proof of payment of the indemnity of Helid Requirement Withdrawal Surveyeque; and
b) Certified copy of the power of attorney where the necessary powers are granted to administrative proceedings related to the type-approval of helideck with the Brazilian Navy, when the applicant is not the shipowner or owner.
c) Photos, with date, of the requirements remedied.

BRAZILIAN NAVY

DIRECTORATE OF PORTS AND

COASTS

PREVENTING REQUIREMENTS

Examples of Preventive Oxygens:

1) Obstacles encountered in the SLO that pose risk to the aircraft.
2) Obstacles encountered in SOAL that pose risk to the aircraft.
3) Liquid leaks to the lower conveses.
4) Absence of the biruta.
5) Absence of qualified crew members provided for the operation of the rescue vessel.
6) Absence of ALPH enabled.
7) Number of BOMBAV enabled less than two (category H1) or three (categories H2 or H3).
8) Absence of Maritime Platform Radio operator (RPM) enabled.
9) ALPH does not speak the language Portuguese.
10) RPM does not speak the Portuguese language.
11) RPM with the Expired Technical Qualification Certificate (CHT).
12) Inoperancia of the firefighting system.
13) Bad work foam monitor sing, not allowing foam production in 15 (fifteen) seconds.
14) Insufficient firefighting system pressure for the jet to cover the entire length of the helideck.
15) Malfunction of the lifting/firing system and the rescue vessel.
16) Emcia's non-guarneation during helicopter landing and takeoff.
17) The vessel does not have HMS.
18) RPM does not see HMS in the radio room.
19) Vessel/platform does not have helideck condition light *status light).*
20) The touch area is not centered.
21) HMS *pitch, roll and heave (MRU)* measurement sensors, anemometers and

temperature sensor) without calibration or with the overdue calibration.

Note: This relationship does not exhaust the impeding requirements and will be dynamic, suffering updates, due to several factors such as the evolution of technological resources and operational procedures.

Company Name

REQUIREMENT FOR CHANGING HELIDECK PARAMETERS

Hon. Mr. Director of Ports and Coasts

(Company Name), based on __ _ _____ _____ (full address, ZIP Code) registered in cnpj/MF under no. _____ _ (Agent/Representative) of (Gunowner/Operator, owner or charterer), owner(a) of the (vessel/platform) of flag_____in the service of (a) _____ , requests the amendment of the following parameters to be mentioned (embargocação/platform), contained in Registration Ordinance No. __ _ _____ (In accordance with point and item 0104 of NORMAM-27/DPC.

Change Report:_____

I participate in you. that (vessel/platform) has satisfactory security conditions if the parameters established by the above-mentioned ordinance and that (Captaincy of Ports, Police Station or Agency of jurisdiction) became aware of this request.

Email:
contact phone:

LOCAL E DATA

NAME, POSITION AND SIGNATURE OF THE RESPONSIBLE

Copies: DPC, Captaincy of Ports, Police Station or Agency (c/annexes). Attached

documents:
a) Top and profile view of the platform or merchant ship, on the scale 1:100;
b) Helideck Registration Tab (FRH);
c) Power of attorney where the necessary powers are granted to administrative proceedings related to the approval of helideck with the Brazilian Navy, when the applicant is not the Shipowner or owner;
d) Other documents that are necessary; and
e) Proof of payment of indemnification related to the alteration of parameter requested, according to the guidelines contained in Annex 1-H;

Observations:
1) All documents must be forwarded electronically using the PDF format (Adobe Reader);the item must also be forwarded printed; and
2) Unsent documents should be justified and the order of the annexes should be maintained.

Nome da Empresa

MAINTENANCE CERTIFICATE OF
HELIDECK TECHNICAL CONDITIONS

I certify that, on this date, the helideck located on board the (vessel/platform), _____ __ _____ (No. IMO) _____ _____ _____ Indicative of Locality _____ _____ , Flag _____ __ , currently operating in the area, _____ owned _____ __ Frame _____, afretada_____ , nas condições técnicas para as quais foi aberto ao tráfego aéreo, em conformidade com a Certificação de Helideck emitida pela Marinha do Brasil e a Portaria de Registro n°_____ , de _____(data), emitida pela Agência Nacional de Aviação Civil (ANAC), válida até_____ (data). O helideck foi inspecionado por _____ e foi aprovado por_____ (nome da Organização reconhecida pela DPC ou pelo setor de engenharia da empresa que opera o helideck).

Email:
Contact phone: Location

and date.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Observations:
1) Attach to CMCTH three current helideck photos (21 x 29,7cm (A4), profile, top and vessel).
2) Attach to CMCTH the EPTA Type-Approval Certificate category "M".
3) Attach the Friction Coefficient Certificate, where applicable.
4) All documents must be forwarded electronically using the PDF format (Adobe Reader).

COMPENSATION TABLE

SERVIÇOS	VALOR R$
1 - Initial Survey	6.168,62
2 - Renewal Survey	5.160,33
3 - Analysis of Plans and Documents	1.104,07
4 - Preparation of the Helideck Survey Report	240,01
5 - Survey for Withdrawal of Requirements / Change of Parameters	2.940 19
6 - Helideck Certification	1.104,07
7 - Provisional Authorization	3.364,70

Note: 1) Independent of Gross Arching — AB; and

2) The above amounts will be fixed annually in November, which will be disclosed by fax and email.

Amounts to be paid in processes:

a) Initial Survey:
Value = Plot 1 + Plot 3 + Plot 4 + Plot 6 = R$ 8,616.77

b) Renewal Survey:
Value = Plot 2 + Plot 3 + Plot 4 + Plot 6 = R$ 7,608.48

c) Withdrawal of Requirements:
Value = Plot 3 + Plot 4 + Plot 5 = R$ 4,284.27

d) Parameter Change:
Value = Plot 3 + Plot 4 + Plot 5 = R$ 4,284.27

e) Extension of Ordinance:
Value = Installment 3 = R$ 1,104.07

f) Provisional authorization to helideor or its extension:
Value = Installment 3 + Plot 7 = R$ 4,468.77

g) Analysis of Plans and Documents:
Value = Installment 3 = R$ 1,104.07

h) Initial Survey abroad:
Value = Item at + 30% = R$ 11,201.80

BRAZILIAN NAVY
DIRECTORATE OF PORTS AND
COASTS
HELIDECK CERTIFICATION HELIDECK
CERTIFICATION NO_____

He entrusted me with the Director of Ports and Coasts, using the attributions conferred on It the _ Inter-ministerial Normative Ordinance No. 1,422/MD/SAC-PR, from June 5, 2014, published in Official Gazette No. 107, of June 6, 2014, and with a view to receiving rvh no. _____ features:

I - Name of vessel/platform, flag, localities and acronym_____

II - Indicative of the phonia call of the vessel/platform and the EPTA:_____

III - Number of Registration with the Maritime Authority Brazilian: _____

IV - Type Of vessel/platform _____

V - Unit Of Federation: _____

We - Area of exploitation of Resources Natural: _____

VII - PosiçWill Geographical: _____

VIII - Altitude relative to the level of the mar: _____

IX - Resistance of the Floor: _____

X - Maximum length of the largest helicopter a Operate: _____

XI - Conditions Operating: _____

XII - Class: _____

XIII - Category:_____

XIV - It has approved fuel system: _____ _____

XV - Operator / CNPJ: _____ and

XVI - This certification will be vain until ___ _____

/_____/ Rio _____ de Janeiro,

in 20xx.Name

Place
Head of the Department of Naval Survey

BRAZILIAN NAVY
DIRECTORATE OF PORTS AND COASTS

CANCELLATION OF
CANCELLATION ORDINANCE @

He entrusted me with the Director of Ports and Coasts, using the attributions conferred on Him inter-ministerial normative ordinance No. 1. 422/MD/SAC-PR, FROM June 5, 2014, published in Official Day No. 107, of June 6, 2014, and with a view to not meeting the requirements of this Board, the helideck does not present satisfactory techniques for helicopter landings and takeoffs, and the cancellation of Ordinance No. /ANAC is recommended and its consequent closure to air traffic on the vessel/platform, with the following characteristics:

I- Name of the vessel/platform, flag, locality and acronym code: _____

II- Number of Inscrição na Autoridade Marítima Brazilian:_____

III- Type of _____ vessel/platform IV- Observation:_____

Rio de Janeiro, in de 20xx.

PLACE
NAME
Head of the Department of Naval Survey

BRAZILIAN NAVY

DIRECTORATE OF PORTS AND

COAST

HELIDECK BAN NOTIFICATION

1 — I attest that, in / //____, the helideck located on board EMBARCAÇÃO /FIXED __ _____ _____ PLATFORM , INDICATIVE OF LOCALITY __ AND ACRONYM _____ _____ , was subject ed to SURVEY (INITIAL / OF RENEWAL / INSPECTION / CHANGE OF PARAMETERS) according to what is provided for in NORMAM-27/DPC, in order to verification of technical conditions for helicopter landings and takeoffs, and did not present satisfactory safety conditions to operate helicopters, because(s) the (s) Requirement(s) prevented(s) described below:

Preventative Exercise(s)	NORMAM-27/DPC

2 - In the face of the above, I notify the Person responsible that the helideck of this vessel is prohibited, from this date, and the landing of helicopters is not allowed until the above-mentioned Requirement(s) is remedied and informed to the CPD to be inspected again and, if approved, anac is requested to open/reopen air traffic.

CHIEF SURVEYOR

VISTORIADOR-AUXILIARY

NAME OF THE PERSON RESPONSIBLE FOR THE HELIDECK

BRAZILIAN NAVY

PORT AND COAST DIRECTORATE

NOTIFICATION OF HELIDECK DEINTERDICTION

1 — I attest that, on // or , the helideck located on board the VESSEL/FIXED ___ _____ PLATFORM INDICATIVE OF LOCALITY _____ and ACRONYM, ___ was submitted to the SURVEY OF WITHDRAWAL OF REQUIREMENTS, in accordance with the provisions of THE STANDARD-27/DPC, aiming at the verification of technical conditions for landings and takeoffs of helicopters, and presented satisfactory conditions of safety to operate helicopters.

2 - In the face of the above, the Responsible person that the helideck of this vessel is off-limits, from this notifico date, being allowed to land helicopters.

CHIEF SURVEYOR

VISTORIADOR-AUXILIARY

NAME OF THE PERSON RESPONSIBLE FOR THE HELIDECK

BRAZILIAN NAVY PORT BOARD

AND COSTA COMMUNICATION

DEMAND

1– I attest that, in // /_____, it was observed that the helideck located on board the VESSEL / FIXED _____ _____ PLATFORM , INDICATIVE OF LOCALITY

_____e SIGLA___ , apresentou exigência(s) em relação ao(s) requisito(s) para operar helicópteros como previsto na NORMAM-27/DPC, a seguir descritos:

Requirement(s)	NORMAM-27/DPC Reference item

2 - In the face of the foregoing, the Vessel/Fixed Platform Officer must, within ____ days, regularize the above-mentioned requirement(s), pay the Pas for the Survey of Withdrawal of Requirements and inform the DPC its compliance, otherwise may have its registration cancelled.

IN CHARGE OF THE HELIDECKS DIVISION

Company Name

Statement

I declare that the helideck located on board the (vessel/platform) _____ (N° IMO/N° inscrição)_____ , operando em AJB, não serã utilizado para operações aéreas, não sendo, portanto certificado e registrado de acordo com a NORMAM- 27.

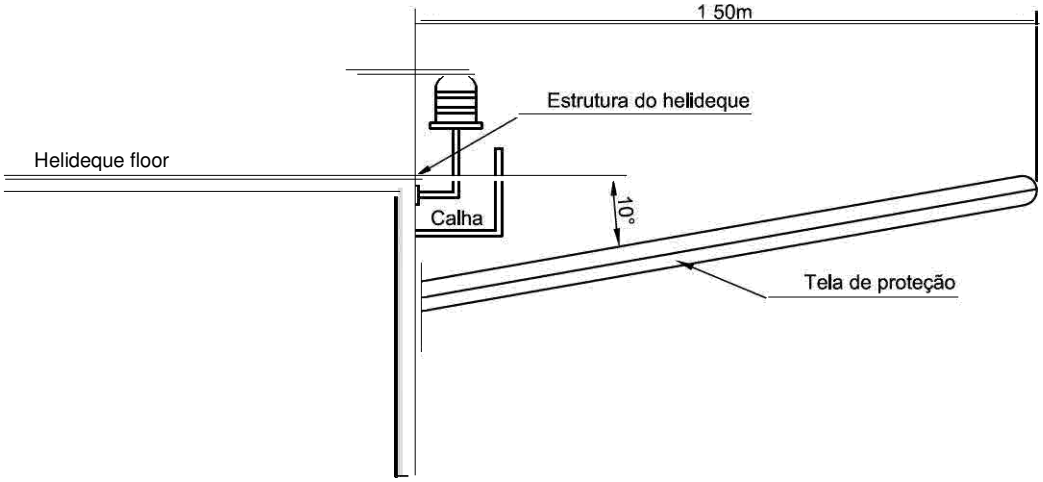
I assume that I am aware that I must put the helideck signage banned, item 0504, subitem g of the above standard.

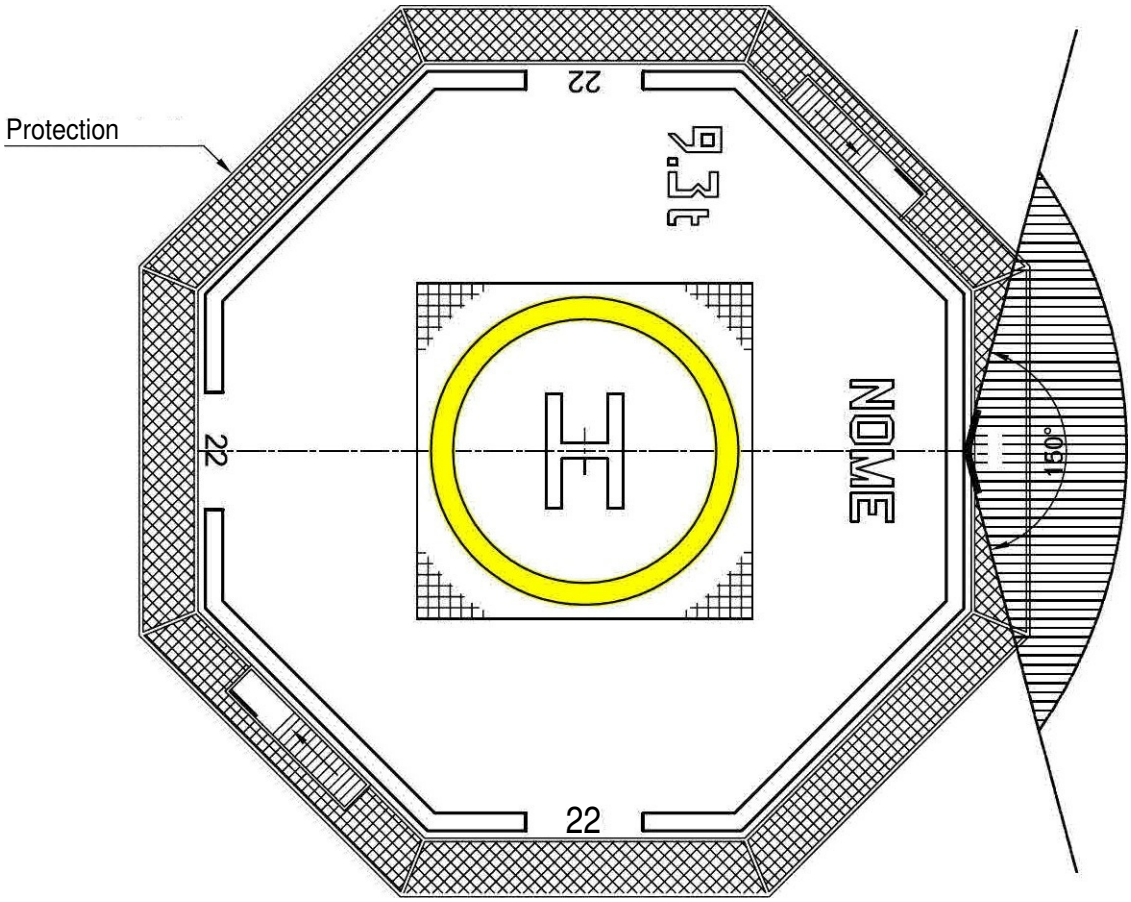
Email:
contact phone:

Local e data.

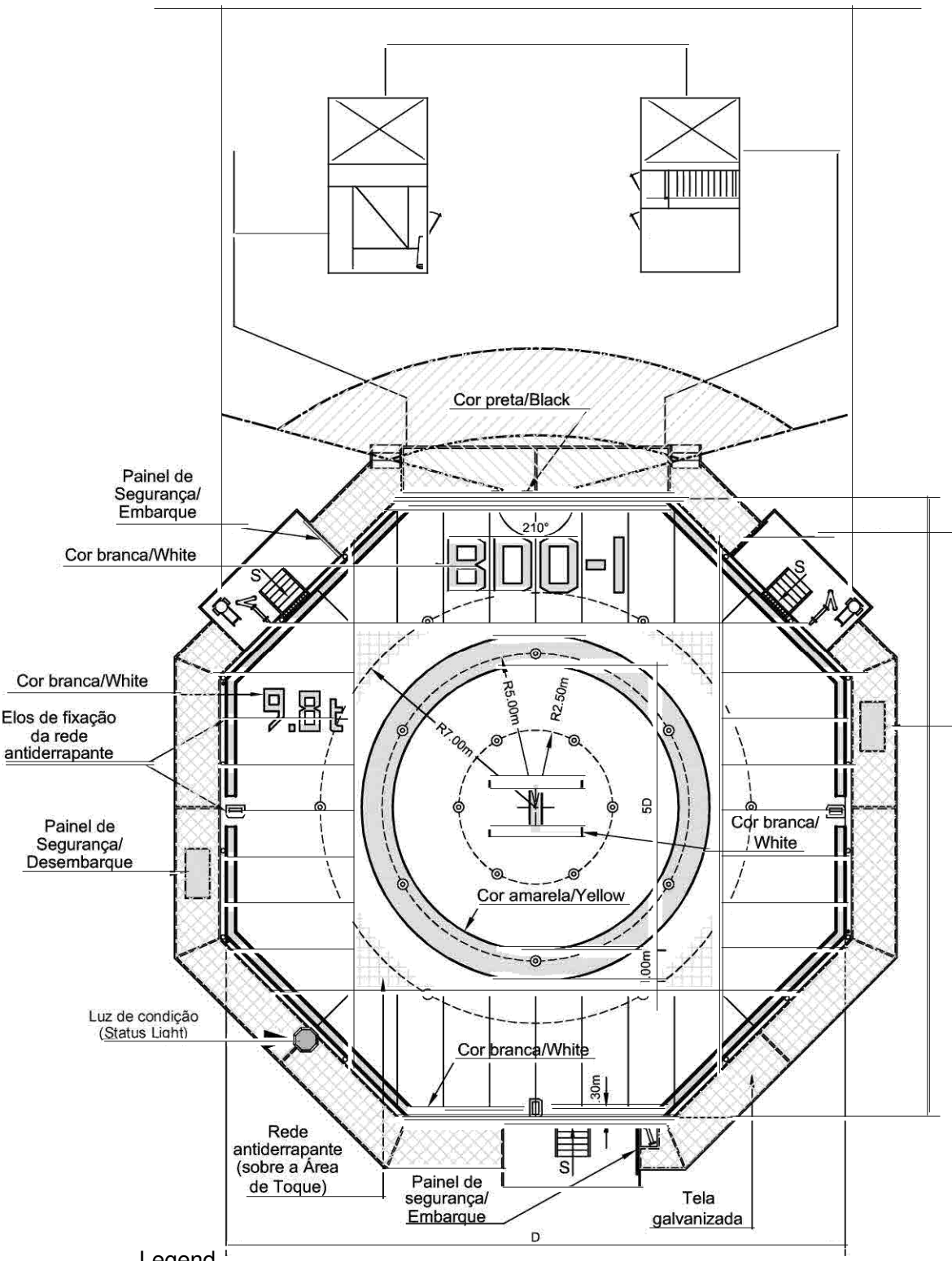
NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

HELIDECK PROTECTION SCREEN





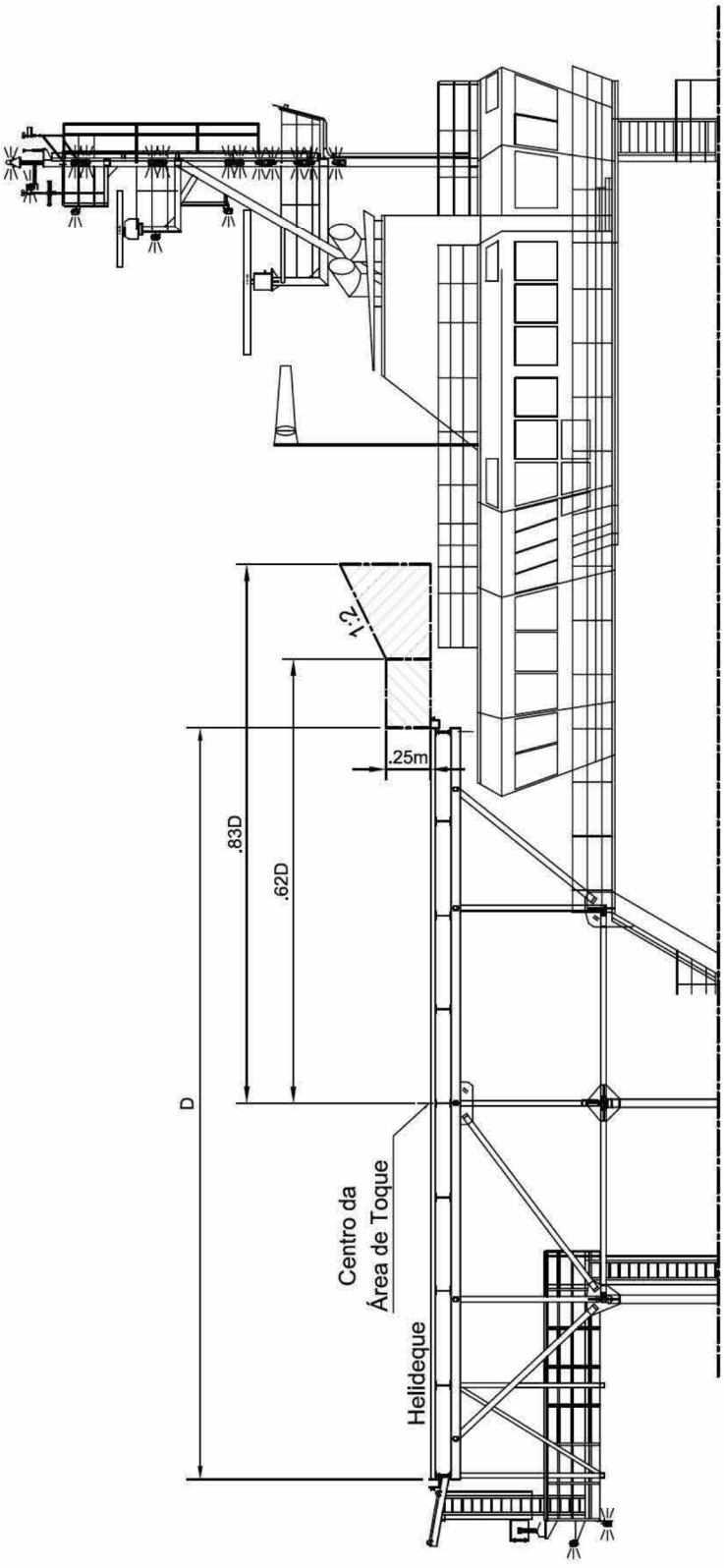
TOP VIEW OF THE HELIPAD



VISTA DE TOPO
No stopover

Legend
Foam cannon. zz0
Chemical powder pen.
Hose line. Drains.
and Buffaloes for Mooring of the non-slip network.
e== Wind Direction Indicator (Biruta): yellow or orange color.
o End Approach And Takeoff Área Limit Lights: green color, maximum height = .25m.

VISTA DE PERFIL DO HELIDEQUE



Company Name

Helideck Protection Screen Resistance Certificate

I certify that, on this date, the sections of the protective screen installed on the helideck located on board the (vessel/platform) _____ (No° IMO/N° inscription) _____, Indicativo de Localidade_____ , foram submetidas ao teste previsto na NORMAM-27/DPC, sendo constatado que se encontram livres de avarias e em condições seguras para a condução de operações aéreas.

Thetest was performed by _____ and approved by _____(Organização Reconhecida pela DPC ou Engenheiro do setor de engenharia da empresa que opera o helideck e n° do CREA).

Note: This certificate is valid for 12 (twelve) months.

Email:

contact phone:

Local e data.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Company Name

Helideck Resistance Certificate

I certify that the floor and support structure of the helideck located_____ _____ on board (vessel/platform), (No° IMO/N° inscription) _____ Indicative of _____ Locality, resist tons, and meets, on this date, the parameters described in aliad - Structural Project, item 0204 — Safety of the Guys, from NORMAM-27/DPC.

The helideck was inspected by _____ and approved by _____ (Organização Reconhecida pela DPC ou Engenheiro do setor de engenharia da empresa que opera o helideck com Anotação de Responsibilities Técnica - ART e cópia do registro no CREA).

Note: This certificate is vain for five years.

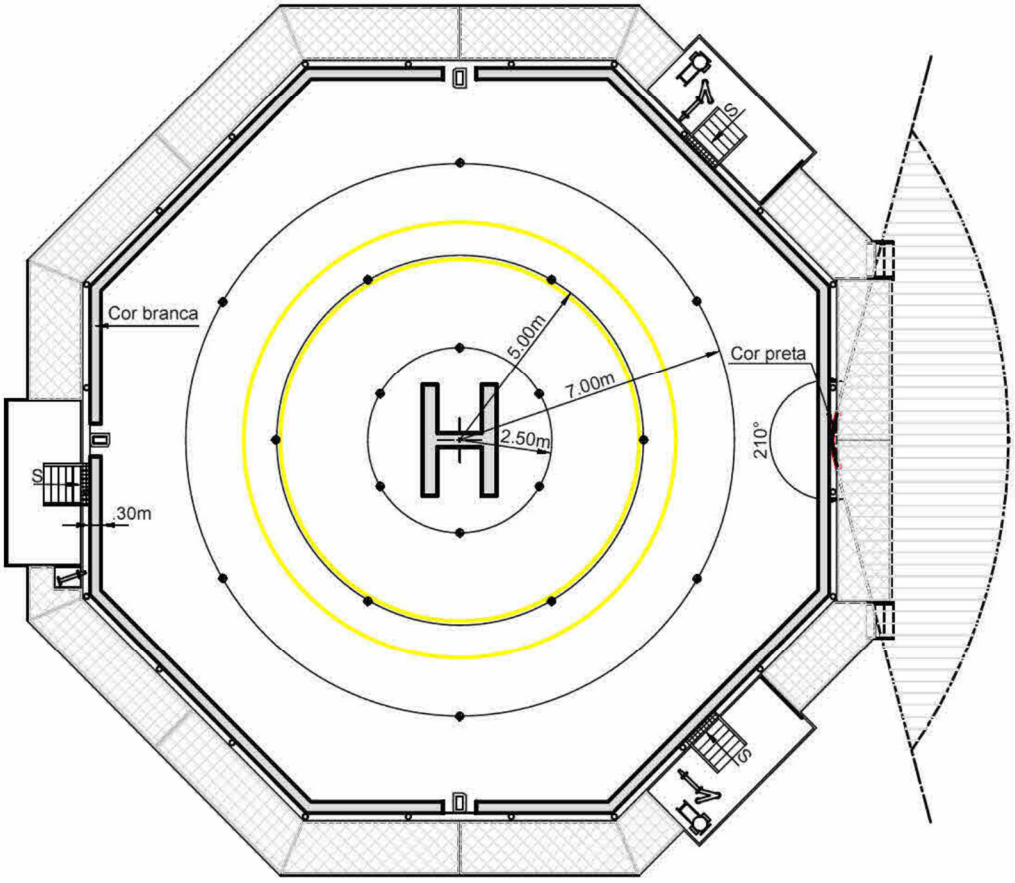
Email:

contact phone:

Local e data.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

ESQUEMA DE DISTRIBUIÇÃO DE BÚRICAS E AUXÍLIOS DE ILUMINAÇÃO



Helideque da categoria H-1: 6 búricas.
Helideque da categoria H-2: 12 búricas (6 em cada círculo).
Helideque da categoria H-3: 18 búricas (6 em cada círculo).

Name of the Certified

Company of coefficient of friction

I certify that, on this date, the aafd floor of the helideck located on board the (vessel/platform) _____ _____ , (No° IMO/N° inscription), _____ . Indicative of Locality, _____ was submitted to the test of the coefficient of friction as the method provided for in NORMAM-27/DPC.

The test was performed by _____ and approved by _____(Organization Recognized by DPC or Engineer of the engineering sector of the company that operates the helideck Note of Responsibility Técnica - ART and copy of registration in CREA), having the validity of com _____ months.

Obs.:

1- This certificate is valid for 12 months.
2- This document should be attached to the equipment report with the result of the measurements.

Email:

contact phone:

Local e data.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Company Name

Bulgarian Resistance Certificate

I certify that, on this date, the buffaloes installed in the helideck_____ ____ located on board the (vessel/platform) (No. IMO/N° inscription) _____ , Indicative of Locality _____ were tested, and it is found that they are free of malfunctions and safe conditions for the conduct of the air operations of the largest helicopter to operate on the helideck

The test was performed by _____ and approved by _____(Organização Reconhecida pela DPC ou Engenheiro do setor de engenharia da empresa que opera o helideck com Anotação de Responsibilities Técnica - ART e cópia do registro no CREA).

Note: This certificate is vain for 3.5 years.

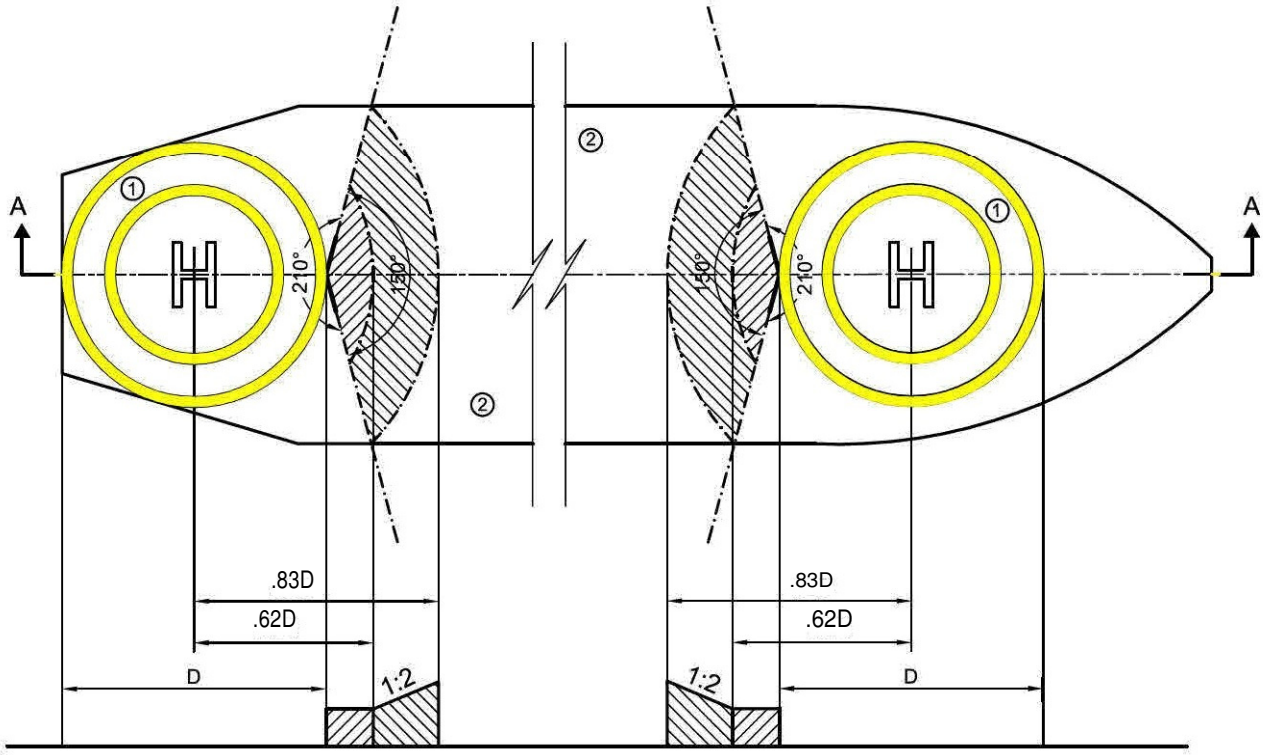
Email:

contact phone:

Local e data.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

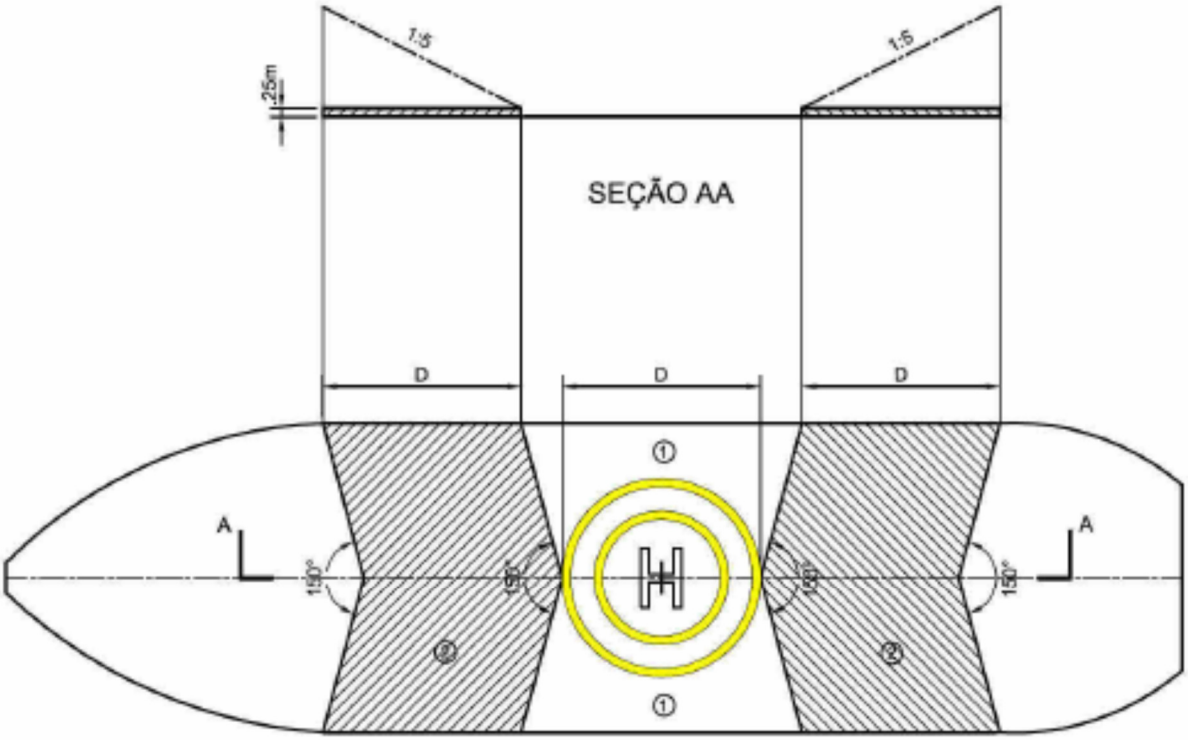
SHIP HELIDECK ON STERN OR PROA



SECTION AA

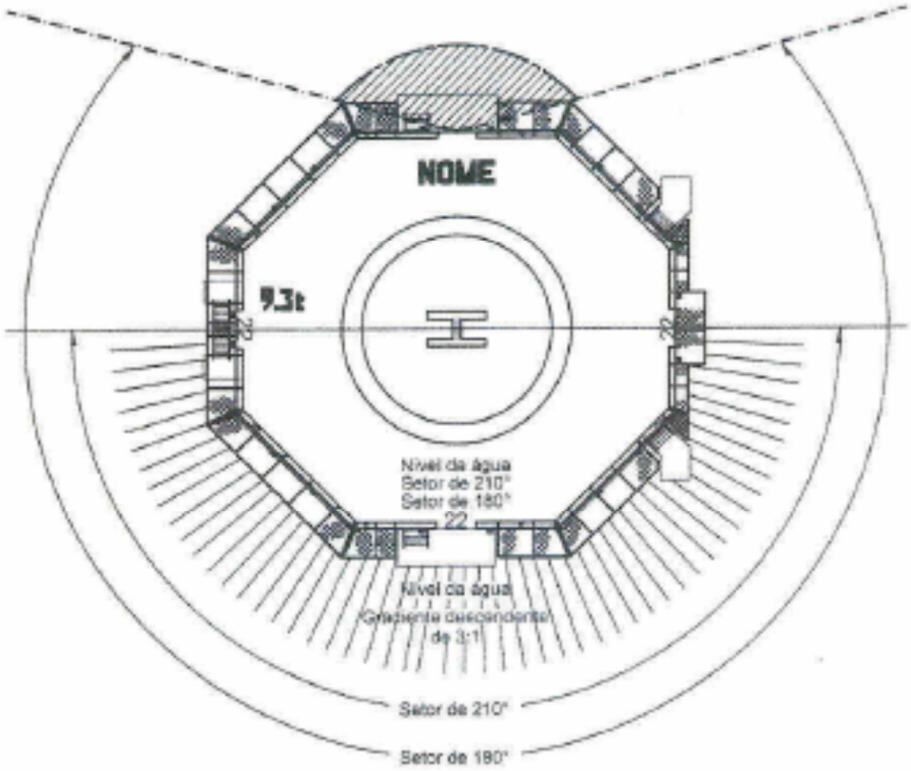
1 = Obstacle-Free Sector.
2 = Obstacle sector with Limited Heights.

HELIDEQUE DE NAVIO
À MEIA-NAU

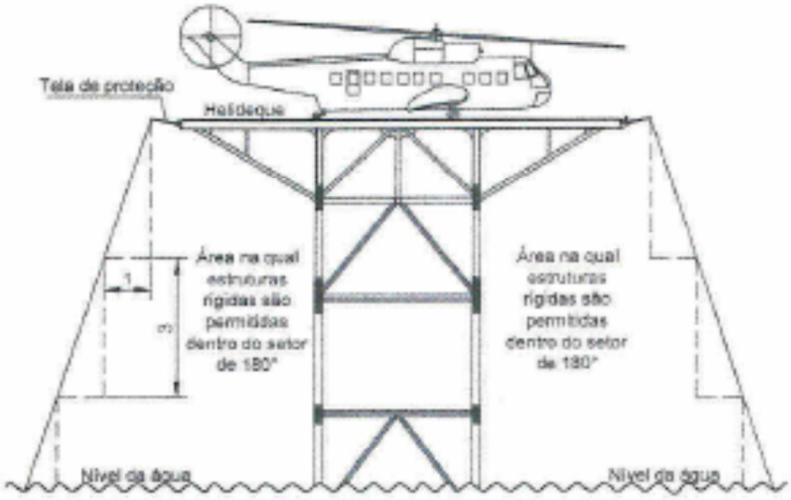


1: Setor Livre de Obstáculos.
2: Setor de Obstáculos com Alturas Limitadas.

GRADIENTE NEGATIVO



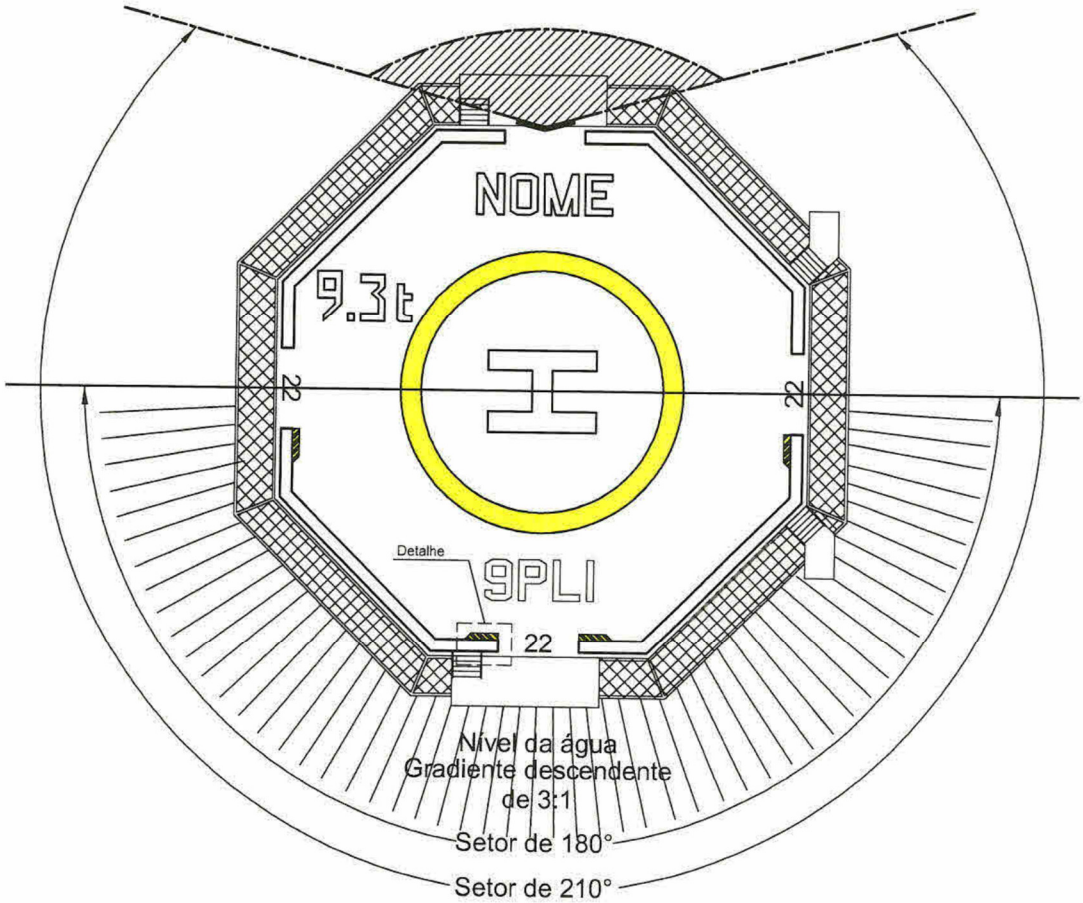
VISTA DE TOPO



VISTA DE PERFIL

FAIXA DE ALERTA DO NÃO CUMPRIMENTO DO GRADIENTE NEGATIVO

CROQUI PARA SINALIZAÇÃO DE OBSTÁCULOS QUE COMPROMETAM O GRADIENTE NEGATIVO

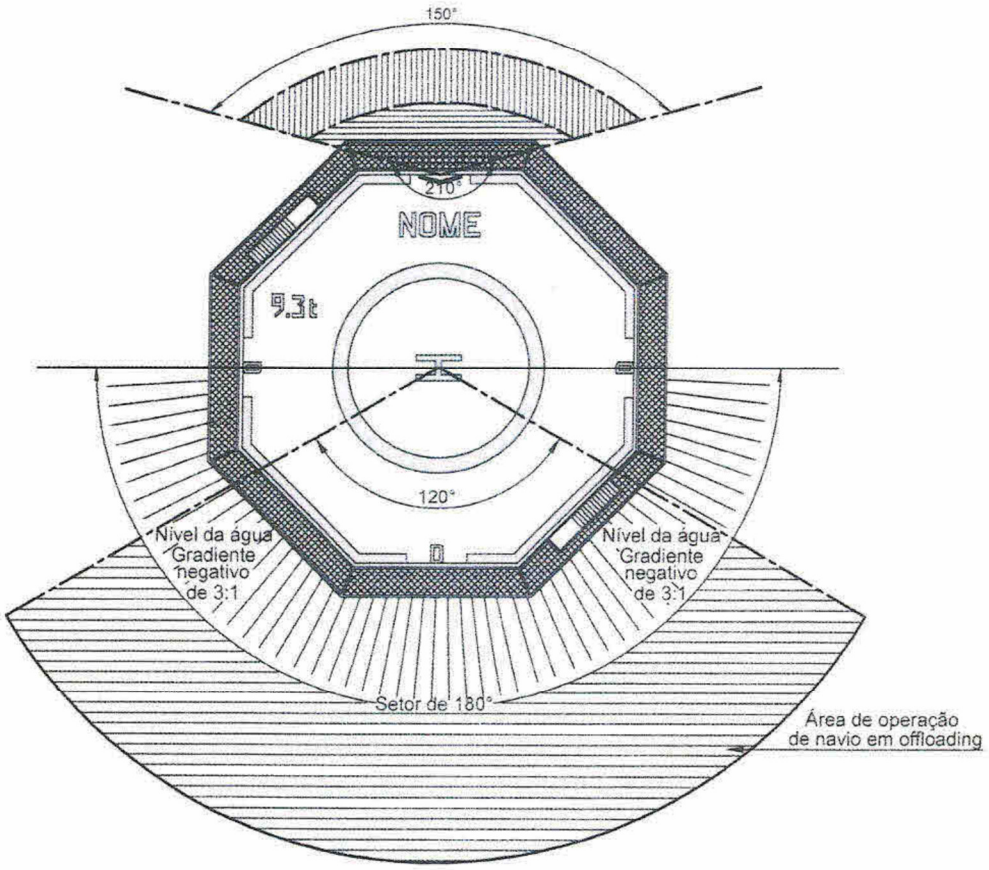


DETALHE

Obs.: Em helideques circulares o ângulo da faixa será de 90°.

GRADIENTE NEGATIVO

Área de Operações de Navios em Offloading



Requisitos para unidades realizando operações aéreas e *offloading* simultaneamente:

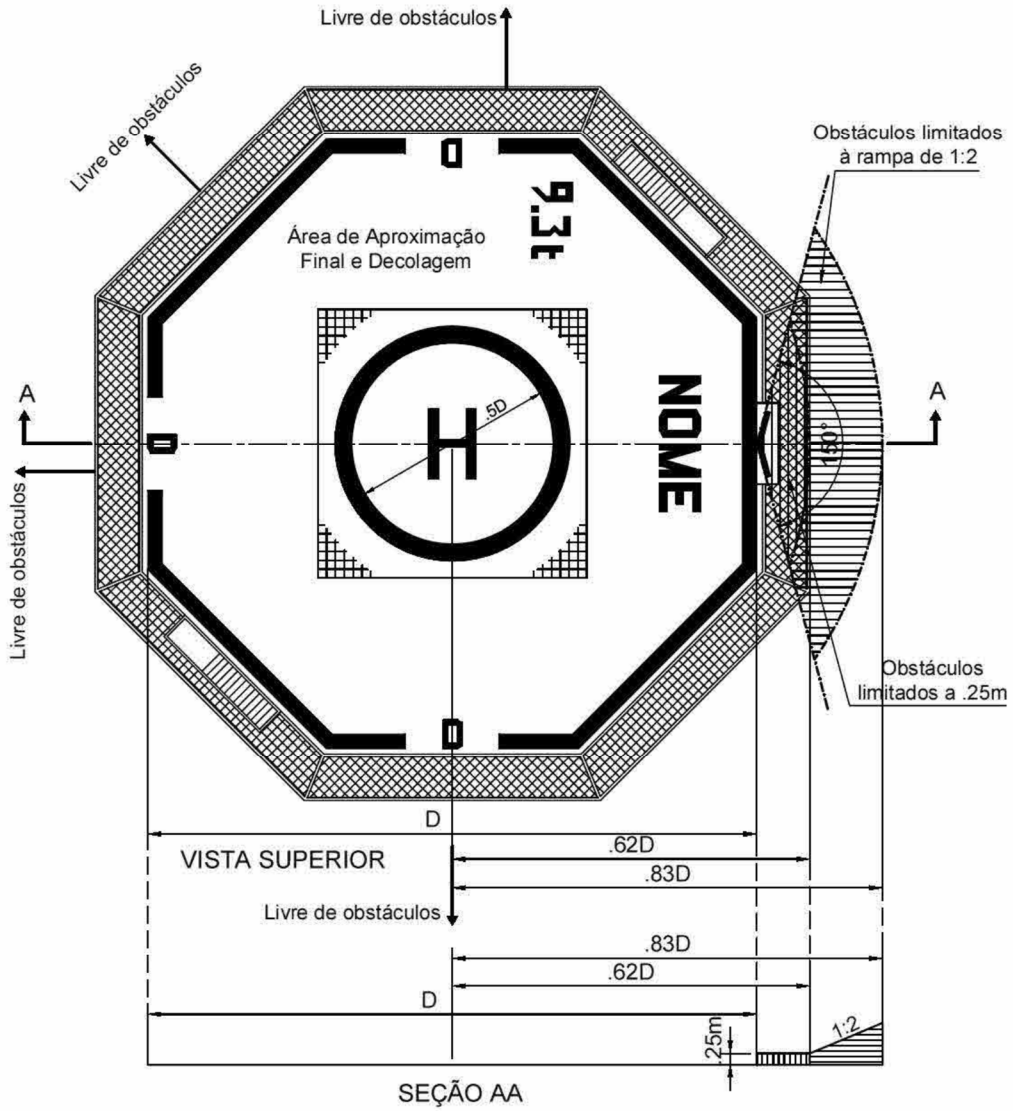
1 - o bico de proa do navio aliviador deverá estar a uma distância de, no mínimo, 100 metros da plataforma com capacidade de armazenamento de óleo;

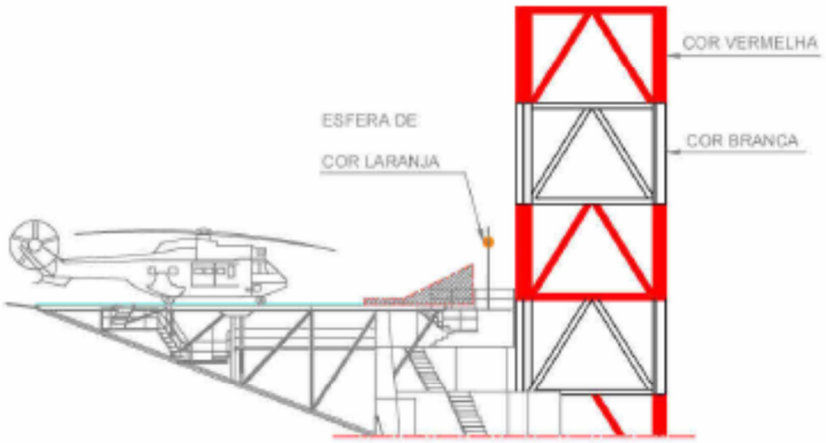
2 - o navio aliviador deverá estar localizado dentro de um setor, com vértice no centro do helideque da plataforma com capacidade de armazenamento de óleo e com a bissetriz coincidente com a do SLO, que não exceda um arco de 120º (cento e vinte graus), conforme ilustração acima;

3 - as rampas de aproximação e decolagem devem estar desobstruídas, devendo estar disponível, para pronto emprego e nas proximidades, uma embarcação de apoio (rebocador) que garanta a movimentação do navio aliviador a fim de manter a desobstrução das rampas. As embarcações dotadas com sistema de posicionamento dinâmico (*Dinamic Position System - DPS),* estão dispensadas desta embarcação de apoio; e

4 - o helicóptero que se deslocar para o pouso e decolagem no helideque da plataforma com capacidade de armazenamento de óleo deverá ser configurado para a classe de desempenho 2, conforme o rbac n° 01, ou HOGE (hoover out ground effect), o que for mais restrito.

SETOR DE OBSTÁCULOS COM ALTURAS LIMITADAS





DETALHE

Embarcações/Plataformas marítimas acopladas

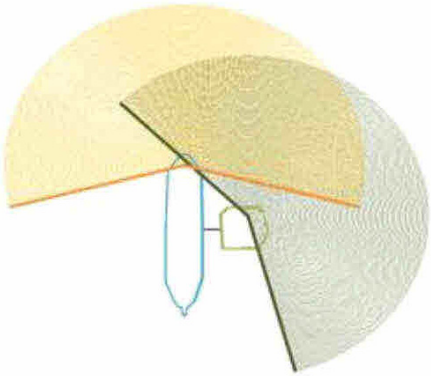


fig.1 - acoplamento com SLO de 210° (helideque de verde interditado)

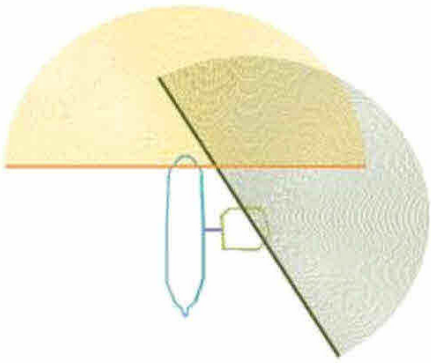


fig. 2 - acoplamento com SLO de 180° (helideques operacionais)

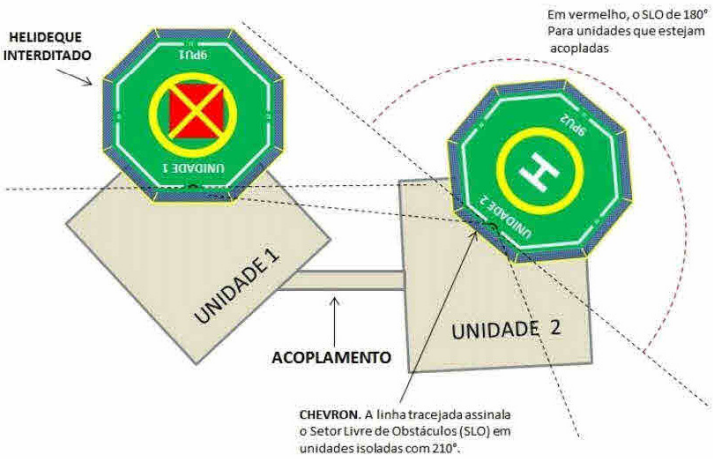
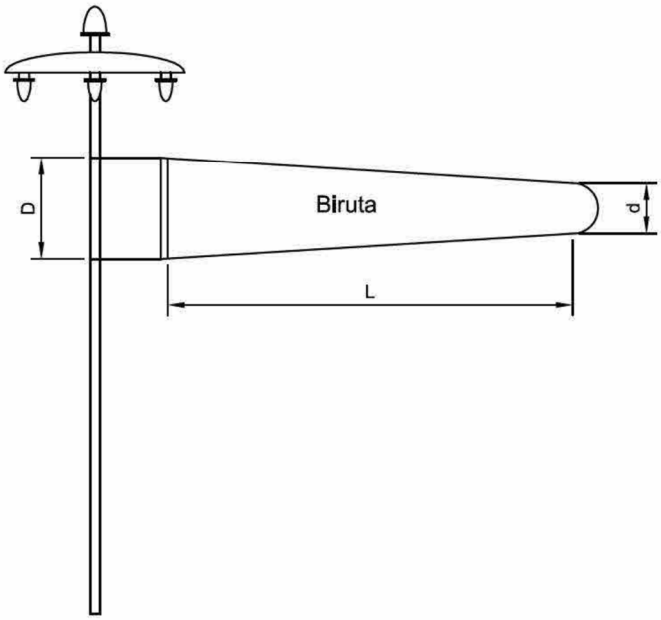


fig. 3 - acoplamento com SLO de 210° (helideques 1 e 2 interditados); com SLO de 180° (helideque da Unidade 1 interditado)

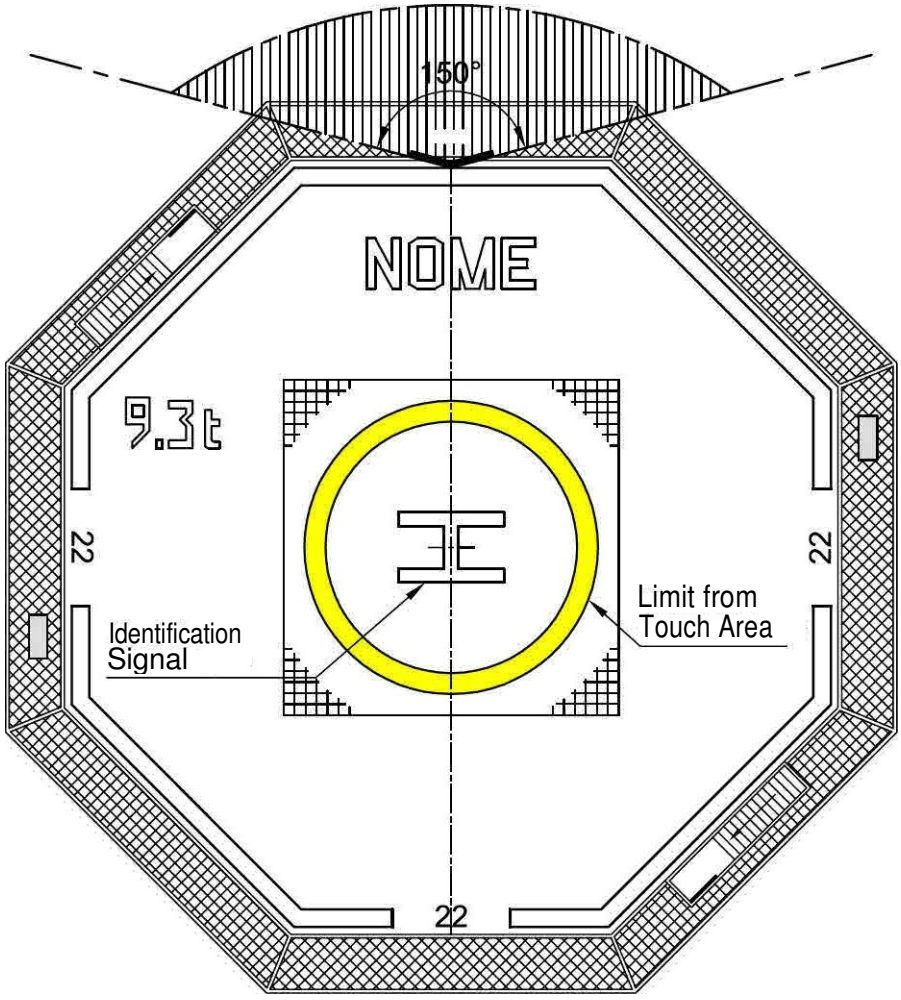
MODELO DE BIRUTA

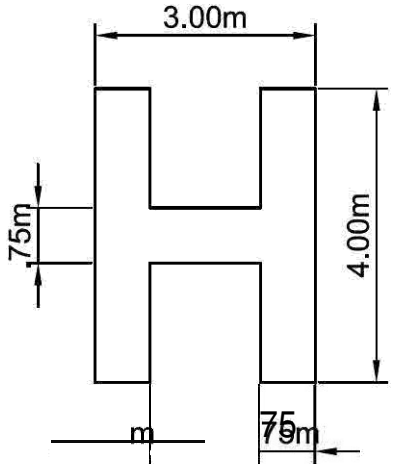


DIMENSÕES

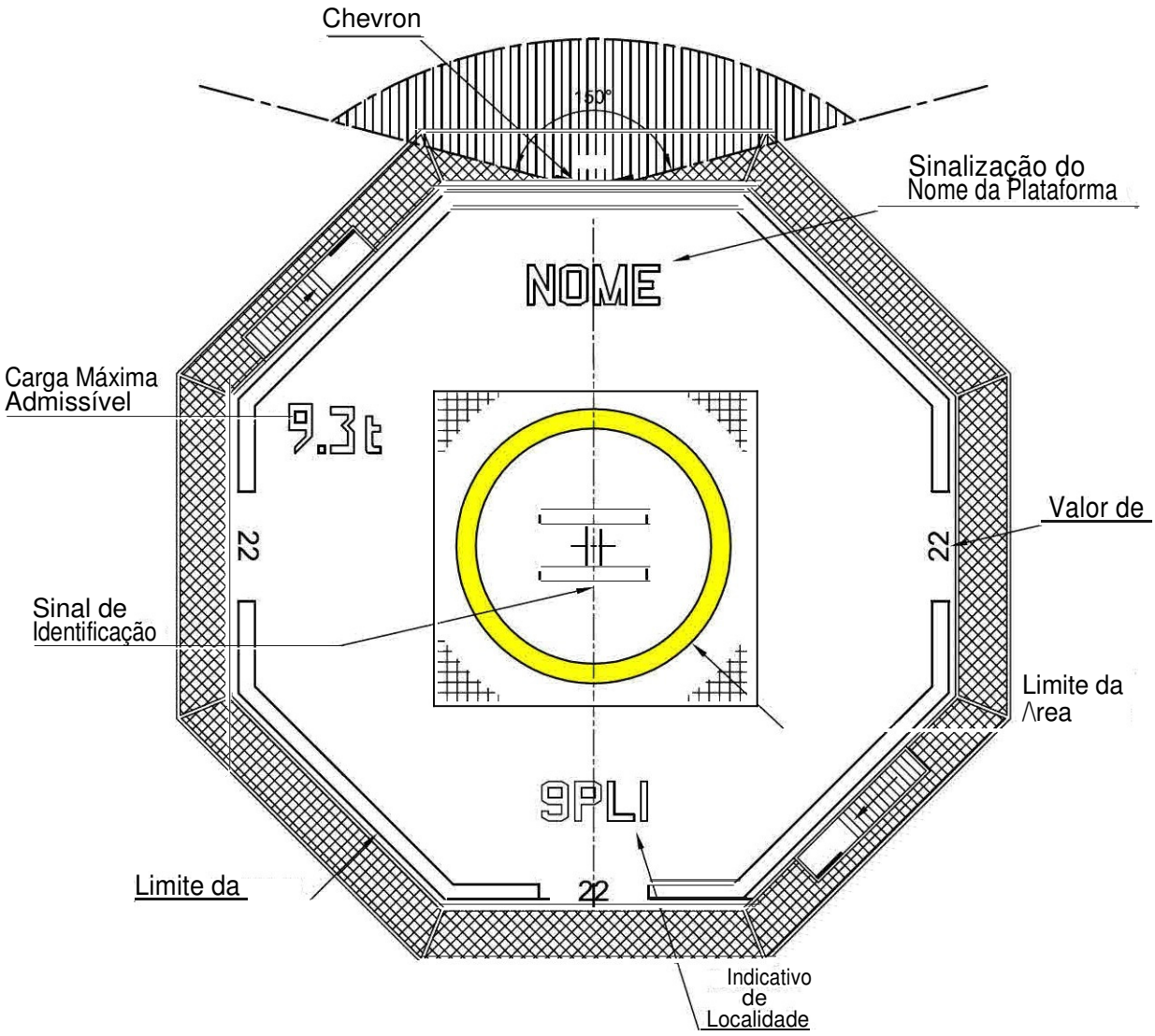
Comprimento (L) ..... 1.20m a 1.40m
Diâmetro da extremidade maior (D) ..... .30m
Diâmetro da extremidade menor (d) ..... .15m

IDENTIFICATION SIGNAL

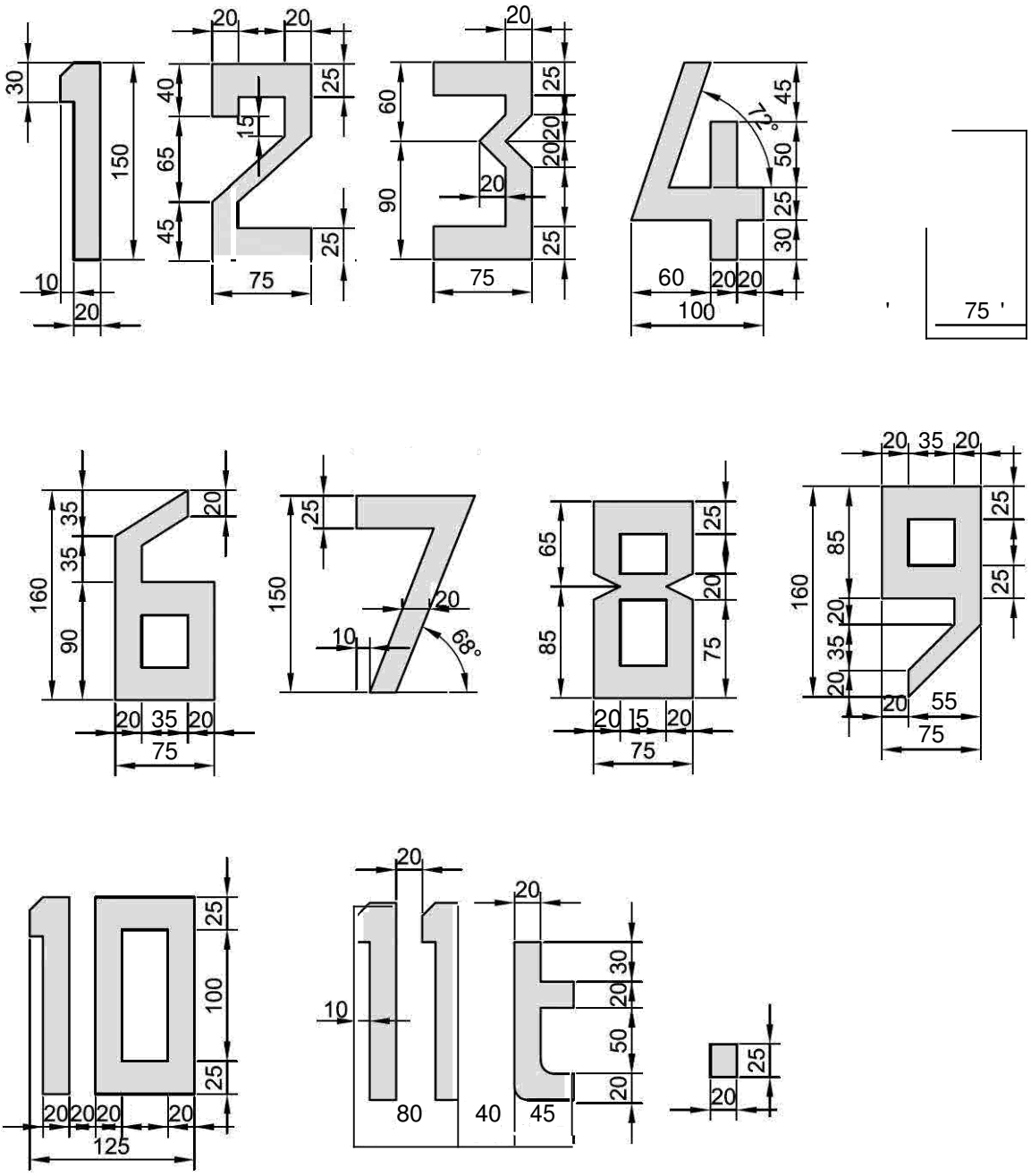




SIGNALLING AIDS

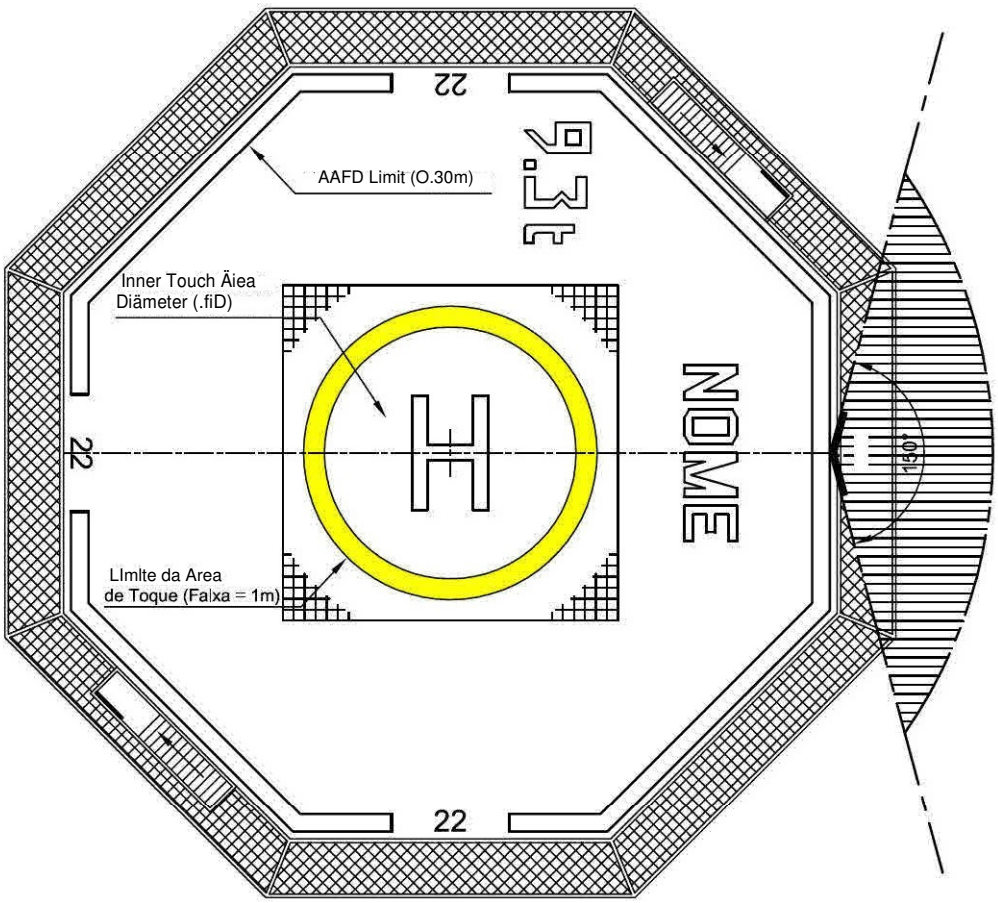


DIMENSIONS OF THE MARKING OF THE MAXIMUM PERMISSIBLE LOAD



OBSERVATIONS:
1 - Measured in centimeters.

DIMENSÍON OF´THE TOUCH AREA

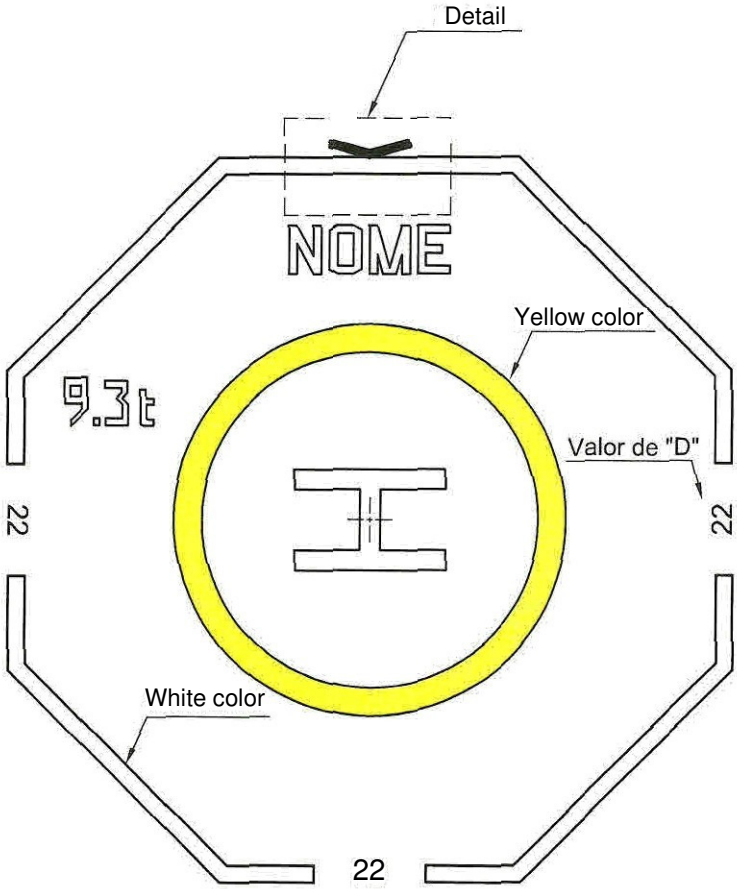


DIMENSIONS OF THE LETTERS OF THE NAME, VISUAL INDICATION AND INDICATIVE OF PLATFORM/VESSEL LOCALITY

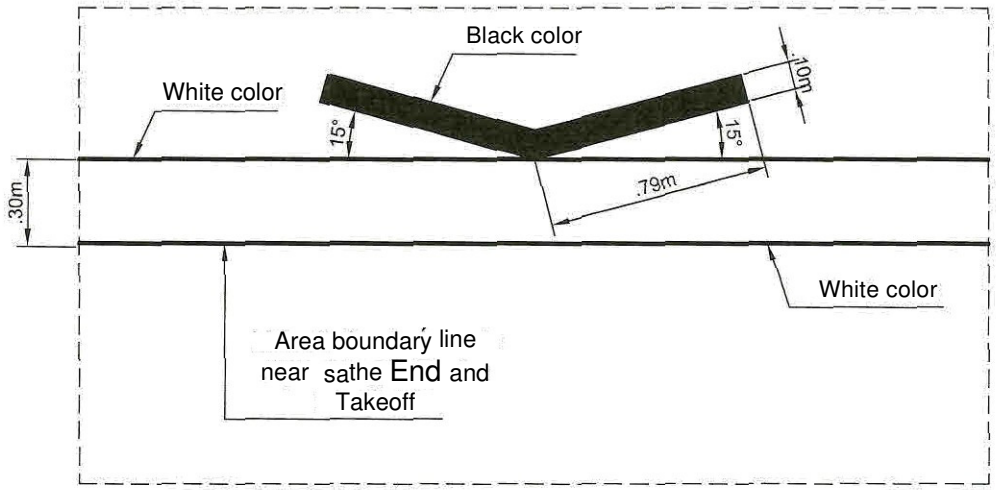
Observations:

- Height of letters = 1.20m.
- The dimensions of the reference squares will be: .20m x .20m.
- Spacing between letters = 1 reference square.

CHEVRON

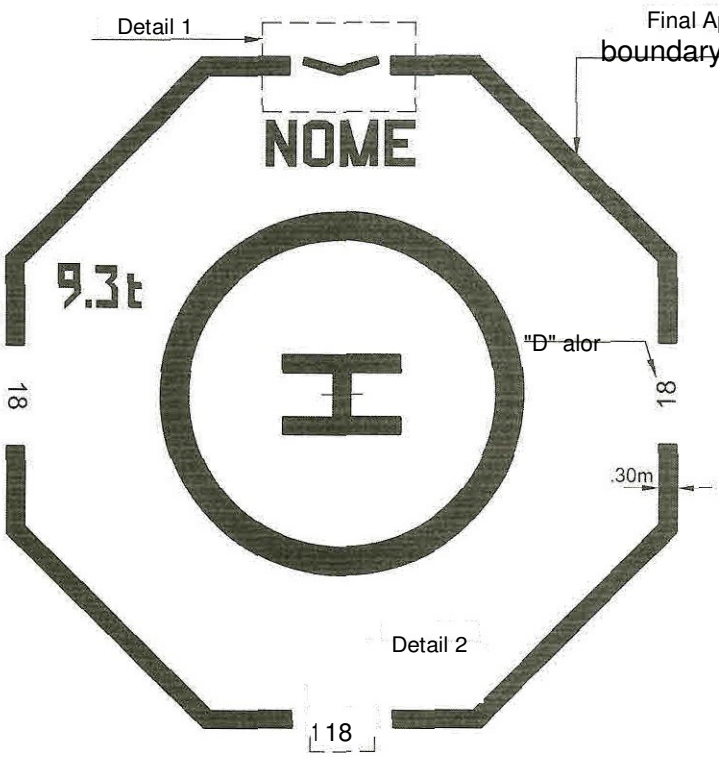


TOP VIEW

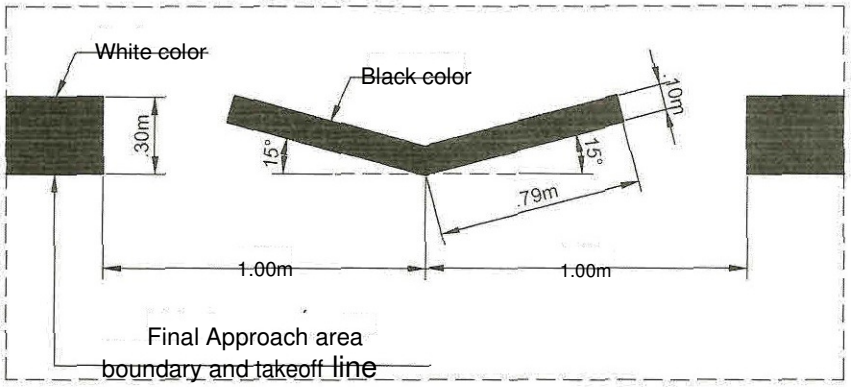


Detail

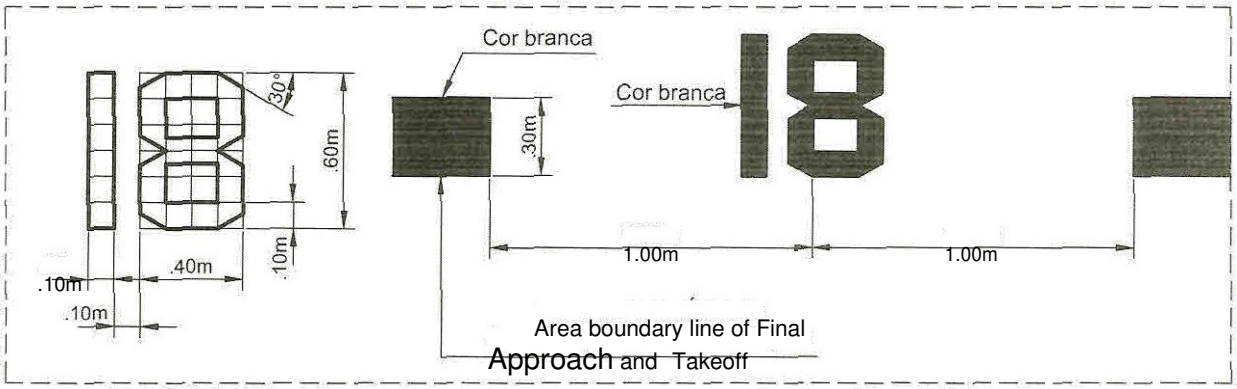
CHEVRON ON THE TRACK AND MARCÃÇAO OF "D"



TOP VIEW



DETAIL 1



DETAIL 2

Procedure for positioning Chevron on the helideck

1 The fig. 1 presents an example of helideck with the main signs:

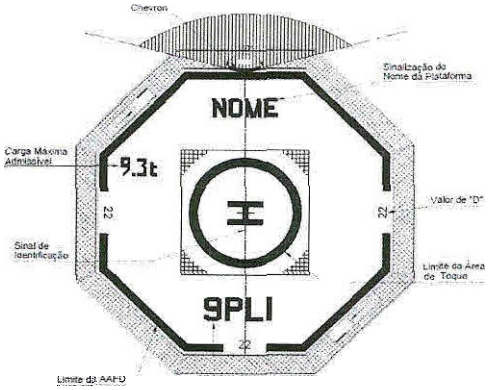


figure 1 - chevron marked at the top, the reference point being its vertex.

2 The following procedures should be observed for chevron positioning:

2.1 - once defined the AAFD, with any geometric shape (fig. 2 and 3), must be inscribed inside a circle, whose diameter is designated as "L" ("L" equal to or greater than the length of the largest helicopter " D"). The center of this circle separates the center of the touch orea.

2.2 - the points where the circle touches the boundary line of the AAFD.

2.3 - depending on the obstetrics in the vicinity of aafd, seró selected one of the tangential points as the Reference Point for chevron positioning. (fig. 2 and 3)

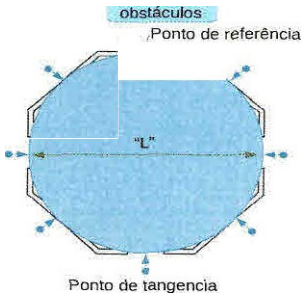


figure 2 - in blue, the circle inscribed in the AAFD was marked. Thes etas represent the points where the circle the tangentiation. In red, the selected tangential point was marked as a reference point for chevron positioning.

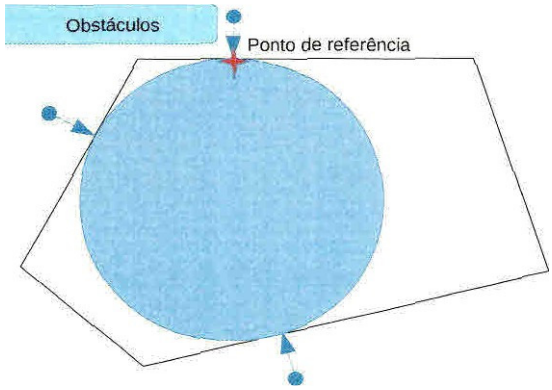


figure 3 - in blue, the circle entered in the irregularly shaped AAFD was marked. The blue arrows represent the points where the circle the tangentiation. Depending on the position of the obstacles, a point was selected to serve as a reference for chevron positioning, highlighted by the red star.

2.4 - the chevron 150° sector should be selected to cover the SOAL. The slo bisetriz, sector of 210º, must pass through the center of the touch orea. (fig. 4 and 5)

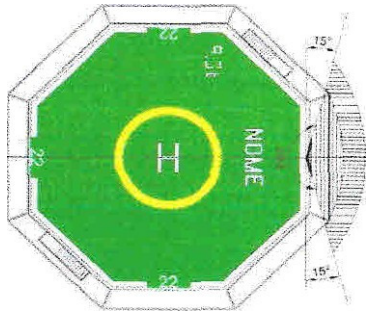


figure 4 - SLO bissetriz passing through the center of the touch area.

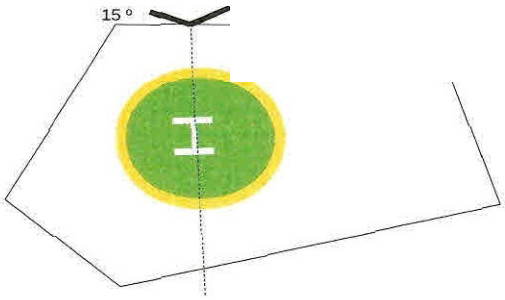


figura 5 - AAFD irregular, estando a bissetriz do SLO passando pelo centro da área de toque.

2.5 - a rotational variation of chevron up to 15º, clockwise and counterclockwise, is permissible for the positioning of the SLO. The "H" should be rotated so that its horizontal stroke is parallel to the slo angle bissetriz (fig. 6 and 7). Chevron's lateral offset is not allowed relative to the reference point.

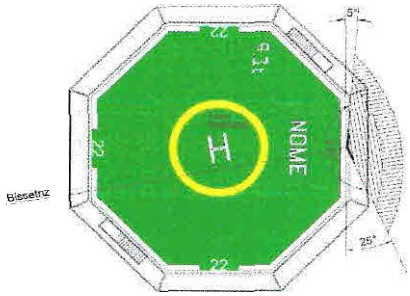


figure 6 chevron rotation on regular helideck.

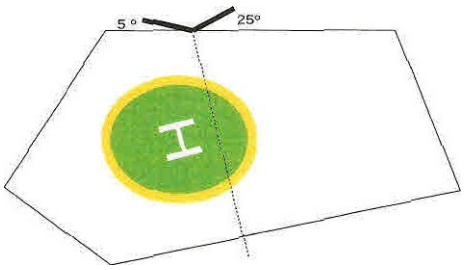


Figure 7 - chevron rotation in irregular helideck.

2.6 - Defined the reference point, will be made too many signals that maintains a parallelism with the line where the chevron is located. The length of the largest helicopter authorized to operate on the unit (D) is marked in the central part of the other AAFD lines. (fig. 8 and 9)

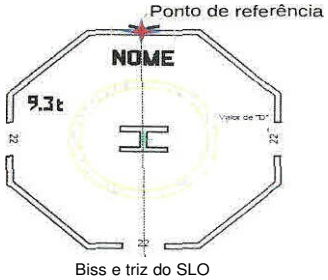
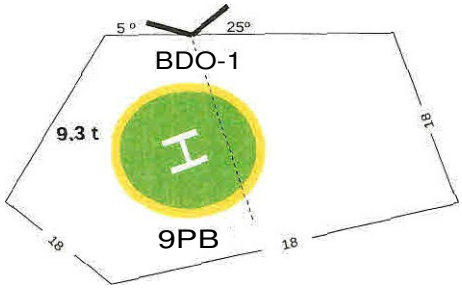


figure 8 - representation and signaling on a helideck with octagonal AAFD.



igura 9 - positioning signaling on a helideck with irregular AAFD and the rotated chevron.

3 - For helidecks located at half nau, there will be two chevrons, one saying to bow and one to stern. The reference point at the end of the ship's bow for other signs should be assumed. (fig.10 and 11)

Figure 10 - top view of a vessel with helideck circular at half nau.

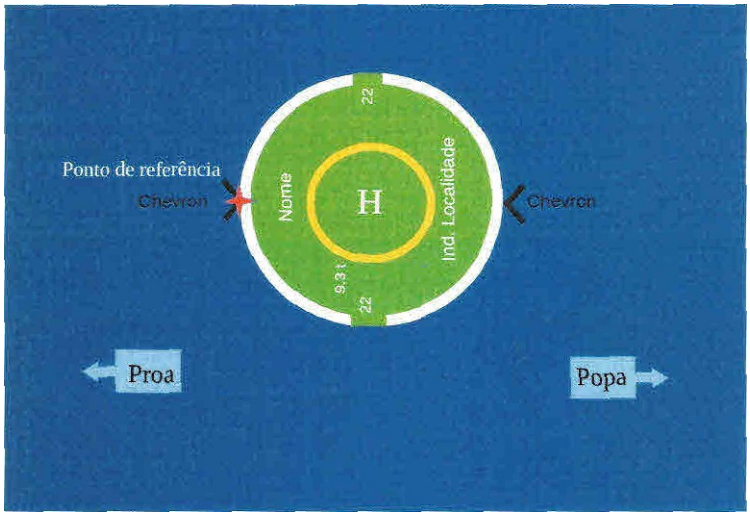
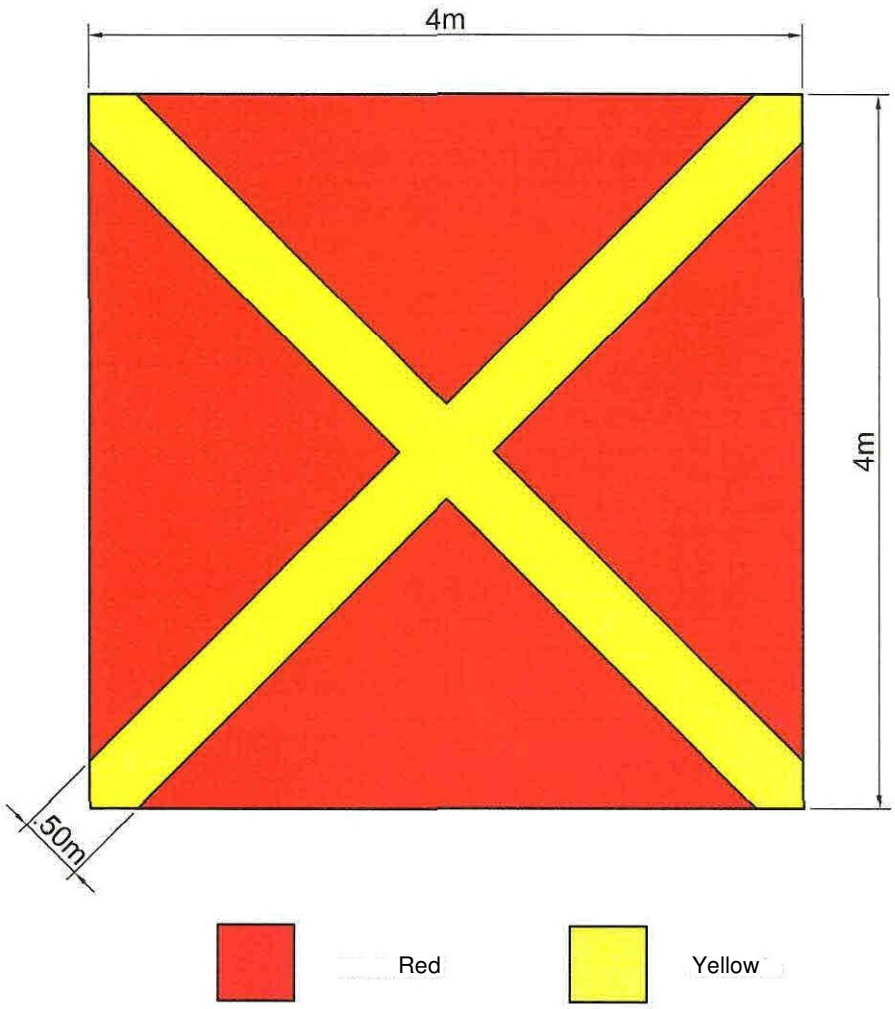


figure 11 - highlighted, the representation of the helideck of the fig.10. The mustró reference point be assumed in the position plus the bow of the unit. Other signaling aids will be arranged according to illustration. Note that this type of helideck has the signaling of two chevrons, with sectors of 150º each.

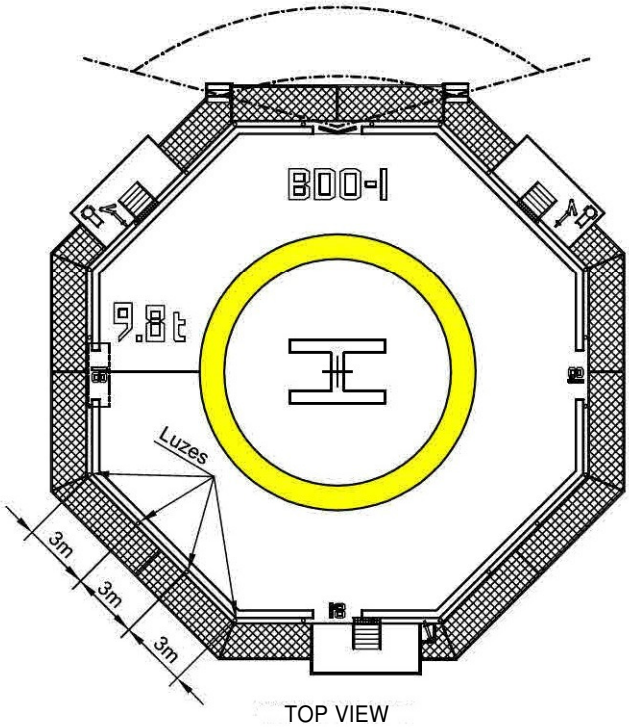
BANNED HELIDECK SIGNALLING AND SAFETY WARNING



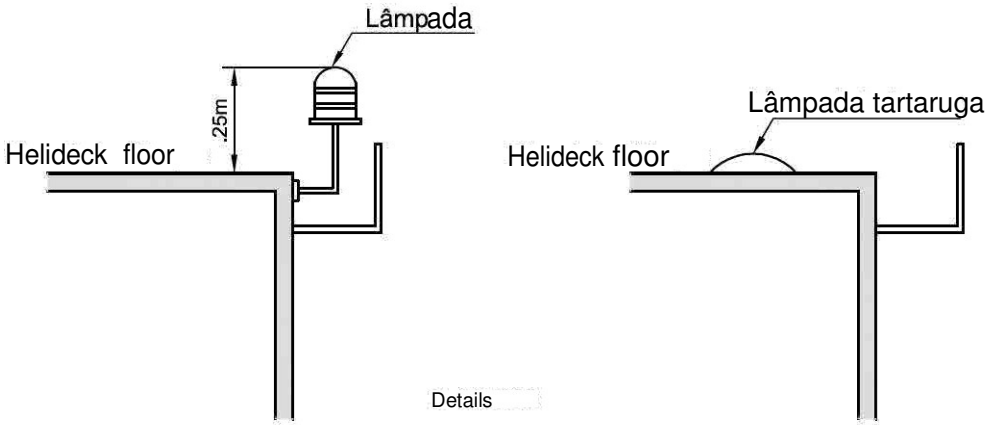
AVISO DE SEGURANÇA

ILÚMINAO AUXIIIES˜

Area Boundary Lı́ghts of Final Approach and Takeoff

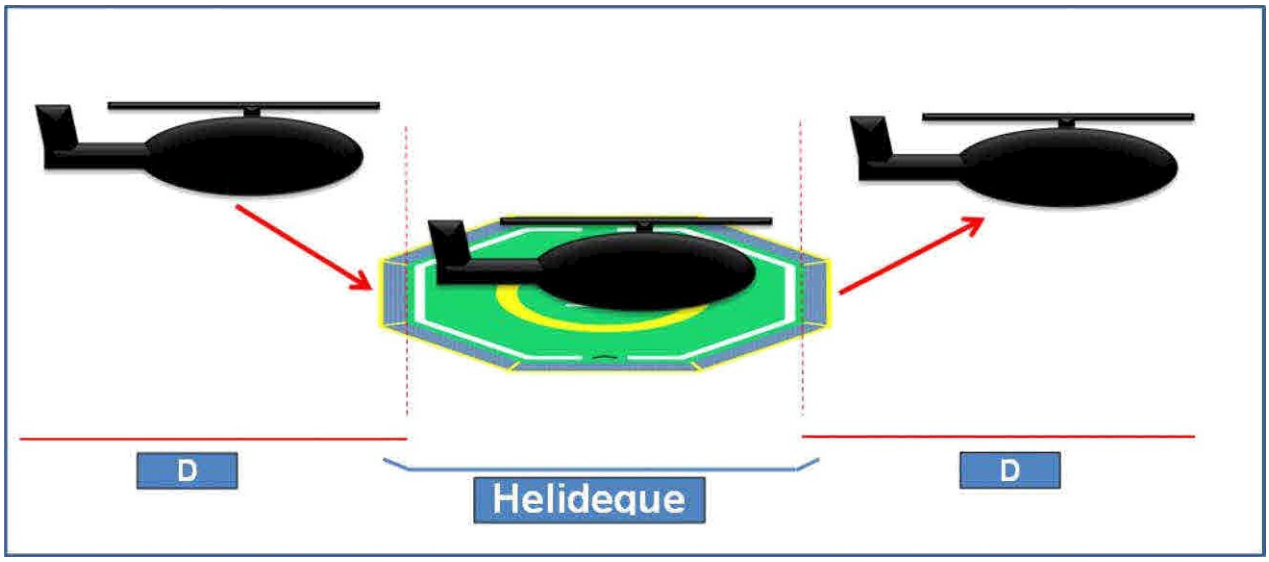


TOP VIEW



Details

Camera framing scheme for helicopter approach, landing and takeoff.



Approach Landing Decolagem

DAILY INSPECTION FORM

Responsible:	DATA:	LAST CHECK:

1) Filters

Collector		
QAV-1	SOLID PARTICLES	
	Water	

2) STORAGE TANK

QAV-1	
Sigh	
Valves	
Drain	

3) MANGOTES

PHYSICAL CONDITIONS		
ENVIRONMENTAL CONDITIONS		
QAV-1	SOLID PARTICLES	
	Water	

WEEKLY INSPECTION FORM

Responsible:	DATA:	LAST CHECK:

1) DIFFERENTIAL PRESSURE INDICATOR

PRESSURE MEASUREMENT	

2) ALL SYSTEM

Leak	
Connections	
Cleaning	
Seal	

3) INJECTOR FILTERS AND SUPPLY JOINTS

GENERAL STATE	
Seal	
Cleaning	

4) DISTRIBUTION MANGOTES

PHYSICAL CONDITIONS		
ENVIRONMENTAL CONDITIONS		
QAV-1	SOLID PARTICULAS	
	Water	

5) GROUNDING CABLE

GENERAL CONDITIONS	
ELECTRICAL CONECÇÕES	

QUARTERLY INSPECTION FORM

Responsible:	DATA:	LAST CHECK:

1) FILTERING UNITS, DECANTING LINES, MONITOR FILTER AND SEPARATOR

GENERAL STATE		
QAV-1	SOLID PARTICLES	
	Water	
Cleaning		

2) DISTRIBUTION MANGOTES

GENERAL STATE	
Leaks	
Joints	

3) Pump

GENERAL ESTAO	
Lubrication	
Filters	
WATER REGULATOR/SEPARATOR	
Leak	
Seal	

4) MANGOTE REEL

Operation	
Gears	
Lubrication	

5) SUPPLY NOZZLE

GENERAL CONDITIONS	
Leak	
filter	
Covers	

6) GROUNDING CABLE

GENERAL CONDITIONS	
Continuity	
Claws	
CONSECTION PINS	

HALF-YEARLY INSPECTION FORM

Responsible:	DATA:	LAST CHECK:

1) FILTERING UNITS, DECANTING LINES, MONITOR FILTER AND SEPARATOR

GENERAL STATE		
QAV-1	SOLID PARTICLES	
	Water	
Cleaning		
PRESSURE INDICATOR Differential		

2) DISTRIBUTION MANGOTES

GENERAL STATE	
Leaks	
Joints	

3) Pump

GENERAL ESTAO		
Lubrication		
Filters		
WATER REGULATOR/SEPARATOR		
Leak		
Seal		
ELECTRICAL CIRCUITS		
OIL LEVEL OF THE BOX EMGRENAGENS		
MOTOR JUNCTION/PUMP		
CONSULTED THE MANUFACTURER'S MAINTENANCE PROGRAM	Yes	
	No	

4) MANGOTE REEL

Operation	
Gears	
Lubrication	

5) SUPPLY NOZZLE

GENERAL CONDITIONS	
Leak	
filter	
Covers	

6) GROUNDING CABLE

GENERAL CONDITIONS	
Continuity	
Claws	
CONSECTION PINS	

Company Name

Certificado do Sistema deCombustivel

I certify that, on this date, the aviation fuel system located on board (vessel/platform) _____ (No° IMO /N° inscription), _____ Indicative of Locality, _____ has been inspected. The storage tank, disposal tank, distribution system, pipes, filters and outlets, fuel supply hose line, with their respective supply nozzles (by gravity and/or pressure), ground wire and pump system have been inspected, tested and are in safe conditions for conducting aviation fuel supply.

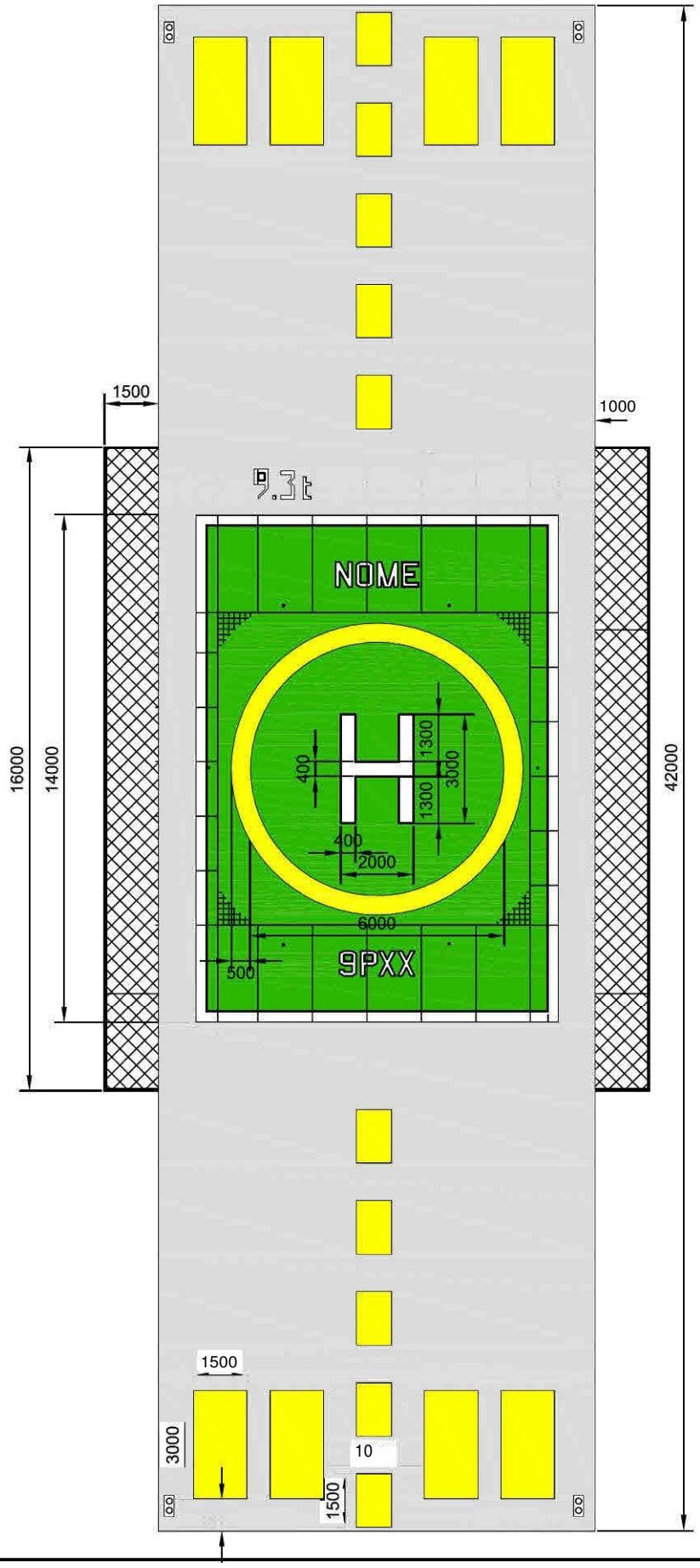
The tests were carried out by _____ e aprovados por _____(Organização Reconhecida pela DPC).

Note: This certificate is vain for 5 years and is endorsed annually. Email:
contact phone:

Local e data.

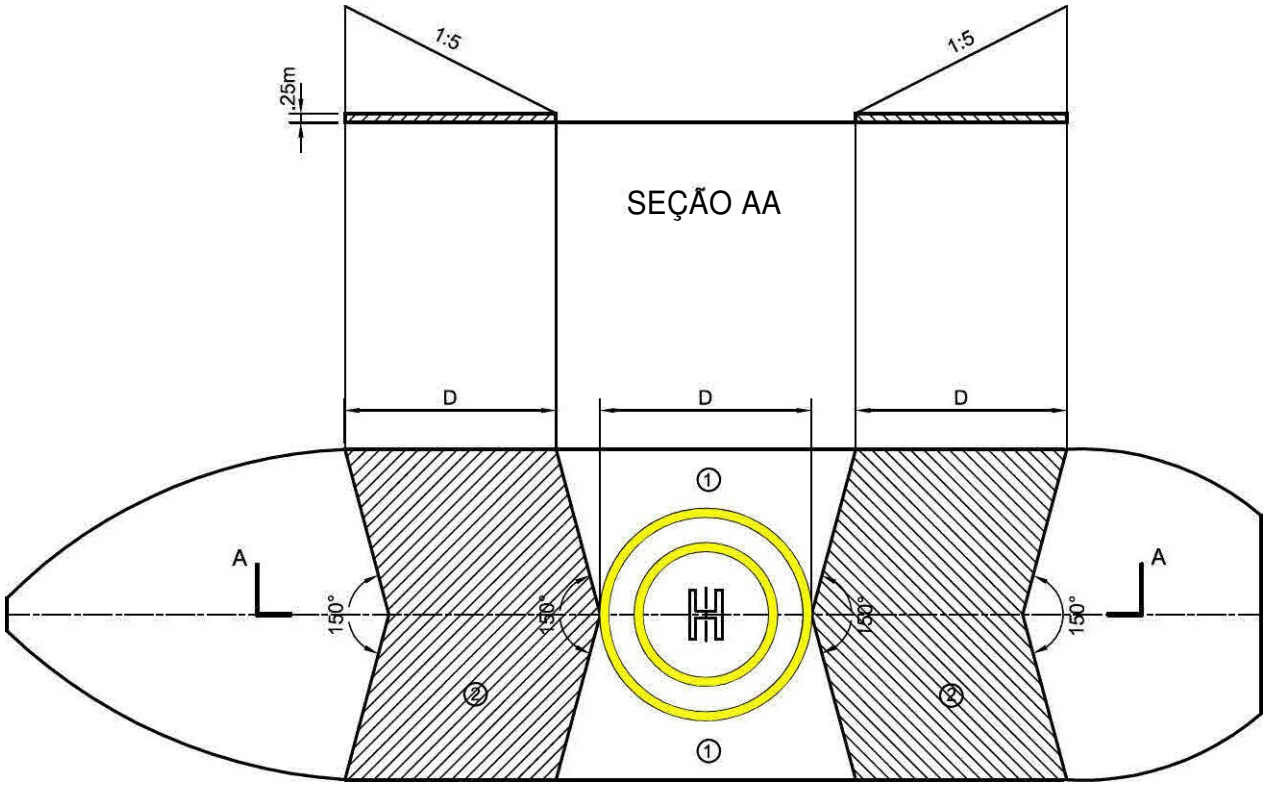
NAME, POSITION AND SIGNATURE OF THE
PERSON RESPONSIBLE

PAINT DEIMMENSEES FOR HELIDECK ON FERRY OF 12 m x 42 m



Measurements in millimeters

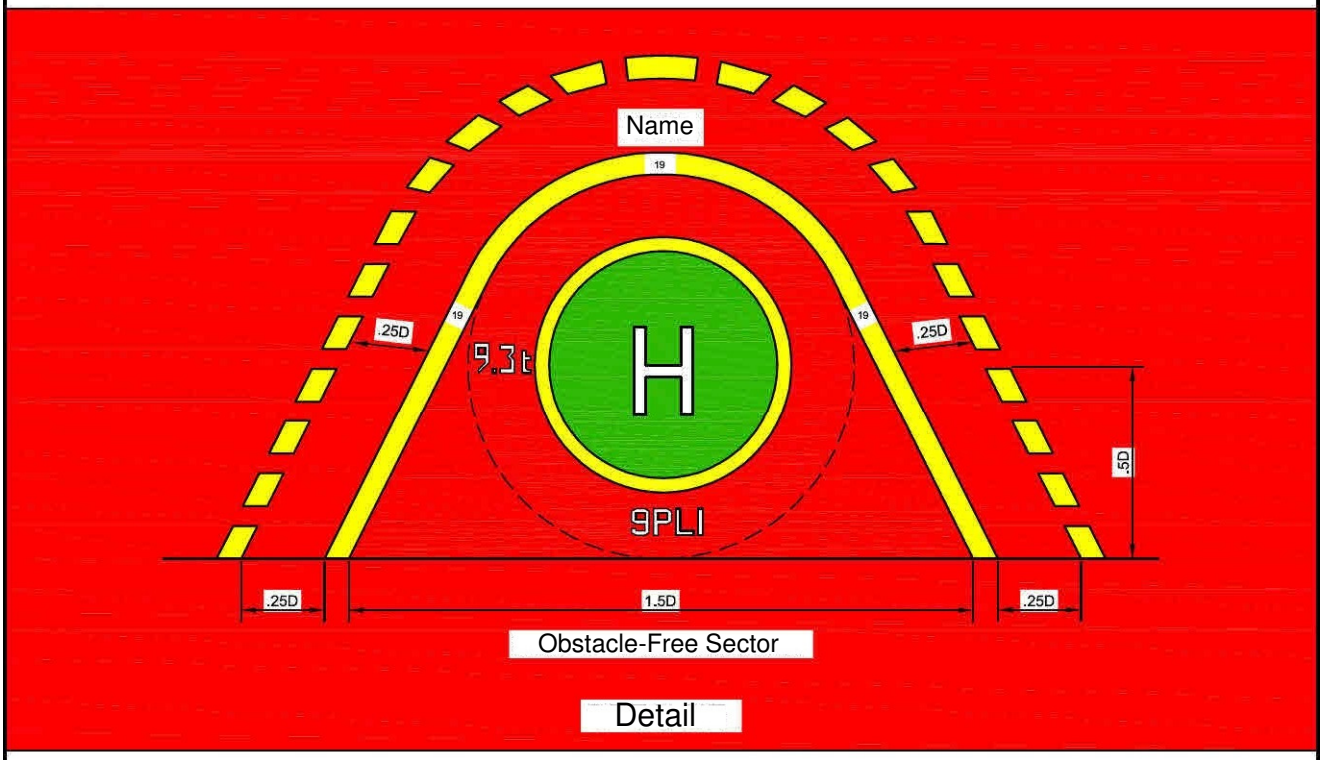
HELIDECK ADAPTED TO HALF-NAU ON SHIP CARGO HOLD COVER



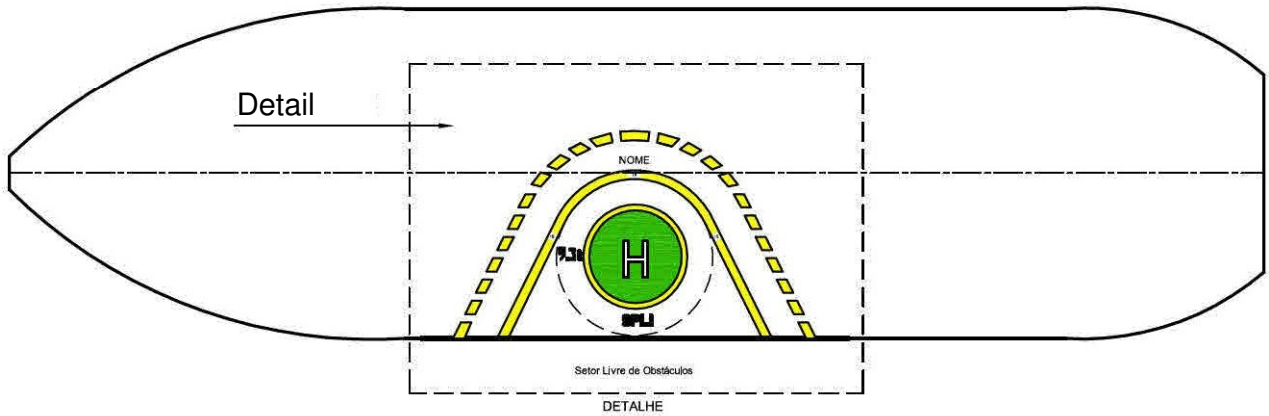
TOP VIEW

1: Obstacle-Free Sector.
2: Obstacle sand sector with Limited Heights.

HELIDECK ADAPTED ON THE SIDE OF THE MÁIN CONVES OF NAVÍO

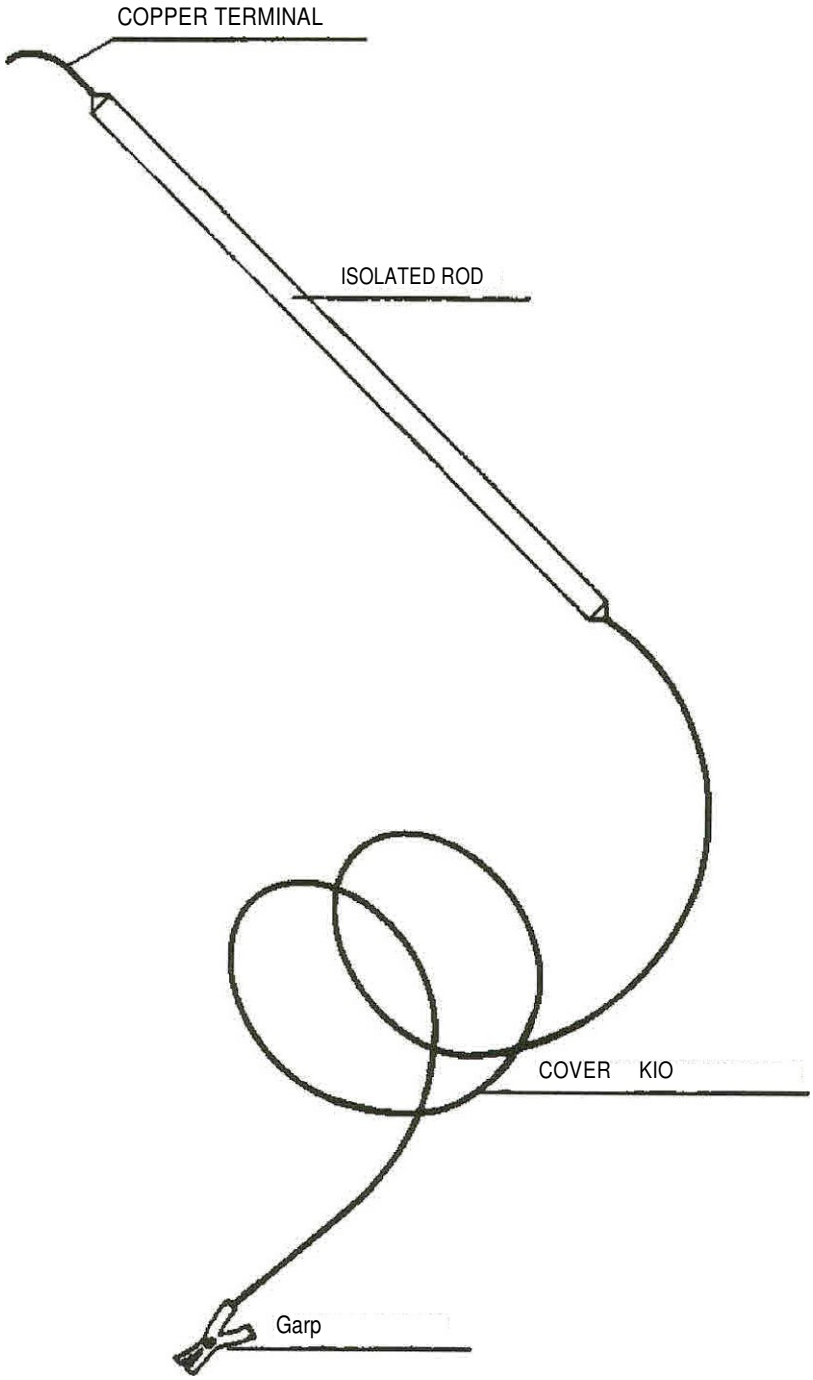


Detail

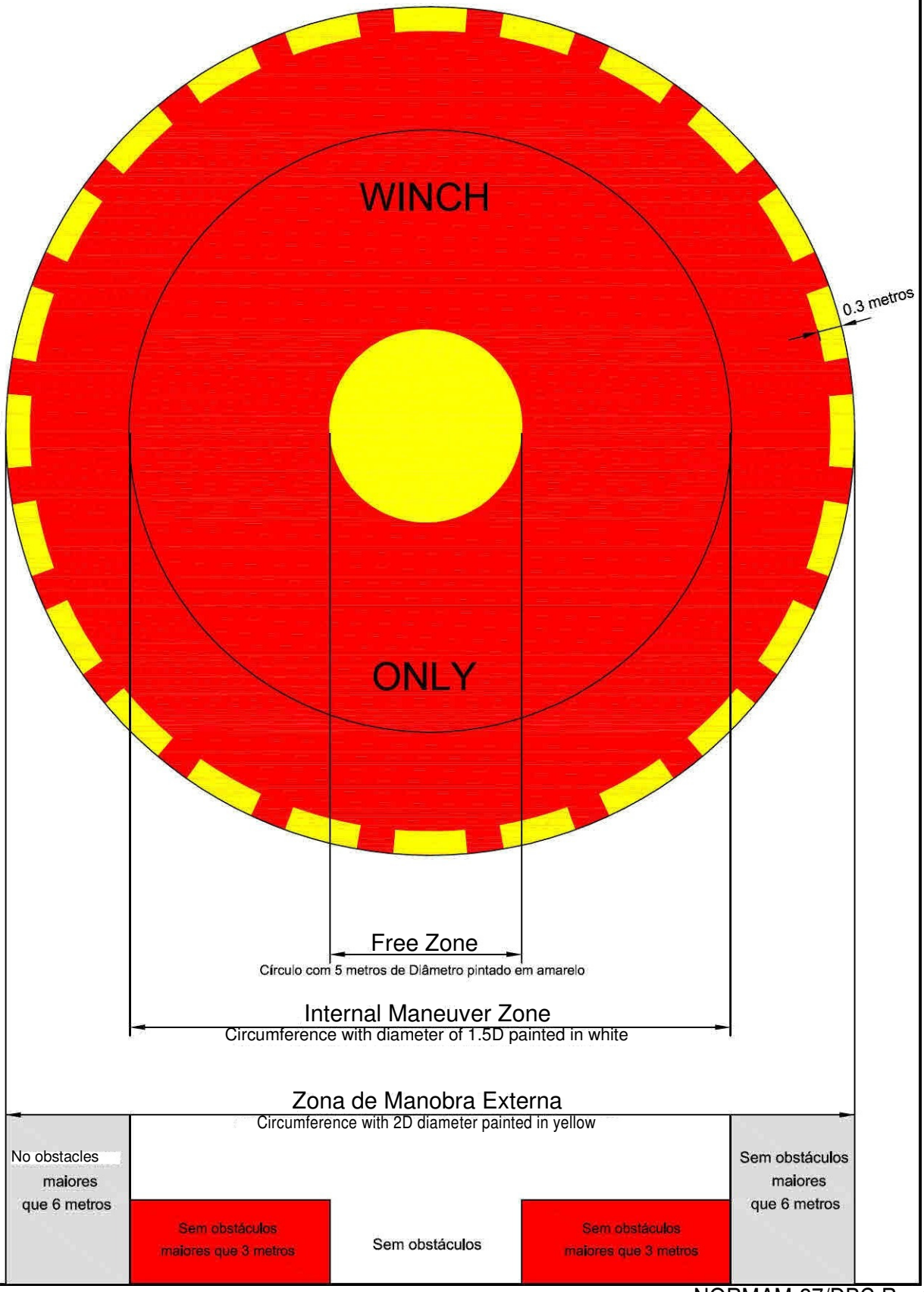


TOP VIEW

STATIC ELECTRICITY UNLOADING BATON



ÁREA DE PICK UP



PICK-UP DE MACA

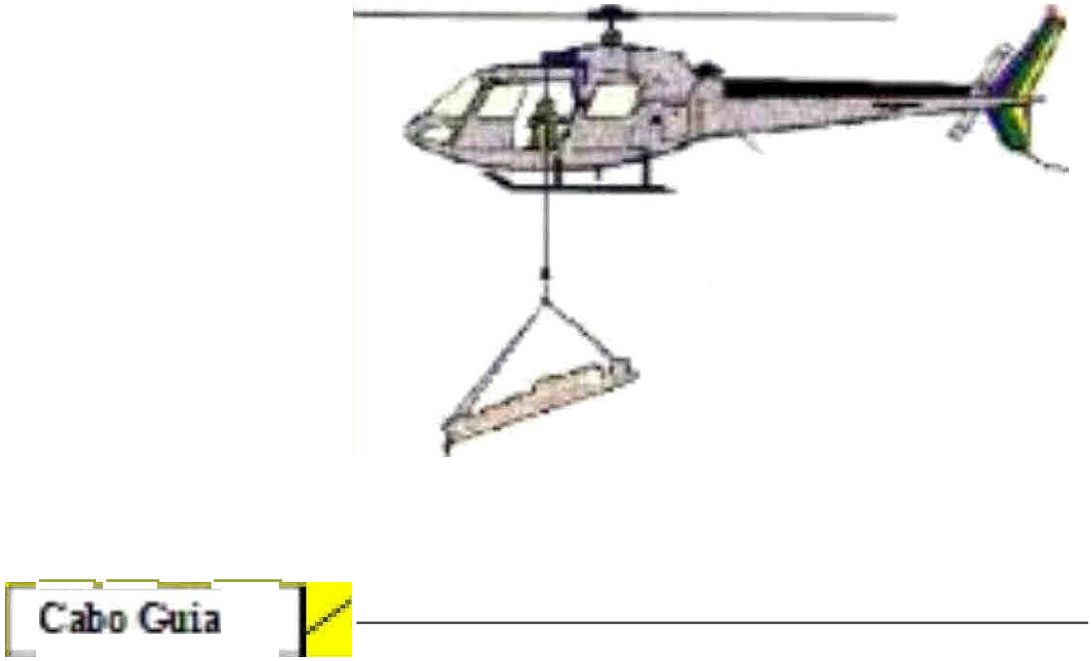


Fig. 1 - CABLE GUIDE

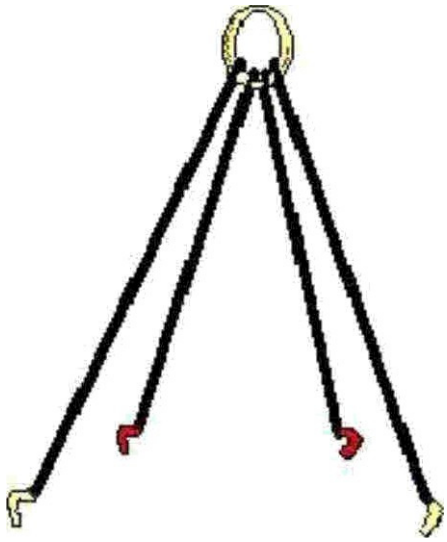


Fig. 2 - SPIDER-TYPE ESTROPO OR BRAÇALOTE

Nome da Empresa

CERTIFICATE OF MAINTENANCE OF THE TECHNICAL CONDITIONS OF THE PICK-UP AREA

I certify that, on this date, the pick-up area located on board the (vessel), _____ (N° IMO) _____ _____ Flag, _____ of property _____ Armação _____ afretada_____ , encontra-se nas condições técnicas em conformidade com o Capítulo 13 da NORMAM-27/DPC e em condições seguras para a condução das operações aéreas. A área de pick-up e o pessoal habilitado foram inspecionados por_____ e aprovados por_____ (nome da Organização reconhecida pela DPC ou pelo setor de engenharia da empresa que opera a embarcação).

This certificate is valid for 36 months.

Email:

Local contact phone

and date.

NAME, POSITION AND SIGNATURE OF THE PERSON RESPONSIBLE

Observations:
1) Attach three current helideck photos (21 x 29 7cm (A4), profile, top and vessel), printed and electronically, using PDF format (Adobe Reader).